KHULNA SHIPYARD LIMITED

BANGLADESH NAVY, KHULNA

PHONE NO: PABX 02-47772003
E-mail: oiccomf.ksy@gmail.com, Web: www.khulnashipyard.gov.bd

BABE (F) – 632/LSSCMG/2024-2025/08 DATE: 27 MAY 2025

INTERNATIONAL TENDER NOTICE

01	Procuring Entity Name	Khulna Shipyard Limited, Bangladesh Navy, Khulna
02	Invitation For	Light, Switch & Socket, Conversion Machinery, Fan, Galley Equipment, Gland Sealing Material, AC & DC Distribution Box, Motor Control Cabinet, Measuring Tools, Bilge & Flood Alarm System, Darken Ship Illumination System.
03	Invitation Reference No.	BABE (F) – 632/LSSCMG/2024-2025 DATE: 27 MAY 2025
04	Procuring Method	**Open Tender (Two Envelop System)**
05	Budget & Source of Funds	Khulna Shipyard Limited Fund
06	Tender Last Selling Date	25 June 2025
07	Tender Closing Date & Time	Date: 26 June 2025 Time:1115am
08	Tender Opening Date & Time	Date: 26 June 2025 Time:1130am
09	**Name & Address of the Office for Selling of Tender Documents:-**	
	(i) Cash Section, Khulna Shipyard Ltd. Bangladesh Navy, Khulna. (ii) Naval Store Sub Depot, Khilkhet Nama Para, Khilkhet, Dhaka.	
	Receiving & Opening Tender	**Khulna Shipyard Ltd, Bangladesh Navy, Khulna**
	(Tenderer's and their Authorized Representatives are allowed to attend)	
10	Price of Tender Document	Per set 2,000.00 (Tk. Two Thousand) Non-refundable.
11	Contact Details of Official	Mob: +8801674950715 Email: oiccomf.ksy@gmail.com
12	Special Instructions	The Procuring Entity reserves the right to reject all or any Tenders prior to acceptance without showing any reason.

Manager Admin

KHULNA SHIPYARD LIMITED

BANGLADESH NAVY, KHULNA

PHONE NO: PABX 02-477720003

E-mail: oiccomf.ksy@gmail.com , Web: www.khulnashipyard.gov.bd

IMPORTANT POINT

1. **TENDER NO**: **BABE (F) - 632/LSSCMG/2024-2025 DATE: 27 MAY 2025**

2. **DUE FOR OPENING ON**: **26 JUNE 2025.**

3. **PRICE OF TENDER DOCUMENT**: **Tk. 2,000.00 (Tk. Two Thousand) Non-refundable.**

4. **NAME OF THE COMMODITY**: Light, Switch & Socket, Conversion Machinery, Fan, Galley Equipment, Gland Sealing Material, AC & DC Distribution Box, Motor Control Cabinet, Measuring Tools, Bilge & Flood Alarm System, Darken Ship Illumination System. As per Annex- B-M.

5. **SOURCE OF FINANCE**: **Khulna Shipyard Ltd Fund.**

6. **TERMS OF SUPPLY**: CFR Chattogram Sea Port.

7. **PRICE**:
   i) FOB and Ocean freight should be shown separately.
   ii) Freight should be shown/endorsed on Bill of Lading.
   iii) Freight will be paid at actual against Bill of Lading but not exceeding the amount shown in quotation/offer.
   iv) Khulna Shipyard will process all customs formalities with related duties and taxes.

8. **DELIVERY/SHIPMENT**: 60 Days from the date of letter of credit (LC).

9. **TENDER SHOULD REMAIN VALID**: 60 Days from the date of Tender on opening date.

10. **THE TENDER DOCUMENTS MUST BE REQUIRED WITH SEAL AND SIGN THEREOF ON EACH PAGE:**
    The Khulna Shipyard Ltd., Khulna invites quotation by **two envelop system** (one technical and another one financial offer) in duplicate (marked as "Original" and "Duplicate") from Manufacturers / Principal Suppliers for supply of the item(s) described in the attached sheet schedule (Annex-A) on KSY site basis, Quotations will be received by this office up to **11-15 A.M.** and will be opened 11-30 A.M. in public on the date specified above. The financial offer will be opened after evaluation of technical offer and shall be intimated of the bidders in time.

11. **AMENDMENTS TO TENDER DOCUMENTS:**
    a. At any time prior to deadline for submission of bids the purchaser may, for any reason, whether of its own initiative or in response to a clarification requested by a prospective bidder, modify the Tender documents by the amendment(s).
    b. The amendment(s) will be notified in writing by letter / email / KSY website or by cable to all prospective bidders who have received Tender documents and the same will be binding on them.
    c. In order to allow the prospective bidders reasonable time to take the amendment into account in preparing their bids, the purchaser may at its sole discretion extend the deadline for submission of bids.

PREPARATION AND SUBMISSION OF TENDER

12. **GENERAL:**
    a. Tenders are to be dropped in the tender box provided for the purpose at the office of Khulna Shipyard Ltd., Khulna.

b. Tender number and opening date as above should be written on the envelope. The envelope containing quotation should be sealed and addressed as follows:-

i. CONSIGNEE: **THE MANAGING DIRECTOR**
KHULNA SHIPYARD LIMITED
BANGLADESH NAVY, KHULNA– 9201, BANGLADESH
BIN: 000400834-0801

Tender number and opening date as above should be written on the envelope.

c. Tender may be put into the Tender Box kept for this purpose at the above address, but care must be taken to ensure that it reaches this office on the date and time fixed. Late Tenders will not be considered. Suppliers may also post the tenders to the **MANAGING DIRECTOR, KHULNA SHIPYARD LIMITED, BANGLADESH NAVY, KHULNA-9201, BANGLADESH**, so, as to reach him on due date and time. No responsibility will be accepted by buyer for late receipt.

d. The Manufacturers / Principal Suppliers may quote in their own letter head, but it is essential that the tender schedule is also completed and returned, along with original money receipt to the buyer. If the schedule is not accordingly returned the quotation may not be considered

e. Tenderers may quote price Bangladesh Taka/ US Dollar / in any International trading currency.

f. **Tenderers should be confirmed their credit report issued from Tenderers banks and this credit report should be enclosed in the original Tender / quotation otherwise LC opening bank should be arranged to collect this credit report and necessary cost in this respect will be realized from the supplier during LC opening.**

g. Tenders should enclose with the quotation the Original Proforma Invoice of their Principal and the Proforma should be based on CFR.

h. Quotation should be strictly in accordance with the following:

(1) Accounting unit prescribed in the Tender enquiry.

(2) Terms of delivery and place of delivery as specified in the Tender enquiry.

i. The name of the manufacturers, principal suppliers and country/countries of origin with port of shipment proposed should invariably be indicated.

j. Tenderers must submit with the quotation the Original Proforma Invoice of their Principals and the Proforma Invoice shall clearly indicate detail technical specification, the percentage of commission, if any, included in Material Price for the local agent. Commission payable to the local agent by the foreign supplier will be deducted and paid to local agent in equivalent Local currency at the average exchange rate on the LC payment date (Be buyer's rate)**.**

k. No claims on the ground of typographical errors in calculating prices would be entertained later and the Tendering firms would be asked under points of penalty and disciplinary action to supply at price they have originally quoted.

l. Supplier must quote the offer as per schedule given in Annex A's list/ table as package wise to this document and incomplete or partial offer of any package will be treated as non-complied/ non-responsive.

m. **KSY reserve the right to purchase partially or full quantity of the quoted goods.**

n. Local Agent/ supplier should also submit along with the tender valid Indenting agent registration certificate issued by the Bangladesh Indenting Agent Association (BIAA), Trade license, and TIN certificate. In absence of original certificate attested Photostat copy by first class officer may serve.

13. **CONTRACT**. The terms and conditions of the Tender document shall form an integral part of the contract/purchase order document. The Tenderer is requested to check this set of Tender documents in order to ensure proper compliance and the "Form of Acknowledgement" along with the "Certificate as to **Corporate Principal",** where applicable,' duly filled in be returned along with the **Tender.**

14. **BID LANGUAGE**. The bid's, all correspondences and documents relating thereto exchanged between the bidders and the purchaser shall be written in English Language.

15. **TERMS OF PAYMENT**:

i. LC for full purchase amount will be opened by Khulna Shipyard Limited in favour of the principal supplier under the following payment terms where the **LC commission charge 0.30% of the total LC Value equivalent of BDT taka** including related VAT & others will be borne by foreign principal/ local agent (supplier) at LC opening that will be included in quotation.

a. 80% of total CFR value will be paid on delivery of the items described under the scope of supply and on production of following shipping documents:

(1) Complete set of original 'Clean on Board' Master Bill of Lading / mentioning the amount of freight on Bill of Lading,
(2) Supplier's invoice signed in ink,
(3) Buyer's authorized satisfactory inspection agent's certificate,
(4) Certificate of standard test,
(5) Fax/E-mail/Swift advice for insurance cover,
(6) Certificate of origin,
(7) Authorization certificate,
(8) Certificate showing that the material has been shipped in a non-Israel vessel,
(9) Undertaking regarding supply/ re-placement of short supplied and defective materials on free of cost demanded by the buyer.

N.B:- Non-negotiable copies of shipping documents will be sent in advance by email (oiccomf.ksy@gmail.com) before getting original and original shipping documents will be delivered in the LC opening Bank before 07 days arrival of ship at port. In the event of any delay in dispatch of the shipping documents or above state or their incorrect preparation, the supplier shall be responsible for any demurrage, extra handling charges or any other expense arising there from.

b. Remaining 20% of LC amount will be paid after receiving the material at KSY site with satisfactory acceptance that will be generated by user end & supplier representative or satisfactory Material Quality Inspection note that will be generated by KSY.

ii. Bank charges in Bangladesh for opening of LC shall be borne by the supplier. Any Bank charges for revalidation or amendment of the LC on the request of the supplier shall be exclusively borne by the beneficiaries and not by the Khulna Shipyard Ltd. Confirmation of letter of credit by foreign bank will not be entertained or if applicable that will be borne by the supplier.

iii. Bank charges for withdrawal against LC established by buyer will be borne by the beneficiary/ Supplier.

iv. The beneficiary/ Supplier will have to borne the following foreign bank charges: -

(1) Negotiation commission.
(2) Payment commission.
(3) Postage & Cable charges.
(4) LC confirmation charges / additional (ADD) confirmation charges.
(5) LC amendment commission/ LC extension commission.
(6) LC cancellation charges.
(7) LC confirmation charges (if any).

16. **PACKING AND MARKING**:

a. The seller shall be responsible for proper packing and marking the goods for shipment by rail, road and sea. Goods shall be assembled to the maximum extent practical prior to shipment. Goods shall be packed so as to withstand usually rough handling and ensure delivery without loss or damage.

b. Each packet/ Bundle must have the following information printed in BOLD LETTERS on the outside

(1) Name of the consignee and Destination,
(2) Letter of credit number,
(3) Gross and net weight,
(4) Serial number of Bundle and,
(5) Name and address of the seller

N.B:- If you fail to adhere to the above instructions regarding marking of non-negotiable copies of shipping documents in advance by email (oiccomf.ksy@gmail.com), resulting in any delay in clearance of goods, responsibility and consequences thereof will be entirely of sellers.

17. **QUANTITY**:

a. Check of quality, quantity and condition of goods at the discharging port/ place i.e. chattogram will be carried out by the buyer if required, it will be at their cost.

b. The quotation must be based on firm prices for individual items as per Annex-A. Average prices should not be quoted.

c. The approximate weight of each Packet/ Bundle should be shown separately on quotation.

d. The Khulna Shipyard Ltd., reserves the right of awarding contracts for individual technically acceptable items on the lowest acceptable prices. Firms quoting on an average basis for joint items do so at their own risk. The Khulna Shipyard Ltd., will not make any allowances for this action of the Tendering firms when awarding contracts for individual items which if and when refused by Tendering firms any lead to disciplinary action.

SPECIAL CLAUSES

18. **JOINT INSPECTION:** The Materials/items will be checked (quality, quantity, condition of goods) and mustered by supplier representative and KSY representative after arrival the items at KSY.

If any defective or 2nd hand item is found during the joint mustering at KSY, the defective or 2nd hand item will not be acceptable. Supplier shall undertake the full responsibility to supply and replace the defective or 2nd hand item by new one.

19. **LATE SHIPMENT/DELIVERY AND LIQUIDATED DAMAGES:** Late shipment/ delivery will not be accepted. However with reasonable cause, if KSY agrees for late Shipment/ Delivery, in that case followings will be imposed:

a. On genuine reasons / grounds beyond the control of the suppliers / contractor, extension of delivery period may, however, be granted by the Purchase Approving Authority (KSY) without realization of any liquidated damage provided validity of their performance guarantee covers such extension.

b. Liquidity damage equivalent to half percent per week or part thereof on the value of the undelivered goods will be realized from the supplier/contractor.

c. In specific cases, where delay in shipment is likely to cause dislocation of work or financial loss, or related to the delivery of ships/ handed over of construction work, a higher rate of liquidity damage from 5% to 10% (as decided by KSY) per week or part thereof on the value of the undelivered goods will be charged.

d. In case of delay in shipment beyond approved timeframe as stated in Clause no. 7, this schedule will be treated as cancelled and the full Performance Guarantee shall also be forfeited as a consequential effect.

e. Minimum 14 days free time for container shipment at destination port must allow for each shipment.

20. **TERMINATION OF CONTRACT:**

a. At any time during the period of this contract, the Purchaser shall have the right to cancel contract under following reasons:

(1) If the supplier fails to supply the contracted item as per specification given in the purchase order/contract of the contracted item being rejected by the competent technical authority.

(2) If the supplier fails to deliver the contracted item within the date specified in the purchase order/contract or any extensions thereof.

(3) In the event of breach of any contractual obligations given in the terms and conditions of the purchase order/contract.

b. Moreover, in case of termination of contract as under this clause the Purchaser shall have the right to decide taking appropriate punitive action against the supplier as deemed suitable by the KSY authority.

c. Should the suppliers be adjudged insolvent, the buyer shall have the power to terminate the contract.

d. Decisions under this clause SHALL not be subject to arbitration.

21. **INSURANCE.** After shipment to the destination upto buyers premises (Khulna Shipyard Ltd.), marine insurance of the consignment will be arranged by buyer but considering **insurance charge 0.30% of the total LC Value equivalent of BDT** including VAT, Stamp & all related charge will be paid by foreign principal/ local agent (supplier) at LC opening. Quotation should, therefore, be included with the insurance charges.

22. **EARNEST MONEY.** All bidders must submit earnest money BDT 2,00,000.00 (Two Lac) or equivalent US Dollar / in any International trading currency favoring Khulna Shipyard Ltd.(KSY). Khulna, in the form of Bank Draft / Pay Order / Bank Guarantee which will be issued by any scheduled bank of Bangladesh and it will be included with technical offer. In case bank guarantee is submitted, the same should remain valid for 90 days from the date of opening of the Tender. Neither any inland cheque for a cheque /guarantee issue by Bank of foreign countries will be entertained. Earnest money is liable to forfeiture if the bidder for any reason whatsoever withdraws or modifies its Tender; or violates the terms after opening of the Tender and before expiry of the validity of the Tender; or fails to furnish the required performance bond within the stipulated time after issuance of letter of intent. Bid bond/earnest money of unsuccessful Tenderer would be returned once a decision of the Tender is made. A Tender not accompanied by earnest money/bid bond would be rejected as non-responsive. Bid bond of the successful bidder shall be returned after furnishing performance bond. A specimen copy of bid bond is enclosed herewith as Annex-H.

23. **PERFORMANCE BOND.** The successful Tenderer will be required to furnish performance bond (as a pay order) to the extent 05% of the total CFR value either in the form of pay order or bank guarantee from any scheduled bank of Bangladesh for the satisfactory execution of the order. The submitted bank guarantee must remain valid 06 (Six) months beyond the day of shipment. Performance bond must be furnished within 10 (Ten) day's from the date of letter of intent. It will be liable for forfeiture if the supplier fails to supply the goods within the specified time or commits any breach of contract. The Performance Guarantee will be released after satisfactory inspection (quantity, quality and weight) by Khulna Shipyard Limited Quality Control committee and in presence of supplier's representative at Khulna Shipyard Premises. The buyer shall have the right to forfeit the performance guarantee for failure of the supplier in fulfilling the terms and conditions of this contract partially or wholly, besides taking any other action against the supplier that may be warranted.

24. **WARRANTY.** Supplier shall undertake the full responsibility to rectify any defect of supplied items free of charges under warranty period. To rectify/ replace any such defective item, provided that the defects are appeared / discovered during the period of 12 months after acceptance and delivery of each vessel by BN. Warranty repair/ replacement shall be accomplished within 03 months of notification of the relevant defect. Otherwise warranty will be extended by non-operational period of the item.

25. **GUARANTEE FOR WARRANTY.** Supplier shall furnish to KSY a guarantee for warranty (as a pay order) for an amount equivalent to 05% (five percent) of the total contract price from any scheduled bank situated in Bangladesh. The buyer shall have the right to forfeit the performance guarantee for failure of the supplier in fulfilling the terms and conditions of this contract partially or wholly, besides taking any other action against the supplier that may be warranted. It will be released after completion of warranty period.

26. **INDEMNITY.** The supplier has to indemnify the buyer against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of design etc and shall take all risk of accidents or damage which may cause or failure of the supply from whatever cause arising and take entire responsibility for the sufficiency of the means used by the supplier for the fulfillment of the contract.

27. **INCREASE OR DECREASE IN QUANTITY OF CONTRACT:** The buyer reserves the right at the time of award of contract, with no adjustment in unit price (bid), to increase or decrease the quantity Tendered. The buyer also reserves the right to accept or reject any or all the Tenders or to waive any informality, minor deviation or omission.

    Award would be made to the bidder whose responsive bid determined to be the lowest evaluated bid and who meets the specification and other terms and conditions of the Tender document.

28. **COMPLIANCE STATEMENT.** A compliance statement considering all clauses of Technical and Financial (as per ANNEX-A including relevant information a tabular format) fulfilling all the given requirement of the specifications is to be submitted for evaluation of the Tenders. Stating mere 'Yes', 'No' "Complied" will not suffice and detailed description/ information as required is to be given. An incomplete compliance statement may attribute to cancellation of the Tender. If any clause of this specification does not commensurate with tender, the deviation has to be spelt out clearly and reasonably. **Information/ document/ certificate/ data shared by the bidder must be genuine which can be cross-checked through authentic website information.** Before giving purchase order, KSY may ask any type of technical, financial, administrative queries to the tender. Tender will provide all information/ document/ data to comply KSY's requirement immediately.

29. **DISQUALIFICATION OF TENDER:**

    a. Any addition or alteration to the specification or rate quoted by a firm in the Tender after not only be ignored but should also render the firms liable to disqualification.

    b. Any Tender received late and not strictly confirming to the terms and conditions prescribed in this Tender documents not accompanied with the requisite earnest money and the money receipt of Tender price and registration certificate may be liable for rejection.

30. **TAXES, DUTIES AND DELAY DOCUMENTS:**

    a) All Customs duties, taxes and other charges (C&F charge, port charge etc. except dumping charge (Cargo/ Barge/ Truck/ Trailer loaded from mother vessel)) levied on the goods by authorities in buyer's country shall be borne by the buyer and shall not be included in the bid price.

b) Charges of such nature in seller's country or in any country other than the buyer's country shall be borne by the sellers.

c) In the event of any delay in dispatch of the shipping documents or their incorrect preparation, the supplier shall be responsible for any demurrage, extra handling charges or any other expense arising there from.

31. **BREACH OF CONTRACT.** On any breach of contract by the seller, the buyer may recover the actual loss suffered and the amount may be realized by encashing the performance guarantee.

32. **APPLICABLE LAW.** The purchase order shall be interpreted in accordance with the law of the buyer's country.

33. **FORCE MAJEURE.** Should any circumstance arise preventing either contracting party from wholly or partly carrying its obligations under the present contract, namely Natural Calamity, Strike, Riots, firm acts and elements of War, Military Operation of any, Nature, Block ads and any unforeseen event which is beyond human control the period stipulated for the performance of this contract shall be extended or as long as the circumstances prevail. Provided that in the event of these circumstances continuing for more than thirty days, either party shall have to refuse to fulfill its obligations under this contract and in such case neither party shall be entitled to indemnification of any losses it may sustain.

    The party unable to carry out its obligation under this contract shall immediately advise the other party of the commencement and the termination of circumstances preventing the performance of the contract. A certificate issued by the Chamber of Commerce of the sellers of the buyers' country shall be sufficient proof of the existence and duration of such circumstances.

34. **ARBITRATION.** In the event of any dispute or difference arising out of the terms and conditions as specified above, the same shall be referred to the award of a sole. Arbitrator appointed by the parties on mutual agreement, failing which it shall be referred to the award of the two Arbitrators, from each side (buyer and seller), or in the case of disagreement between the two arbitrators to the award of an umpire to be appointed by the two arbitrator in writing before proceeded on the reference of the decision of the sole arbitrator or of the two arbitrator in the writing before proceeded on the reference of the decision of the sole arbitrator or of the two Arbitrators or the umpire as the case may be shall be final, conclusive and binding upon the parties. The provisions of the arbitration Act 2001 and rules there under and any statutory modification there of shall deem to apply to the said arbitration. The place of arbitration shall be Dhaka, Bangladesh any statutory modification enactment thereof for the time being in force in Bangladesh shall apply to the arbitration proceeding.

    The above terms and conditions are not absolute, the Khulna Shipyard Ltd., Bangladesh Navy, reserves the right to incorporate additional terms and conditions, if necessary. The Khulna Shipyard Ltd., BN also is not bound to accept the lowest Tender and reserves the right to reject any or all Tenders without assigning any reason whatsoever.

Yours faithfully

SK. SHAH MOSIUR RAHOMAN
OIC (Commercial Foreign)
For Managing Director

Enclosure:

A. Format of Price Schedule (Annex - A) - 01 Page
B. Technical Specification of Internal and External Light (Annex-B) - 12 Pages
C. Technical Specification of Marine Type Switch Socket (Annex-C) - 05 Pages
D. Technical Specification of Marine Type Ventilation Fan (Annex-D) -16 Pages
E. Technical Specification of Marine Type Transformer (Annex-E) - 06 Pages
F. Technical Specification of Cable Gland Sealing Material (Annex-F) - 01 Pages
G. Technical Specification of Galley Equipment (Annex-G) - 03 Pages
H. Technical Specification of Measuring Tools and Loose Tools (Annex-H) - 05 Pages
I. Technical Specification of Ac Distribution Board (Annex-I) - 98 Pages
J. Technical Specification of Dc Distribution Board (Annex-J) - 51 Pages
K. Technical Specification of Motor Control Cabinet (Annex-K) - 15 Pages
L. Technical Specification of Fire and Bilge Alarm System (Annex-L) - 01 Pages
M. Technical Specification of Darkened Ship Illuminated System (Dsis) (Annex-M) -03 Pages
N. Technical Specification of Navigation Light Control Panel) (Annex-N)-02 Pages
O. Format of Bank Guarantee in Lieu of Earnest Money (Annex - N) - 01 Page

KHULNA SHIPYARD LTD.
BANGLADESH NAVY, KHULNA
PHONE NO: PABX 02-477720003
E-mail: oiccomf.ksy@gmail.com, Web: www.khulnashipyard.com

ANNEX-A

SCHEDULE TO TENDER ENQUIRY NO: BABE (F) - 632/LSSCMG/2024-2025 DATED: 27 MAY 2025
TENDER OPENING DATE: 26 JUNE 2025 AT 1130 AM HOURS

The package material items for 03 Nos. Landing Craft Tank (LCT):

Sr No	DESCRIPTION OF PACKAGE ITEM (As per Annex)	Quantity	Material Price (Itemize)	Freight	Itemize Total CFR Price
1	Internal And External Light **(As per Annex-B)**	Itemize			
2	Marine Type Switch Socket **(As per Annex-C)**	Itemize			
3	Marine Type Ventilation Fan **(As per Annex-D)**	Itemize			
4	Marine Type Transformer **(As per Annex-E)**	Itemize			
5	Cable Gland Sealing Material **(As per Annex-F)**	Itemize			
6	Galley Equipment **(As per Annex-G)**	Itemize			
7	Measuring Tools And Loose Tools **(As per Annex-H)**	Itemize			
8	Ac Distribution Board **(As per Annex-I)**	Itemize			
9	Dc Distribution Board **(As per Annex-J)**	Itemize			
10	Motor Control Cabinet **(As per Annex-K)**	Itemize			
11	Fire And Bilge Alarm System **(As per Annex-L)**	Itemize			
12	Darkened Ship Illuminated System (DSIS) **(As per Annex-M)**	Itemize			

N.B:

i. **Supplier must quote the offer according to the above list/ table as package wise and incomplete or partial offer of any package will be treated as non-complied/ non-responsive.**
ii. **Supplier must follow commercial & Financial Terms that are integrated at schedule.**

Yours quotation No.

Signature, Name and address of the tenderer:

Date:

Terms of delivery:

Telephone No:

TECHNICAL SPECIFICATION OF INTERNAL AND EXTERNAL LIGHT

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
1.	LED Flood Light for Emergency Zone	1. Brand: Philips	21	
		2. Model: To be mentioned		
		3. Supply Voltage: 24 V DC		
		4. Power: 20 Watt (Minimum)		
		5. Light Color: 4000K/ Natural White		
		6. IP: 56 (Full Water Proof)		
		7. Type: Marine		
		8. Certification: Manufacturer Test certificate		
		9. Country of Origin: To be mentioned		
		10. Country of manufacture: To be mentioned		
2.	Wide Beam LED Flood Light	1. Brand: Philips	39	
		2. Model: To be mentioned		
		3. Supply Voltage: 220 V AC 50 Hz		
		4. Power: 56 Watt (Minimum)		
		5. Illumination: 10200 lm		
		6. Light Color: 4000 K/ Natural White		
		7. IP: 66 (Full Water Proof)		
		8. Certification: Manufacturer Test certificate		
		9. Type: Marine		
		10. Country of Origin: To be mentioned		
		11. Country of manufacture: To be mentioned		
3.	LED Search Light	1. Brand: To be mentioned	12	
		2. Model: To be mentioned		
		3. Body material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 500 Watt (Minimum)		
		6. Light Color: 4000K/ Natural White		
		7. IP: 66 (Full Water Proof)		
		8. Type: Marine		
		9. Certification: Manufacturer Test certificate		
		10. Country of Origin: To be mentioned		
		11. Country of manufacture: To be mentioned		
4.	LED Search Light With Remote Operated	1. Brand: To Be Mentioned	9	
		2. Model: To Be Mentioned Body		
		3. Material: Stainless Steel + Aluminum		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: Minimum 1000 Watts		
		6. Light type: LED		
		7. Light Color Temperature: 4000 K (Natural White)		
		8. IP Rating: IP 66 or better (Full Water Proof)		
		9. Type: Marine Searchlight		
		10. Certification: Manufacturer Test certificate		
		11. Control Panel: Console table-mounted control panel for each searchlight, featuring a 4-axis joystick with an on/off switch.		
		12. Country of Origin: To Be Mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		13. Country of Manufacture: To Be Mentioned		
5.	Industrial LED Light with Emergency source water proof	1. Brand: To be mentioned	6	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Main Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. Emergency Supply Voltage: 24 V DC		
		9. Power : 3 Watt to 5 watt		
		10. Color: 4000K/ Natural White		
		11. Illumination: 264 lm		
		12. IP: 44 or better		
		13. Type: Marine		
		14. Certification: Manufacturer Test certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
6.	Explosion proof LED Light with Emergency source Water Proof	1. Brand: To be mentioned	18	
		2. Model: To be mentioned		
		3. Body material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Main Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. Emergency Supply Voltage: 24 V DC		
		9. Power : 3 Watt to 5 watt		
		10. Light Color: 4000K/ Natural White		
		11. Illumination: 264 lm		
		12. IP:56 (Full Water Proof)		
		13. Type: Marine		
		14. Certification: Explosion proof certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
7.	Explosion proof LED Light Water Proof	1. Brand: To be mentioned	18	
		2. Model: To be mentioned		
		3. Body material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. IP:56 (Full Water Proof)		
		9. Type: Marine		
		10. Certification: Explosion proof certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
8.	Industrial LED Light with	1. Brand: To be mentioned	12	
		2. Model: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
	Emergency source	3. Body material: Steel or equivalent		
		4. Main Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. Emergency Supply Voltage: 24 V DC Power : 3 Watt to 5 watt		
		9. Light Color: 4000K/ Natural White		
		10. Illumination: 264 lm		
		11. IP: 44		
		12. Type: Marine		
		13. Certification: Manufacturer Test certificate		
		14. Country of Origin: To be mentioned		
		15. Country of manufacture: To be mentioned		
9.	Industrial LED Light	1. Brand: To be mentioned	21	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Main Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. IP:44		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
10.	LED Mirror Light	1. Brand: To be mentioned	18	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 18 Watt		
		6. Light Color: 4000K/ Natural White		
		7. IP: 44		
		8. Type: Marine		
		9. Certification: Manufacturer Test certificate		
		10. Country of Origin: To be mentioned		
		11. Country of manufacture: To be mentioned		
11.	Industrial LED Light with Emergency source water proof	1. Brand: To be mentioned	129	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. Emergency Supply Voltage: 24 V		
		9. DC Power : 3 Watt to 5 watt		
		10. Light Color: 4000K/ Natural White		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		11. Illumination: 264 lm		
		12. IP: 56 (Full Water Proof)		
		13. Type: Marine		
		14. Certification: Manufacturer Test certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
12.	Industrial LED Light	1. Brand: To be mentioned	114	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. IP: 56		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
13.	Industrial LED Light with Emergency source	1. Brand: To be mentioned	171	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. Emergency Supply Voltage: 24 V		
		9. DC Power : 3 Watt to 5 watt		
		10. Light Color: 4000K/ Natural White		
		11. Illumination: 264 lm		
		12. IP:22		
		13. Type: Marine		
		14. Certification: Manufacturer Test certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
14.	Industrial LED Light	1. Brand: To be mentioned	210	
		2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 34 Watt to 40 Watt		
		6. Illumination: 3168 lm		
		7. Light Color: 4000K/ Natural White		
		8. IP:22		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate.		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
15.		1. Brand: To be mentioned	219	

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
	Berth Lamp with 2 pin socket	2. Model: To be mentioned		
		3. Body material: Steel or equivalent		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 10 Watt		
		6. Illumination: 800 lm		
		7. Light Color: 3000K/ Warm White		
		8. IP:22		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
16.	LED Down light with Emergency Source	1. Brand: To be mentioned	21	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned		
		4. Main Supply Voltage: 220 V AC 50 Hz		
		5. Power: 20 Watt		
		6. Illumination: 2450 lm		
		7. Light Color: 3000K/ Warm White		
		8. Emergency Supply Voltage: 24 V		
		9. DC Power : 3 Watt to 5 watt		
		10. Light Color: 3000K/ Warm White		
		11. Illumination: 300 lm		
		12. IP:44		
		13. Type: Marine		
		14. Certification: Manufacturer Test certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
17.	LED Down light	1. Brand: To be mentioned	51	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 20 Watt		
		6. Illumination: 2450 lm		
		7. Light Color: 3000K/ Warm White		
		8. IP:44		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
18.	Spot on Adjustable arm with Dimmable LED Lamp	1. Brand: To be mentioned	33	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 13 Watt to 5 watt		
		6. Illumination: 750 lm		
		7. Light Color: 3000K/ Warm White		
		8. IP:20		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
19.	Table LED Lamp	1. Brand: To be mentioned	54	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 10 Watt		
		6. Illumination: 4000 lm		
		7. Light Color: 3000K/ Warm White		
		8. IP:20		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
20.	LED Down light with Emergency Source	1. Brand: To be mentioned	123	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned		
		4. Main Supply Voltage: 220 V AC 50 Hz		
		5. Power: 20 Watt		
		6. Illumination: 2450 lm		
		7. Light Color: 3000K/ Warm White		
		8. Emergency Supply Voltage: 24 V		
		9. DC Power : 3 Watt to 5 watt		
		10. Light Color: 3000K/ Warm White		
		11. Illumination: 300 lm		
		12. IP:22		
		13. Type: Marine		
		14. certification: Manufacturer Test certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
21.	LED Down light	1. Brand: To be mentioned	267	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned Supply Voltage: 220 V AC 50 Hz		
		4. Power: 20 Watt		
		5. Illumination: 2450 lm		
		6. Light Color: 3000K/ Warm White		
		7. IP:22		
		8. Type: Marine		
		9. Certification: Manufacturer Test certificate		
		10. Country of Origin: To be mentioned		
		11. Country of manufacture: To be mentioned		
22.	LED Down Light Dimmable	1. Brand: To be mentioned	27	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned Supply		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		4. Supply Voltage: 24 V DC		
		5. Power: 20 Watt		
		6. Illumination: 1350 lm		
		7. Light Color: Red		
		8. IP:22		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
23.	LED Down Light Dimmable with Emergency Source	1. Brand: To be mentioned	24	
		2. Model: To be mentioned		
		3. Body Material: To be mentioned		
		4. Main Supply Voltage: 220 V AC 50 Hz		
		5. Power: 20 Watt		
		6. Illumination: 2450 lm		
		7. Light Color: 3000K/ Warm White		
		8. Emergency Supply Voltage: 24 V		
		9. DC Power : 3 Watt to 5 watt		
		10. Light Color: 3000K/ Warm White		
		11. Illumination: 300 lm		
		12. IP:22		
		13. Type: Marine		
		14. Certification: Manufacturer Test certificate		
		15. Country of Origin: To be mentioned		
		16. Country of manufacture: To be mentioned		
24.	LED Down Light Dimmable	1. Brand: To be mentioned	132	
		2. Model: To be mentioned		
		3. Body material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 20 Watt		
		6. Illumination: 2450 lm		
		7. Light Color: 3000K /Warm White		
		8. IP:22		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
25.	LED Down Light Dimmable	1. Brand: To be mentioned	27	
		2. Model: To be mentioned		
		3. Body material: To be mentioned		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 20 Watt		
		6. Illumination: 1350 lm		
		7. Light Color: Red		
		8. IP:22		
		9. Type: Marine		
		10. Certification: Manufacturer Test certificate		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
26.	Double Tier Marine Navigation Light (Port)	1. Brand: To be mentioned	3	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 112.5 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC: 60 Watt		
		2. For 230 V AC: 60 Watt		
		8. Number of tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: Red		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
27.	Double Tier Marine Navigation Light (STBD)	1. Brand: To be mentioned	3	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 112.5 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		
		2. For 230 V AC 60 Watt		
		8. Number of Tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: Green		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
28.	Double Tier Marine Navigation Light (NUC)	1. Brand: To be mentioned	12	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 360 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		
		2. For 230 V AC 60 Watt		
		8. Number of Tier: Double Tier		
		9. IP: 56 (Full Water Proof)		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		10. Glass Color: Red		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
29.	Double Tier Marine Navigation Light (RAM)	1. Brand: To be mentioned	6	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 360 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		
		2. For 230 V AC 60 Watt		
		8. Number of Tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: White		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
30.	Double Tier Marine Navigation Light (Anchor)	1. Brand: To be mentioned	6	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 360 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		
		2. For 230 V AC 60 Watt		
		8. Number of tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: White		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
31.	Double Tier Marine Navigation Light (Mast Head)	1. Brand: To be mentioned	9	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 6 nautical miles		
		5. Beam Angle/Level Of Arc : 225 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		2. For 230 V AC 60 Watt		
		8. Number of Tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: White		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
32.	Double Tier Marine Navigation Light (Stern)	1. Brand: To be mentioned	3	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 135 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		
		2. For230 V AC 60 Watt		
		8. Number Of Tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: White		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
33.	Double Tier Marine Navigation Light (Towing)	1. Brand: To be mentioned	3	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 3 nautical miles		
		5. Beam Angle/Level Of Arc : 135 Degree		
		6. Lamp holder: P28S		
		7. Lamp:		
		1. For 24V DC 60 Watt		
		2. For 230 V AC 60 Watt		
		8. Number of tier: Double Tier		
		9. IP: 56 (Full Water Proof)		
		10. Glass Color: Yellow		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
34.	Flashing Signal Light	1. Brand: To be mentioned	6	
		2. Model: To be mentioned		
		3. Material: Plastic		
		4. Visibility: 5 nautical miles		
		5. Beam Angle/Level Of Arc : 360 Degree		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Lamp holder: P28S		
		7. Lamp: 230 V AC 60 Watt		
		8. IP: 56 (Full Water Proof)		
		9. Number of tier: Single tier		
		10. Glass Color: White		
		11. Certification: Manufacturer Test certificate		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light.		
		13. Country of origin: to be mentioned		
		14. Country of manufacture: To be mentioned		
35.	Water tight Portable LED Flood Light with 15 mtr. electric Cord and plug	1. Brand: To be mentioned	12	
		2. Model: To be mentioned		
		3. Supply Voltage: 220 V AC 50 Hz		
		4. Power: 100 Watt (Minimum)		
		5. Light Color: White		
		6. Cable type: BYFY or Twin Core flexible Cable		
		7. Plug Type: Heavy duty 2 pin plug		
		8. IP: 56 (Full water proof)		
		9. Type: Marine		
		10. Accessories and spare: Complete set with 1 main light and 1 set spare light		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
36.	Non water tight Portable LED Flood Light with 15 mtr. electric Cord and plug	1. Brand: To be mentioned	18	
		2. Model: To be mentioned		
		3. Supply Voltage: 220 V AC 50 Hz		
		4. Power: 100 Watt (Minimum)		
		5. Color: White		
		6. Cable type: BYFY or Twin Core flexible Cable		
		7. Plug Type: Heavy duty 2 pin plug		
		8. IP:40		
		9. Type: Marine		
		10. Accessories and spare: Complete set with 1 main light and 1 set spare light		
		11. Country of Origin: To be mentioned		
		12. Country of manufacture: To be mentioned		
37.	Portable working light with one side cover with 15 Mtr. Electric Cord and Plug	1. Brand: To be mentioned	30	
		2. Model: To be mentioned		
		3. Light type: LED		
		4. Supply Voltage: 220 V AC 50 Hz		
		5. Power: 60 Watt (Minimum)		
		6. Color: White		
		7. Holder type: Screw		
		8. Cable type: BYFY or Twin Core flexible Cable		
		9. Plug Type: Heavy duty 2 pin plug		
		10. IP:40		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		11. Type: Marine		
		12. Accessories and spare: Complete set with 1 main light and 1 set spare light		
		13. Country of Origin: To be mentioned		
		14. Country of manufacture: To be mentioned		

ANNEX-C

TECHNICAL SPECIFICATION OF MARINE TYPE SWITCH SOCKET

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
1.	Dimmer With 2 pole Switch with mounting box	1. Brand: To be mentioned 2. Model: To be mentioned 3. Type: Gang Type 4. Material: Plastic 5. Operating Voltage: 24 V DC 6. Current Rating : 10 Amps 7. IP:20 8. Certification: Manufacturer Test certificate 9. Country of origin: to be mentioned 10. Country of manufacture: To be mentioned	12	
2.	Dimmer With 2 pole Switch for Staircase with mounting box	1. Brand: To be mentioned 2. Model: To be mentioned 3. Type: Gang Type 4. Material: Plastic 5. Operating Voltage: 220 V AC 6. Current Rating : 10 Amps 7. IP:20 8. Certification: Manufacturer Test certificate 9. Country of origin: to be mentioned 10. Country of manufacture: To be mentioned	15	
3.	Dimmer With 2 pole Switch with mounting box	1. Brand: To be mentioned 2. Model: To be mentioned 3. Type: Gang Type 4. Material: Plastic 5. Operating Voltage: 220 V AC 6. Current Rating : 10 Amps 7. IP:20 8. Certification: Manufacturer Test certificate 9. Country of origin: to be mentioned 10. Country of manufacture: To be mentioned	6	
4.	Reed Switch(Magnetic Door Switch) complete set	1. Brand: To be mentioned 2. Model: To be mentioned 3. Type: Marine type 4. Material: Metal 5. Operating Voltage: 220 V AC 6. Current Rating : 10 Amps 7. IP:34 8. Certification: Manufacturer Test certificate 9. Country of origin: to be mentioned 10. Country of manufacture: To be mentioned	69	

ANNEX-C

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
5.	Explosion proof 2 pole Switch with indication lamp	1. Brand: To be mentioned	21	
		2. Model: To be mentioned		
		3. Type : Explosion Proof marine type		
		4. Material: Brass		
		5. Operating Voltage: 24 V DC		
		6. Current Rating : 10 Amps		
		7. IP: 56		
		8. Certification: Manufacturer Test certificate		
		9. Country of origin: to be mentioned		
		10. Country of manufacture: To be mentioned		
6.	2 pole Rotary Switch for Staircase	1. Brand: To be mentioned	21	
		2. Model: To be mentioned		
		3. Type: Marine Type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 10 Amps		
		7. IP: 44		
		8. Certification: Manufacturer Test certificate		
		9. Country of origin: to be mentioned		
		10. Country of manufacture: To be mentioned		
7.	2 pole Switch for Staircase with mounting box	1. Brand: To be mentioned	33	
		2. Model: To be mentioned		
		3. Type: Gang Type		
		4. Material: Plastic		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 10 Amps		
		7. IP: 20		
		8. Certification: Manufacturer Test certificate		
		9. Country of origin: to be mentioned		
		10. Country of manufacture: To be mentioned		
8.	Rotary type 2 Pole Switch	1. Brand: To be mentioned	24	
		2. Model: To be mentioned		
		3. Type: Marine Type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 10 Amps		
		7. IP: 56		
		8. Certification: Manufacturer Test certificate		
		9. Country of origin: to be mentioned		
		10. Country of manufacture: To be mentioned		
9.	Rotary type 2 Pole Switch	1. Brand: To be mentioned	12	
		2. Model: To be mentioned		
		3. Type: Marine Type		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 10 Amps		
		7. IP: 44		
		8. Certification: Manufacturer Test certificate		
		9. Country of origin: to be mentioned		
		10. Country of manufacture: To be mentioned		
10.	2 Pole Switch with mounting box	1. Brand: To be mentioned	111	
		2. Model: To be mentioned		
		3. Type: Gang Type		
		4. Material: Plastic		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 10 Amps		
		7. IP:44		
		8. Certification: Manufacturer Test certificate		
		9. Country of origin: to be mentioned		
		10. Country of manufacture: To be mentioned		
11.	Bi-stable Switch	1. Brand: To be mentioned	33	
		2. Model: To be mentioned		
		3. Material : To Be Mentioned		
		4. Operating Voltage: 220 V AC		
		5. Current Rating : 10 Amps		
		6. IP:20		
		7. Certification: Manufacturer Test certificate		
		8. Country of origin: to be mentioned		
		9. Country of manufacture: To be mentioned		
12.	Single 3 Phase Power Socket with Plug	1. Brand: To be mentioned	12	
		2. Model: To be mentioned		
		3. Type: Marine type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 415 V AC		
		6. Current Rating : 32 Amps		
		7. IP:56		
		8. Certification: Manufacturer Test certificate		
		9. Number Of Pin: 4		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		
13.	Single 3 Phase Power Socket with Plug	1. Brand: To be mentioned	30	
		2. Model: To be mentioned		
		3. Type: Marine type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 415 V AC		
		6. Current Rating : 32 Amps		

ANNEX-C

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		7. IP: 44		
		8. Certification: Manufacturer Test certificate		
		9. Number Of Pin: 4		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		
14.	Single 3 Phase Power Socket with plug	1. Brand: To be mentioned	9	
		2. Model: To be mentioned		
		3. Type: Marine type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 415 V AC		
		6. Current Rating : 16 Amps		
		7. IP: 44		
		8. Certification: Manufacturer Test certificate		
		9. Number Of Pin: 4		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		
15.	Double Power socket	1. Brand: To be mentioned	39	
		2. Model: To be mentioned		
		3. Type: Marine type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 16 Amps		
		7. IP: 56		
		8. Certification: Manufacturer Test certificate		
		9. Number of pin: 3		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		
16.	Double Power socket and Switch	1. Brand: To be mentioned	117	
		2. Model: To be mentioned		
		3. Type: Marine type		
		4. Material: Synthetic Resin or equivalent		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 16 Amps		
		7. Number of pin: 3		
		8. IP: 44		
		9. Certification: Manufacturer Test certificate		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		
17.	Double Power Socket And Switch With Mounting Box	1. Brand: To be mentioned	291	
		2. Model: To be mentioned		
		3. Type: Gang Type		
		4. Material: Plastic		
		5. Operating Voltage: 220 V AC		

ANNEX-C

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		6. Current Rating : 16 Amps		
		7. Number of pin: 8		
		8. IP: 20		
		9. Certification: Manufacturer Test certificate		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		
18.	Water Proof Socket With Plug (Navigation Light)	1. Brand: To be mentioned	111	
		2. Model: To be mentioned		
		3. Type: Marin Type		
		4. Material: Brass		
		5. Operating Voltage: 220 V AC		
		6. Current Rating : 16 Amps		
		7. Number Of Pin: 3		
		8. IP: 66 or better		
		9. Certification: Manufacturer Test certificate		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		

TECHNICAL SPECIFICATION OF MARINE TYPE VENTILATION FAN

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
1.	Forward Engine Room Supply Fan supplied with automatic Non-return fire damper and flexible connection	1. Brand: To be mentioned	06	
		2. Model: To be mentioned		
		3. Type: Marine Axial Fan		
		4. Body Material: Galvanized Iron		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)/ To be mentioned		
		9. IP: 56		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 57,000 m3/hr.		
		12. Pressure: 550 Pa (Minimum)		
		13. Size: 20 Inch		
		14. Starting Method: Variable Frequency Drive (VFD)		
		15. Starter Panel: The starter panel should include a start/stop push-button switch and indication lamps for proper operation and monitoring. The starter should have a remote start-stop and speed control option. The starter panel should be supplied with the fan.		
		16. Accessories: Fitting Flange 2 nos and rubber gasket and safety mesh will be providing with the fan.		
		17. Connection terminal box with required cable inlet.		
		18. Communication facility: To interface with Noris Automation the following Hardware platform and protocol is required - (1) Hardwired platform :RS485/RS422/RJ45 (2) Protocol: ModBus RTU/ModBus TCP/NMEA0183		
		19. Country of origin: to be mentioned		
		20. Country of manufacture: To be mentioned		
2.	Aft Engine Room Supply Fan and flexible connection	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial Fan		
		4. Body Material: Galvanized Iron		
		5. Supply Voltage: 3Phase 415 V AC, 50 Hz		
		6. Power: To Be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum) / To be mentioned		
		9. IP: 56		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 24,000 m3/hr.		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		12. Pressure: 525 Pa		
		13. Size: 20 Inch		
		14. Starting Method: Variable Frequency Drive (VFD)		
		15. Starter Panel: The starter panel should include a start/stop push-button switch and indication lamps for proper operation and monitoring. The starter should have a remote start-stop and speed control option. The starter panel should be supplied with the fan.		
		16. Accessories: Fitting Flange 2 nos and rubber gasket and safety mesh will be providing with the fan.		
		17. Connection terminal box with required cable inlet		
		18. Communication facility: To interface with Noris Automation the following Hardware platform and protocol is required - (1) Hardwired platform :RS485/RS422/RJ45 (2) Protocol: ModBus RTU/ModBus TCP/NMEA0183		
		19. Country of origin: to be mentioned		
		20. Country of manufacture: To be mentioned		
3.	Forward Engine Room Exhaust Fan with flexible connection	1. Brand: To be mentioned	06	
		2. Model: To be mentioned		
		3. Type: Marine Axial Fan		
		4. Body Material: Galvanized Iron		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)/ To be mentioned		
		9. IP: 56		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 88000 m3/hr.		
		12. Pressure: 100 Pa (Minimum)		
		13. Size: 20 Inch		
		14. Starting Method: Variable Frequency Drive (VFD)		
		15. Starter Panel: The starter panel should include a start/stop push-button switch and indication lamps for proper operation and monitoring. The starter should have a remote start-stop and speed control option. The starter panel should be supplied with the fan.		
		16. Accessories: Fitting Flange 2 Nos and rubber gasket and safety mesh will be providing with the fan.		
		17. Connection terminal box with required cable inlet		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		18. Communication facility: To interface with Noris Automation the following Hardware platform and protocol is required - (1) Hardwired platform :RS485/RS422/RJ45 (2) Protocol: ModBus RTU/ModBus TCP/NMEA0183		
		19. Country of origin: to be mentioned		
		20. Country of manufacture: To be mentioned		
4.	Aft Engine Room Exhaust Fan with Flexible Connection	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial Fan		
		4. Body Material: Galvanized Iron		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 56		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 21500 m3/hr.		
		12. Pressure: 70 Pa (Minimum)		
		13. Size: 20 Inch		
		14. Starting Method: Variable Frequency Drive (VFD)		
		15. Starter Panel: The starter panel should include a start/stop push-button switch and indication lamps for proper operation and monitoring. The starter should have a remote start-stop and speed control option. The starter panel should be supplied with the fan.		
		16. Accessories: Fitting Flange 2 nos and rubber gasket and safety mesh will be providing with the fan.		
		17. Connection terminal box with required cable inlet		
		18. Communication facility: To interface with Noris Automation the following Hardware platform and protocol is required - (1) Hardwired platform :RS485/RS422/RJ45 (2) Protocol: ModBus RTU/ModBus TCP/NMEA0183		
		18. Country of origin: to be mentioned		
		19. Country of manufacture: To be mentioned		
5.	2 Speed Circular inline duct fan for Ram Winch Room Supply Fan	1. Brand: To be mentioned	06	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 440 m3/hr. (Minimum)		
		12. Pressure: 450 Pa		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
6.	2 Speed Circular inline duct fan Steering Gear Compartment Supply Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 16,00 m3/hr.		
		12. Pressure: 350 Pa		
		13. Duct Size: 250 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
7.	2 Speed Circular inline duct fan Domestic Machinery Room Supply fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 2170 m3/hr.		
		12. Pressure: 350 Pa (Minimum)		
		13. Duct Size: 300 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
8.	2 Speed Circular inline duct fan HPU Supply Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 325 m3/hr. Minimum		
		12. Pressure: 600 Pa Minimum		
		13. Duct Size: 100 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
9.	2 Speed Circular inline duct fan Emergency Generator Room Supply Fan with Flexible Connection	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 310 m3/hr. (Minimum)		
		12. Pressure: 550 Pa (Minimum)		
		13. Duct Size: 100 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
10.	2 Speed Circular inline duct fan AHU Room Exhaust Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To Be Mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 420 m3/hr. (Minimum)		
		12. Pressure: 400 Pa (Minimum)		
		13. Duct Size: 125 mm		
		14. Starting Method: To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
11.	2 Speed Circular inline duct fan AHU Room Exhaust Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase ,415 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 420 m3/hr. (Minimum)		
		12. Pressure: 400 Pa (Minimum)		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
12.	Explosion Proof 2 Speed Circular inline duct fan Battery Room Exhaust Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 220 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certificate: 1) Explosion Prof certificate 2) Manufacture Test Certificate		
		11. Air Flow Rate: 210 m3/hr. Minimum		
		12. Pressure: 750 Pa Minimum		
		13. Duct Size: 80 mm		
		14. Starting Method: To Be Mentioned		
		15. Country of origin: to be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		16. Country of manufacture: To be mentioned		
13.	Explosion Proof 2 Speed Circular inline duct fan Paint Locker Room Exhaust Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: single phase 220 V AC, 50 Hz		
		6. Power: 0.3 KW (Maximum)		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certificate: 1) Explosion Prof certificate 2) Manufacture Test Certificate		
		11. Air Flow Rate: 195 m3/hr. Minimum		
		12. Pressure: 550 Pa (Minimum)		
		13. Duct Size: 80 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
14.	2 Speed Circular inline duct fan Bonsun / Lashing Room Supply Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase , 220 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 40 m3/hr. Minimum		
		12. Pressure: 50 Pa Minimum		
		13. Duct Size: 80 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
15.	2 Speed Circular inline duct fan Aft Damage Control Locker Supply Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 70 m3/hr. Minimum		
		12. Pressure: 150 Pa Minimum		
		13. Duct Size: 80 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
16.	2 Speed Circular inline duct fan Eng/Elec. Store Supply Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 330 m3/hr. Minimum		
		12. Pressure: 650 Pa minimum		
		13. Duct Size: 100 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
17.	2 Speed Circular inline duct fan Naval Store Supply Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To Be Mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 135 m3/hr. Minimum		
		12. Pressure: 250 Pa Minimum		
		13. Duct Size: 80 mm		
		14. Starting Method: To Be Mentioned		
		15. Country of origin: to be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		16. Country of manufacture: To be mentioned		
18.	2 Speed Circular inline duct fan CO2 Locker Exhaust Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 115 m3/hr. Minimum		
		12. Pressure: 200 Pa Minimum		
		13. Duct Size: 80 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
19.	2 Speed Circular inline duct fan Garbage Store Exhaust Fan	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 phase 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification:		
		11. Air Flow Rate: 760 m3/hr. Minimum		
		12. Pressure: 500 Pa Minimum		
		13. Duct Size: 150 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
20.	2 Speed Circular inline duct fan 1/2 Deck Stair Tower Supply	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. BodyMaterial: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 225 m3/hr. Minimum		
		12. Pressure: 350 Pa Minimum		
		13. Duct Size: 100 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
21.	2 Speed Circular inline duct fan for Deck Stair Tower Supply	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 225 m3/hr. Minimum		
		12. Pressure: 450 Pa Minimum		
		13. Duct Size: 100 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
22.	2 Speed Circular inline duct fan Galley exhaust	1. Brand: To be mentioned	06	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 1500 m3/hr. Minimum		
		12. Pressure: 400 Pa Minimum		
		13. Duct Size: 200 mm		
		14. Starting Method : Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		16. Country of manufacture: To be mentioned		
23.	2 Speed Circular inline duct fan Galley supply	1. Brand: To be mentioned	06	
		2. Model: To be mentioned		
		3. Type: Marine Axial 2 Speed Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 1060 m3/hr. Minimum		
		12. Pressure: 400 Pa Minimum		
		13. Duct Size: 200 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
24.	Circular inline duct fan for San. Main	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 126 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
25.	Circular inline duct fan for Pantry Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 247 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
26.	Circular inline duct fan for Electric Equipment Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned.		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 320 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 160 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
27.	Circular inline duct fan for Diving Equipment Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 184 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		16. Country of manufacture: To be mentioned		
28.	Circular inline duct fan for Dry Provisions Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 241 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 150 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
29.	Circular inline duct fan for Galley Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 1444 m3/hr. Minimum		
		12. Air Changes per Hour: 30		
		13. Pressure: to be mentioned		
		14. Duct Size: 300 mm		
		15. Starting Method: Direct On Line or To Be Mentioned		
		16. Country of origin: to be mentioned		
		17. Country of manufacture: To be mentioned		
30.	Circular inline duct fan for Sick Bay Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 207 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 150 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
31.	Circular inline duct fan for Laundry Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 711 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 224 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
32.	Explosion proof Circular inline duct fan for Magazine Room	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Explosion proof Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 114 m3/hr. Minimum		
		12. Pressure: To be mentioned		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
33.	Circular inline duct fan for 02 Dec LAV	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 137 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 125 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
34.	Circular inline duct fan for Lavatory 3 & 4	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 107 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 100 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
35.	Circular inline duct fan for 1 Deck Shower	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 309 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 160 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
36.	Circular inline duct fan for Lavatory 01	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 312 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 160 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		
37.	Circular inline duct fan for 01 Deck Lavatory & Shower	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Type: Marine Centrifugal Fan		
		4. Body Material: To Be Mentioned		
		5. Supply Voltage: Single phase 220 V AC, 50 Hz		
		6. Power: To be mentioned		
		7. Speed: To be mentioned		
		8. Motor Insulation: F (Minimum)		
		9. IP: 44		
		10. Certification: Manufacturer Test certificate		
		11. Air Flow Rate: 959 m3/hr. Minimum		
		12. Pressure: to be mentioned		
		13. Duct Size: 250 mm		
		14. Starting Method: Direct On Line or To Be Mentioned		
		15. Country of origin: to be mentioned		
		16. Country of manufacture: To be mentioned		

ANNEX-E

TECHNICAL SPECIFICATION OF MARINE TYPE TRANSFORMER

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
1.	Dry type Step Down Marine Transformers	1. Brand: To Be Mentioned	03	
		2. Model: To Be Mentioned		
		3. Winding Material: Copper		
		4. Input Voltage(Phase to Phase): 415 V AC, 50 Hz		
		5. Output Voltage(Phase to Phase):220 V AC, 50 Hz		
		6. Power :100 KVA		
		7. On Load and Off Load Power Losses : To Be Mentioned		
		8. Mounting: Floor Mount		
		9. Enclosure: GP Sheet		
		10. Enclosure Finish: Powder coated		
		11. Enclosure Color: Light Gray		
		12. Connection terminal: Phase, neutral and earthing with protection cover		
		13. Cooling System: Natural Air Cooled		
		14. Size: To Be Mentioned (Compact and small size will be preferable)		
		15. Weight: To be mentioned		
		16. Standard: GB/T 17468-2008, IEC 60076-1:2011, JB/T 8636-1997 or equivalent international standard		
		17. Certification: Manufacture Test Certificate		
		18. Country of Origin: To Be Mentioned		
		19. Country of Manufacturer: To Be Mentioned		
2.	Dry type Step Down Marine Transformers	1. Brand: To Be Mention	03	
		2. Model: To Be Mention		
		3. Winding Material: Copper		
		4. Input Voltage(Phase to Phase): 415 V AC, 50 Hz		
		5. Output Voltage(Phase to Phase): 220 V AC, 50 Hz		
		6. Power :25 KVA		
		7. On Load and Off Load Power Losses : To Be Mentioned		
		8. Mounting: Floor Mount		
		9. Enclosure: GP Sheet		
		10. Enclosure Finish : Powder coated		
		11. Enclosure Color: Light Gray		
		12. Connection terminal: Phase, neutral and earthing with protection cover		
		13. Cooling System: Natural Air Cooled		
		14. Size: To Be Mentioned (Compact and small size will be preferable)		
		15. Weight: To be mentioned		
		16. Standard: GB/T 17468-2008, IEC 60076-1:2011, JB/T 8636-1997 or equivalent international standard		
		17. Certification: Manufacture Test Certificate		

ANNEX-E

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		18. Country of Origin: To Be Mentioned		
		19. Country of Manufacturer: To Be Mentioned		
3.	Dry type Step Down Transformers	1. Brand: To Be Mention	03	
		2. Model: To Be Mention		
		3. Winding Material: Copper		
		4. Input Voltage(Phase to Phase): 415 V AC, 50 Hz		
		5. Output Voltage(Phase to Phase):115 V AC, 50 Hz		
		6. Power :5 KVA		
		7. On Load and Off Load Power Losses : To Be Mentioned		
		8. Mounting: Floor Mount		
		9. Enclosure: GP Sheet		
		10. Enclosure Finish : Powder coated		
		11. Enclosure Color: Light Gray		
		12. Connection terminal: Phase, neutral and earthing with protection cover		
		13. Cooling System: Natural Air Cooled		
		14. Size: To Be Mentioned (Compact and small size will be preferable)		
		15. Weight: To be mentioned		
		16.Standard: GB/T 17468-2008, IEC 60076-1:2011, JB/T 8636-1997 or equivalent international standard		
		17. Certification: Manufactuer Test Certificate		
		18. Country of Origin: To Be Mentioned		
		19. Country of Manufacturer: To Be Mentioned		
4.	Dry type Step Down Transformers	1. Brand: To Be Mention	03	
		2. Model: To Be Mention		
		3. Winding Material: Copper		
		4. Input Voltage(Phase to Phase): 415 V, 50 Hz AC		
		5. Output Voltage(Phase to Phase):24 V AC		
		6. Power :5 KVA		
		7. On Load and Off Load Power Losses : To Be Mentioned		
		8. Mounting: Floor Mount		
		9. Enclosure: GP Sheet		
		10. Enclosure Finish : Powder coated		
		11. Enclosure Color: Light Gray		
		12. Connection terminal: Phase, neutral and earthing with protection cover		
		13. Cooling System: Natural Air Cooled		
		14. Size: To Be Mentioned (Compact and small size will be preferable)		
		15. Weight: To be mentioned		
		16. Standard: GB/T 17468-2008, IEC 60076-1:2011, JB/T 8636-1997 or equivalent international standard		
		17. Certification: Manufacture Test Certificate		

ANNEX-E

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		18. Country of Origin: To Be Mentioned		
		19. Country of Manufacturer: To Be Mentioned		
5.	Battery Charger Cum Rectifier	1. Brand: To Be Mentioned	06	
		2. Model: To Be Mentioned		
		3. Input Voltage: 415 V AC, 50 Hz, Three-phase		
		4. Input Voltage Range: ±10% of rated voltage (to handle voltage fluctuations)		
		5. Output Voltage: 24 V DC for Load & 28.5 Volt for Battery Charging.		
		6. Output Power: 15.5 KW		
		7. Output Current: 650 A at 24 V DC (Minimum)		
		8. Charging Current: 50 A or Adjustable (to suit different battery capacities)		
		9. Rectifier Type: Three-Phase Full Bridge Rectifier or better		
		10. Efficiency: 90 to 95 % (Minimum)		
		11. Power Factor: 0.9 (Minimum)		
		12. Battery Charging Algorithm: Multi-stage (CC, CV, Float, Equalization, Automatic Boost Mode)		
		13. Automatic Boost Mode: 1) Fast charging feature for quick recovery of battery charge 2) Auto switch between boost mode and float mode based on battery condition		
		14. Battery Protection: To Be Mentioned		
		15. Cooling: Forced air cooling or liquid cooling		
		16. Size: To Be Mentioned (Compact and small size will be preferable)		
		17. Weight: To Be Mentioned		
		18. Ripple Voltage: ≤1% of rated DC output voltage (to ensure smooth DC output)		
		19. Voltage Regulation: ±1% (to maintain stable DC output under varying loads)		
		20. Protection Features:		
		1) Overload Protection (Prevents excessive current draw)		
		2) Overvoltage Protection (Shuts down on high voltage spikes)		
		3) Overcharge Protection (Prevents battery damage)		
		4) Short Circuit Protection (Automatic shutdown on faults)		
		5) Reverse Polarity Protection (Protects battery and charger)		
		6) Automatic Full Charge Supply Cut-off (Stops charging once the battery is full)		
		7) Surge Protection (Handles power surges and transient voltage spikes)		
		21. Monitoring & Display:		
		1) Digital/Analog Voltage and Current Meter		
		2) LED Indicators (Power ON, Charging, Fault)		

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		3) Optional LCD Display for real-time monitoring 4) Remote Monitoring via RS-485, MODBUS		
		22. Controlling Options:		
		1) On-Off Switch		
		2) Soft Start Feature (Prevents inrush current during startup)		
		23. Connection Terminal: Input-output cable connection terminal with sufficient current capacity		
		24. Mounting: Floor Mount		
		25. Enclosure: Powder Coated Enclosure (Industrial Grade)		
		26. Ingress Protection (IP Rating): IP 54		
		27. Color: Light Gray		
		28. Standard Compliance:		
		1) CE, UL, RoHS, or equivalent		
		2) IEC 62040 (UPS & power supply systems)		
		3) IEEE 519 (Harmonic compliance)		
		4) EN 55022 / EN 61000 (EMC/EMI compliance)		
		5) Or equivalent international marine standard		
		29. Certification: Manufacturer Test Certificate		
		30. Operating Temperature Range: -10°C to +55°C		
		31. Humidity Range: Up to 95% RH (non-condensing)		
		32. Cooling Fan Redundancy: Dual fan operation		
		33. Battery Compatibility: Lead Acid, SMF		
		34. Country of Origin: To Be Mentioned		
		35. Country of Manufacturer: To Be Mentioned		
6.	Rectifier	1. Brand: To Be Mentioned	12	
		2. Model: To be mentioned		
		3. Input Voltage: Single Phase 220 V AC, 50 Hz		
		4. Output Voltage: 24 V DC for Load		
		5. Output Power: 0.25 KW		
		6. Output Current: 10.5 A at 24 V DC (Minimum)		
		7. Rectifier Type: Single Phase Full Bridge rectifier		
		8. Efficiency: 90 to 95 % (Minimum)		
		9. Power Factor: 0.9		
		10. Cooling: Forced air cooling		
		11. Size: To Be Mentioned (Compact and small size will be preferable)		
		12. Weight: To be mentioned		
		13. Protection: 1) Over load, 2) Over voltage, 3) over charge protection. 4) Automatic full charge supply cut system must be included		
		14. Monitoring: Output Voltage and current monitoring meter must be included.		
		15. Controlling option: On off switch		

ANNEX-E

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		16. Connection Terminal: Input output cable connection terminal with sufficient current capacity.		
		17. Mounting: To be mentioned		
		18. Enclosure: powder coated enclosure		
		19. Color: To be mentioned		
		20. Standard: CE, UL, RoHS or equivalent		
		21. Certification: Manufacturer Test Certificate		
		22. Country of Origin: To Be Mentioned		
		23. Country of Manufacturer: To Be Mentioned		
7.	Converter	1. Brand: To be mentioned	03	
		2. Dual Input Voltage: 24 V DC & 220 V AC		
		3. Output Voltage: 220 V AC (Fixed)		
		4. Output Power: 3 KW		
		5. Output Current: 13.64 at 220 V AC		
		6. Efficiency: 90 % Minimum		
		7. Waveform: Pure sine wave		
		8. Protection: OVP, OCP, Short-circuit, Thermal Shutdown, Reverse Polarity Protection		
		9. Monitoring: Output Voltage and current monitoring meter must be included.		
		10. Controlling option: On off switch		
		11. Connection Terminal: Input output cable connection terminal with sufficient current capacity.		
		12. Mounting: To be mentioned		
		13. Enclosure: powder coated enclosure		
		14. Color: To be mentioned		
		15. Cooling: Forced Air Cooled		
		16. Size: To Be Mentioned (Compact and small size will be preferable)		
		17. Weight: To be mentioned		
		18. Standard: CE, UL, RoHS or equivalent		
		19. Certification: Manufacturer Test Certificate		
		20. Country of Origin: To Be Mentioned		
		21. Country of Manufacturer: To Be Mentioned		
8.	Converter	1. Brand: To be mentioned	03	
		2. Dual Input Voltage: 24 V DC & 220 V AC		
		3. Output Voltage: 115 V AC (Fixed)		
		4. Output Power: 3 KW		
		5. Output Current: 26 A at 115 V AC		
		6. Efficiency: 90 % Minimum		
		7. Waveform: Pure sine wave		
		8. Protection: OVP, OCP, Short-circuit, Thermal Shutdown, Reverse Polarity Protection		
		9. Monitoring: Output Voltage and current monitoring meter must be included.		
		10. Controlling option: On off switch		

ANNEX-E

Ser.	Equipment Name	Description of goods	Qty (Pcs)	Remarks
		11. Connection Terminal: Input output cable connection terminal with sufficient current capacity.		
		12. Mounting: To be mentioned		
		13. Enclosure: powder coated enclosure		
		14. Color: To be mentioned		
		15. Cooling: Forced Air Cooled		
		16. Size: To Be Mentioned (Compact and small size will be preferable)		
		17. Weight: To be mentioned		
		18. Standard: CE, UL, RoHS or equivalent		
		19. Certification: Manufacturer Test Certificate		
		20. Country of Origin: To Be Mentioned		
		21. Country of Manufacturer: To Be Mentioned		
9.	Converter	1. Brand: To be mentioned	3	
		2. Dual Input Voltage: 24 V DC		
		3. Output Voltage: 24 V AC		
		4. Output Power: 3 KW		
		5. Output Current: 125 A at 115 V AC		
		6. Efficiency: 90 %		
		7. Waveform: Pure sine wave		
		8. Protection: OVP, OCP, Short-circuit, Thermal Shutdown, Reverse Polarity Protection		
		9. Monitoring: Output Voltage and current monitoring meter must be included.		
		10. Controlling option: On off switch		
		11. Connection Terminal: Input output cable connection terminal with sufficient current capacity.		
		12. Mounting: To be mentioned		
		13. Enclosure: powder coated enclosure		
		14. Color: To be mentioned		
		15. Cooling: Forced Air Cooled		
		16. Size: To Be Mentioned (Compact and small size will be preferable)		
		17. Weight: To be mentioned		
		18. Standard: CE, UL, RoHS or equivalent		
		19. Certification: Manufacturer Test certificate		
		20. Country of Origin: To Be Mentioned		
		21. Country of Manufacturer: To Be Mentioned		

ANNEX-F

TECHNICAL SPECIFICATION OF CABLE GLAND SEALING MATERIAL

Ser.	Equipment Name	Description of Goods	Quantity (Sets)	Remarks
1	Fire stop sealing stuff powder and liquid	1. Brand: To be mentioned	150	
		2. Model: JZ-DMT fire stop sealing stuff		
		3. Density: 1.8×10^3 Kg/m^3		
		4. Fire stop properties: Non combustible		
		5. Packaging: part A (Powder) 10 KG/ Drum & part B (liquid) 6.75 KG / bucket.		
		6. Certification: Marine Class approved (LR certified will be recommended)		
		7. Country of origin: China or equivalent		
		8. Country of manufacture: To be mentioned.		
2	Expand Retaining strip	1. Brand: To be mentioned	120	
		2. Model: JZ-PD06 Expand Retaining strip		
		3. Certification: Marine Class approved (LR certified will be recommended)		
		4. Packaging: Each Box 64 Pcs		
		5. Country of origin: China or equivalent		
		6. Country of manufacture: To be mentioned.		

ANNEX-G

TECHNICAL SPECIFICATION OF GALLEY EQUIPMENT

Ser.	Equipment Name	Description Of Goods	Qty (Sets)	Remarks
1	Marine Type Electric cooking range	1. Brand: To Be Mentioned	06	
		2. Model: To Be Mentioned		
		3. Body Material: Stainless Steel (SS)		
		4. Supply Voltage: 3 Phase 415 V Ac, 50 Hz		
		5. Total Power: To Be Mentioned		
		6. Hot Plate Size: 24"X12" (Minimum) or to be mentioned		
		7. Hot Plate Shape: Rectangle		
		8. Power Rating Of Hot Plate: To Be Mentioned		
		9. Heating Element: High-Efficiency Heating Elements (Ceramic Or Cast Iron) or To Be Mentioned		
		10. Number Of Hot Plate: 6		
		11. Overall Size: To be mentioned (Compact and small size will be preferable)		
		12. Adjusting Knob : 7-Step Power Adjusting Knob or to be mentioned		
		13. Safety Features: Overheat Protection, Safety Cut-Off Switches, and Thermal Insulation.		
		14. Indication: On & Off Indication Lamp for Each Hot Plate.		
		15. Hand Rail: Front Hand Rail		
		16. Strom Rack: Storm Racks On Top		
		17. Understructure: Stainless Steel Cabinet		
		18. Foundation: Adjustable Leg With Bolting Facility.		
		19. Certification: Manufacturer Test Certificate		
		20. Country Of Origin: Western Origin		
		21. Country Of Manufacturer: To Be Mentioned		
2	Marine Electric Rice Steamer cooker	1. Brand: To Be Mentioned	06	
		2. Model: To Be Mentioned		
		3. Body Material: Stainless Steel (SS)		
		4. Supply Voltage: 3 Phase 415 V AC, 50 Hz		
		5. Total Power: To Be Mentioned		
		6. Cooking Capacity: 15 Kg or to be mentioned		
		7. Number of Tray: To be mentioned		
		8. Features		
		a. Adjustable cooking duration and cooking temperature		
		b. Automatic heating system		
		c. Adjustable timer		
		d. dehumidification device		
		e. SS Tray		
		9. Door Seal: Food Graded Rubber seal		
		10. Size: To Be Mentioned		
		11. Weight: To be mentioned		
		12. Foundation: To be mentioned.		
		13. Certification: Manufacturer Test Certificate		

Ser.	Equipment Name	Description Of Goods	Qty (Sets)	Remarks
		14. Spare: 1 Door Seal with each Unit.		
		15. Country Of Origin: Western Origin		
		16. Country Of Manufacturer: To Be Mentioned		
3	Marine Type Heavy duty kneading machine	1. Brand: To Be Mentioned	03	
		2. Model: To Be Mentioned		
		3. Material: Stainless Steel (SS)		
		4. Supply Voltage: Single phase 220 V AC, 50 Hz		
		5. Power: To be mentioned		
		6. Winding Material: Copper		
		7. Speed: 3 Speed (Low, Medium, High)		
		8. Capacity: 5 Kg or to be mentioned		
		9. Function:		
		a. Whisk, Stir, Dough Mixer		
		b. Safety Girder		
		c. Start-Stop and Emergency stop switch and speed selection rotary switch		
		10. Certification: Manufacturer Test Certificate		
		11. Mounting: Floor Mount.		
		12. Country of Origin: Western Origin		
		13. Country of Manufacturer: To Be Mentioned		
4.	Marine Type Heavy duty potato peeler Machine	1. Brand: To Be Mentioned	03	
		2. Model: To Be Mentioned		
		3. Material: Stainless Steel (SS)		
		4. Supply Voltage: Single phase 220 V AC, 50 Hz		
		5. Winding Material: Copper		
		6. Power: To be mentioned		
		7. Barrel capacity: 2 Kg		
		8. Peeling Time: 3 Min. (Maximum)		
		9. Country of Origin: Western Origin		
		10. Country of Manufacturer: To Be Mentioned		
5.	Marine Type Heavy duty meat cutting machine	1. Brand: To Be Mentioned	03	
		2. Model: To Be Mentioned		
		3. Material: Stainless Steel (SS)		
		4. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		5. Capacity: To be mentioned		
		6. Winding Material: Copper		
		7. Power: To be mentioned		
		8. Country of Origin: Western Origin		
		9. Country of Manufacturer: To Be Mentioned		
6.	Marine Type Heavy duty condiments grinder	1. Brand: To Be Mentioned	03	
		2. Model: To Be Mentioned		
		3. Material: Stainless Steel (SS)		
		4. Supply Voltage: Single Phase 220 V AC, 50 Hz		
		5. Winding Material: Copper		
		6. Power: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Qty (Sets)	Remarks
		7. Motor Speed: To Be Mentioned		
		8. Crushing Capacity: 2 Kg Minimum.		
		9. Function: a. Multi Speed Switch b. Overload Protection		
		10. Country of Origin: Western Origin		
		11. Country of Manufacturer: To Be Mentioned		

ANNEX-H

TECHNICAL SPECIFICATION OF MEASURING TOOLS AND LOOSE TOOLS

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
1	Portable Blower with Flexible Duct	1. Brand: CS power/NK or equivalent	06	
		2. Model: To be mentioned		
		3. Material: Steel or equivalent		
		4. Diameter of the fan: 300 mm (12 inch) or to be mentioned		
		5. Power supply: Single Phase 220 V AC /50 Hz		
		6. Input power: To be mentioned		
		7. Speed (rpm): 2800 r/min		
		8. Air flow: 65 m3/min (2580 m3/h)		
		9. Air Pressure: 373 Pa		
		10. Noise: 68 db		
		11. Protection For Fan Blade: Grills		
		12. Blade material: Steel or equivalent		
		13. Protection grade: IP 54		
		14. Duct Length: 10 Mtr.		
		15. Material of duct: To be mentioned		
		16. Country of origin: To be mentioned.		
		17. Country of manufacture: To be mentioned.		
2	Portable Daylight Signaling Light Complete set	1. Brand: To be mentioned	06	
		2. Model: SPS-10A or equivalent (To be mentioned)		
		3. Rated voltage: 24V DC		
		4. Lamps Power rating: 60W or to be mentioned		
		5. Lamp Type: Halogen lamp		
		6. Max. luminous intensity(cd): Over 60,000cd		
		7. Beam spread (deg.): 6°		
		8. Telescope mag: 4 or to be mentioned		
		9. Telescope visual angle: 3°		
		10. Protection degree: IP56		
		11. Country of origin: Japan or equivalent.		
		12. Country of manufacture: To be mentioned.		
		13. Portable daylight Signaling Lamps Battery		
		a. Model: PXL12090F2-W or equivalent		
		b. Circuit: （2.0Vx6cell） × 2 circuits		
		c. Capacity: 9Ah（20HR）		
		d. Voltage: DC 24V（12V×2）		
		e. Discharge finish voltage: DC 20.4V		
		f. Country of origin: Japan or equivalent.		
		g. Country of manufacture: To be mentioned.		
		14. Battery charger		
		a. Model: BCN-24S or equivalent		
		b. Input: AC100V～AC240V, 50Hz		
		c. Output: DC 27.3V		
		d. Charging system: Constant current maintenance charge		
		15. Protection degree: IP20 or to be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		16. Country of origin: Japan or equivalent.		
		17. Country of manufacture: To be mentioned.		
3	Portable Battery charger	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Input Voltage: 220 V AC, 50 Hz		
		4. Output Voltage: 12 V DC & 24 V DC (Two separate terminal for 12 V DC and 24 V DC)		
		5. Output Power: 2000 Watt Maximum		
		6. Charging Current: 50 A at 28.8 V DC		
		7. Charge voltage Bulk : 28.8 V DC		
		8. Charge voltage Absorption :28.5 V DC		
		9. Charge voltage Float : 26.5 V DC		
		10. Protection:		
		a. Over voltage Protection		
		b. Over load protection		
		c. Auto charge Cut Off		
		11. Meter: Charging Voltage and current must be displayed on the charger.		
		12. Country of origin: China.		
		13. Country of manufacture: To be mentioned.		
4	Digital Megger	1. Brand: Victor or equivalent	06	
		2. Model: VC 60 B + or equivalent		
		3. Measuring Voltage: 250 V, 500 V, 1000 V		
		4. Range: 0.1 MW to 2000 MW.		
		5. Max Display: 1999		
		6. Power: 9 V (1.5 V ^ 4 battery)		
		7. Battery will be provided with the Meter.		
		8. Country of origin: China.		
		9. Country of manufacture: To be mentioned		
5	Digital Multi meter	1. Brand: Victor or equivalent	09	
		2. Model: VC890D or equivalent		
		3. Features:		
		a. Data hold		
		b. Low battery indication		
		c. Full overload protection		
		d. Fuse protection at 10A current range		
		e. Protective holster (rubber boot)		
		f. Diode check		
		g. Continuity test (audible)		
		4. Specifications:		
		a. Frequency response : 40 ~ 400 Hz		
		b. DC voltage: 200mV/2V/20V/200V/1000V (+/- 0.5%)		
		c. AC voltage: 2V/20V/200V/750V (+/- 0.8%)		
		d. DC current: 20µA/2mA/200mA/20A (+/- 1.2%)		
		e. AC current: 2mA/200mA/20A (+/- 1.2%)		
		f. Resistance: 200 Ohm/2k Ohm/20k Ohm/200k Ohm/2M Ohm/20M Ohm (+/- 0.8%)		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		g. Capacitance: 20nF/200nF/20µF/200µF (+/- 4.0%)		
		h. Input impedance : 10 M Ohm		
		i. Sampling rate : 3 times/s		
		j. Operation way : Manual range		
		k. Max. Display : 1999		
		l. LCD size : 55 x 43 mm		
		5. Power : Battery will be provide with the meter		
		6. Country of origin: China.		
		7. Country of manufacture: To be mentioned		
6	Clamp Meter	1. Brand: Victor or equivalent	06	
		2. Model: 610C or equivalent		
		3. Features:		
		a. Data hold		
		b. Low battery indication		
		c. Full overload protection		
		d. Fuse protection at 10A current range		
		e. Protective holster (rubber boot)		
		f. Diode check		
		g. Continuity test (audible)		
		4. Specifications:		
		a. AC Voltage: 2V/20V/200V/750V		
		b. DC Voltage: 200mV/2V/20V/200V/1000V		
		c. AC Current: 2A/20A/200A/1000A		
		d. Resistance: 200Ω/2kΩ/20kΩ/200kΩ/40MΩ		
		e. Display: Max. display 2000, update 3 times/s		
		f. Polarity indicates: Cathode auto display		
		g. Overload indicate: OL indicating on the LCD		
		h. Low battery display: indicating on the LCD		
		i. Operation temperature: 0℃~40℃, less than 75%RH		
		j. Storage temperature: -10℃~50℃, less than 80%RH		
		k. Battery type: (Size AAA) 1.5V×2 (Battery will be provide with the meter)		
		5. Country of origin: China.		
		6. Country of manufacture: To be mentioned.		
7	Digital Photo Tachometer	1. Brand: Lutron or equivalent	03	
		2. Model: DT-2234B or equivalent		
		3. Range:5 to 99,999 RPM		
		4. Resolution: 0.1 RPM (2.5 to 999.9 RPM) Accuracy: ±(0 05%+1 digit)		
		5. Sampling time: 0.8 sec. (Over 60 RPM)		
		6. Test range selection: Automatic		
		7. Memory: Max value, min value, last value		
		8. Detecting distance: 50 to 250 mm/2 to 10 inches (LED)		
		9. 50 to 500mm/2 to 20 inches (Laser)		
		10. Time base: Quartz crystal		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		11. Circuit: Exclusive one-chip of microcomputer LSI circuit.		
		12. Battery: 4x 1.5V AAA(UM-3) (Battery will be provide with the meter)		
		13. Country of origin: Taiwan.		
		14. Country of manufacture: To be mentioned.		
8	Digital infrared Thermometer	1. Brand: Fluke or equivalent	06	
		2. Model: 64 max		
		3. Temperature range: -30 °C to 600 °C		
		4. Accuracy : ± 1.0 °C or ± 1.0 % of reading, whichever is greater		
		5. Optical Resolution: 20: 1(calculated at 90 % energy)		
		6. Response Time: < 500 ms		
		7. Battery Power: To be mentioned. (Battery will be provide with the meter)		
		8. Ingress Protection Rating: IP 54		
		9. Drop test: 3 meters		
		10. Laser Safety: IEC 60825-1 Class 2, 650 nm, < 1 mW		
		11. Country of origin: USA.		
		12. Country of manufacture: To be mentioned.		
9	Weber Tester	1. Brand: To be mentioned	06	
		2. Model:To be mentioned		
		3. Country of origin: To be mentioned.		
		4. Country of manufacture: To be mentioned.		
10	Tong Tester	1. Brand: Victor or equivalent	03	
		2. Model: 610C or equivalent		
		3. AC Voltage: 2V/20V/200V/750V		
		4. DC Voltage: 200mV/2V/20V/200V/1000V		
		5. AC Current: 2A/20A/200A/1000A		
		6. Resistance: 200Ω/2kΩ/20kΩ/200kΩ/40MΩ		
		7. Test: Diode Test, Continuity alarm, Data hold, Low voltage display, Auto power off, Overload Protection, NCV, True RMS		
		8. Display: Max. display 2000, update 3 times/s		
		9. Polarity indicates: Cathode auto display		
		10. Overload indicate: OL indicating on the LCD		
		11. Low battery display: indicating on the LCD		
		12. Operation temperature: 0℃~40℃, less than 75%RH		
		13. Storage temperature: -10℃~50℃, less than 80%RH		
		14. Battery type: (Size AAA) 1.5V×2 (Battery will be provide with the meter)		
		15. Country of origin: China.		
		16. Country of manufacture: To be mentioned.		
11	Crimping Tools	1. Brand: Black + Decker or equivalent	06	
		2. Model: to be mentioned		

ANNEX-H

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Size: 0.75 to 16 mm^2		
		4. Country of origin: USA or EU country.		
		5. Country of manufacture: To be mentioned.		
12	Hand Drill Machine	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Power: 800 Watt Minimum		
		4. Operating Voltage: 220-240 V AC		
		Max. Drilling Capacity: 13 mm		
		5. Country of origin: To be mentioned.		
		6. Country of manufacture: To be mentioned.		
13	Drill Bit set	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Size: 1.5 mm to 6.5 mm		
		4. Quantity: 13 Pcs		
		5. Country of origin: To be mentioned.		
		6. Country of manufacture: To be mentioned.		
14	Rubber Insulating Hand gloves	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Insulating Class: 00 AZC		
		4. Voltage: 500V AC		
		5. Size: 9		
		6. Country of origin: To be mentioned.		
		7. Country of manufacture: To be mentioned.		
15	Cable Tester	1. Brand: To be mentioned	03	
		2. Model: To be mentioned		
		3. Cable type: RJ45 + RJ11 & BNC		
		4. Voltage: 60 V DC		
		5. LED Status indication		
		6. Country of origin: To be mentioned.		
		7. Country of manufacture: To be mentioned.		
16	Safety Helmet with head light	1. Brand: To be mentioned	30	
		2. Model: To be mentioned		
		3. LED Head light		
		4. Country of origin: To be mentioned.		
		5. Country of manufacture: To be mentioned.		
17	Full body Safety Harness	1. Brand: To be mentioned	06	
		2. Model: To be mentioned		
		3. Type: Double Hook		
		4. Country of origin: To be mentioned.		
		5. Country of manufacture: To be mentioned.		

ANNEX-I

Technical specification of AC Distribution Box

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
1	Power sockets 415 Volt DP-PS-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 160 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P5-05)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal- Magnetic (TM-D) or equivalent		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		8. Number of Poles: 3		
		9. Rotary Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets 3-phase aft engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets 3-phase forward engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets 3-phase domestic machinery compartment		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets 3-phase deck 1: open deck		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets 3-phase emergency gen set		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets 3-phase deck 01: open deck		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
2	Galley 415 Volt DP-G-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 160 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P5-03)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Cooking range 1 (Socket 3F)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Cooking range 2 (Socket 3F)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Rice cooker 1 (Socket 3F)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Rice cooker 2 (Socket 3F)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Socket 3-phase in galley		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Garbage Compactor		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
3	VENTILATION 415 VOLT AC DP-V-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P1-04)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker with auxulary contact (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: AHU Accomodetion Fan -1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles:3		
		8. Auxulary Contact : 1 NO auxulary Contact		
		9. Mounting: Din Rail		
		c. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 0.3 kW (approximately 0.5 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: HPU Room Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red: Stopped or fault condition		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		d. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 0.5 kW (approximately 1 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: AHU Room Exhaust Fan - 1 Deck		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red: Stopped or fault condition		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		e. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 0.8 kW (approximately 1.1 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Steering Room Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		c) Red: Stopped or fault condition		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		f. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 2.5 kW (approximately 3.35 hp)		
		2. Quantity: 1 Pcs		
		3. Label Name: Domestic Machinary Room Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		g. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 5 kW (approximately 7 hp)		
		2. Quantity: 1 Pcs		
		3. Label Name: Ramp Winch Room Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		h. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 0.3 kW (approximately 0.5 hp)		
		2. Quantity: 1 Pcs		
		3. Label Name: AFT Damage control Locker Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		i. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 Volt 0.5 kW (approximately 0.7 hp)		
		2. Quantity: 2 Pcs		
		3. Label Name: 1/2 Deck Stair tower Exhaust Fan & 1/01/02/03 Deck Stair tower Exhaust Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		5. Bus Bar:		
		a. Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b. Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		6. Cable Management: Adequate number and size of cable inlets will be provided.		
		7. Labeling and Color Coding:		
		a. Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b. Fuse labels will indicate fuse ratings.		
		c. Feeder nameplates will indicate designation, application, and rated current.		
		d. Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		8. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		9. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		10. Operating Temperature Range: 0°C to +50°C		
		a. Humidity: 95% non-condensing		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b. Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		c. Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a. Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b. The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c. Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a. Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b. Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a. IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b. ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
4		1. General Information	03	

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
	VENTILATION 415 VOLT AC DP-V-2	a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P1-04)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB) with Auxulary Contact:		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: AHU Accomodetion Fan -2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Auxulary Contact : 1 NO auxulary Contact		
		8. Number of Poles:3		
		9. Mounting: Din Rail		
		c. 2 Speed DOL Starter		
		1. Capacity: 3 Phase 415 V AC , 0.4 kW (approximately 0.75 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Garbage Store Exhaust fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		d) Green: Running		
		e) Red: Stopped or fault condition		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		d. 2 Speed DOL Starter		
		1. Capacity: 0.5 kW (approximately 1 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: AHU Room Exhaust Fan - 02 Deck		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		d) Green: Running		
		e) Red: Stopped or fault condition		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		e. 2 Speed DOL Starter		
		1. Capacity: 0.5 kW (approximately 1 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Emergency Generator Room Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		d) Green: Running		
		e) Red: Stopped or fault condition		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a. Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b. Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a. Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b. Fuse labels will indicate fuse ratings.		
		c. Feeder nameplates will indicate designation, application, and rated current.		
		d. Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Operating Temperature Range: 0°C to +50°C		
		b. Humidity: 95% non-condensing		
		c. Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d. Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a. Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b. The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c. Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a. Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b. Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a. IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b. ISO and other applicable international and local standards.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
5	Ventilation 220 Volt AC DP-V-3	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 40 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 220 V supply (P1-04)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. 2 Speed DOL Starter		
		1. Capacity: 0.3 kW (approximately 0.5 HP)		
		2. Quantity: 21 Pcs		
		3. Voltage: 220 Volt		
		4. Label Name: 1. Battery Room Exhaust Fan, 2. Paint Locker Exhaust Fan, 3. Bonsun /Lashing Store Supply Fan, 4. Small Arms locker Supply fan, 5. Eng./Elec. Store supply fan, 6. Naval store supply fan, 7. Co2 locker Exhaust fan 8.SAN Main 9. Pantry Room 10. Electric Equipment Room 11. Diving Equipment Store 12. Dry Provational Store 13. Galley 14. Sick Bay 15. Laundry room 16. Magazine Room 17. 02 Dec Lavotory 18. Lavotory Number 3 & 4 main 19. 01 Deck Shower 20. Lavotary Number-1 21. 1 Deck Lavotary and shower room		
		5. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		6. Indicator Lamp		
		a) Type: LED lamp		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) Green: Running		
		c) Red:Stop		
		7. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Can be started and stopped, with indication monitoring remotely via the Machinery Control and Monitoring System (MCMS) and near the equipment.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a. Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b. Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a. Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b. Fuse labels will indicate fuse ratings.		
		c. Feeder nameplates will indicate designation, application, and rated current.		
		d. Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a. Operating Temperature Range: 0°C to +50°C		
		b. Humidity: 95% non-condensing		
		c. Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d. Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a. Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b. The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c. Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a. Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b. Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a. IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b. ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
6	Galley 220 Volt DP-G-2	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P6-05)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Hot water boiler (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Bread Toaster 1 (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		4. Label Name: Bread Toaster 2 (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Freezer, Refrigerator (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Kneading machine (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Potato peeler, Vegetable cutter (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Meat cutting machine (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Condiments grinder (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Waste Disposal System		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Grease Separator		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets in galley		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets in scullery		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
7	Pantry 220 Volt DP-G-3	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 80 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P6-06)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Refrigerator (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Microwave oven 1(Socket)		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Microwave oven 2(Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Hot Water Boiler (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Bread toaster (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Coffee maker (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Hot pot 1 (Socket-1)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Hot pot 2 (Socket-2)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Electric Kettle (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Waste Disposal System		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets in pantry		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
8	Laundry 220 Volt DP-D-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 25 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415V supply (P6-07)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Washing machine 1 (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Washing machine 2 (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Drying tumbler 1 (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Drying tumbler 2 (Socket)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets in laundry		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
9	Wheelhouse console 220 Volt DP-W-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Automatic change-over switch:		
		1. Model & Type: To be mentioned		
		2. Rating: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 1. Main Switchboard 220 V supply (P6-02) 2. Emergency Switchboard 220V supply (E3-02)		
		5. Breaking Capacity: 4.5 KA at 415 VAC		
		6. Number of Poles: 3		
		7.Feture: a.Priority selection b. manual change over option for emergency condition		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS - 220V UPS 3		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: X band Navigation Radar 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: X band Navigation Radar 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Magnetic compass		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Echo Sounder		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Speed Log		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Engine room intercom		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Conning intercom		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Internet / LAN		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 7 Pcs		
		4. Label Name: Wiper 1 to Wiper 7		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Entertainment equipment		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: CCTV		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 8 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
10	MAIN COMMS 220 VOLT DP-C-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Automatic change-over switch:		
		1. Model & Type: To be mentioned		
		2. Rating: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 1. Main Switchboard 220V supply (P6-04) 2. Emergency Switchboard 220V supply (E3-18)		
		5. Breaking Capacity: 4.5 KA at 415 VAC		
		6. Number of Poles: 3		
		7.Feture: a.Priority selection b. manual change over option for emergency condition		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: HF Tx/Rx 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: HF Tx/Rx 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: VHF/UHF Tx/Rx		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: VHF/UHF		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Marine VHF Transceiver 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Marine VHF Transceiver 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: VHF PORTABLE TELEPHONE		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 2 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
11	MCR 220 VOLT DP-S-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Automatic change-over switch:		
		1. Model & Type: To be mentioned		
		2. Rating: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		4. Label Name: 1. Main Switchboard 220V supply (P6-03) 2. Emergency Switchboard 220V supply (E3-03)		
		5. Breaking Capacity: 4.5 KA at 415 VAC		
		6. Number of Poles: 3		
		7.Feture: a.Priority selection b. manual change over option for emergency condition		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS - 220V UPS 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS - 220V UPS 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Air Conditioning Chilled Water Plant 1 aux. supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Air Conditioning Chilled Water Plant 2 aux. Supply		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
12	LIGHTING 220 Volt DP-L-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 50 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 220 V supply (P6-09)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - steering gear compartments, aft engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - aft engine room, forward engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: sockets domestic machinery compartment, mcr/dchq		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - steering gear compartment		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - aft engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - forward engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - domestic machinery compartment		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - MCR/DCHQ		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - stairway from deck 2 to deck 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 2 Pcs		
		4. Label Name: Spare		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
13		1. General Information	03	

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
	LIGHTING 220 VOLT DP-L-2	a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 220 V supply (P6-10)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - eng./elec. store, elec. office, hpu room, ahu room,eng. office, aft damage control locker		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - crew, stores office		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - seamen office, crew (3), sick bay, deck store		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - crew(3), crew		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - lavatory / shower		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - ahu room, hpu room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - lavatory / shower, lavatory		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - elec.office, eng. office, seamen office, stores office		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - eng./elec. store, aft damage control locker, esc. x3		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - crew x 12, crew x 12 - berth		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - crew x 15, crew x 15 - berth, laundry		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - crew x 15, crew x 15 - berth, sick bay		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - magazine, small arms locker, paint lkr		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		p. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - corridor		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		q. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - stairway from deck 1 to deck 03		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		r. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck store		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		s. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - fwd casing from deck 1 to deck 03		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		t. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - bosun/lashing store, fwd damage control locker,ramp winch equipment room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		u. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
14	LIGHTING 220 VOLT DP-L-3	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 220 V supply (P6-10)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - garbage store, lobby, dry/tin provisions, senior crew		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - senior & junior dining		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - senior crew		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - emergency genset, shower, diving eq store		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - cold store, cool store, dry/tin provisions		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - galley		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - lav., shower, lavatory		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - senior dining + junior dining		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - cln lkr, scullery		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - garbage store, lobby, CO2 locker, emergency gen set		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - senior crew, senior crew - berth		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - naval store		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - corridor, diving eq store, lobby		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
15	LIGHTING 220 VOLT DP-L-4	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		c. Electrical Components Brand: To be mentioned		
		d. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 80 Amp at 40°C		
		3. Quantity: 1 Pcs		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		4. Label Name: Main Switchboard 220 V supply (P6-10)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 02: officer, officer, officer		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 02: co day room, co office, commanding officer		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 02: elec. equip. room, wardroom, ship's office,reg. office		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 02: conference room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 03: ahu room, main comms. office, chart space,wheelhouse		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 03: wheelhouse		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: wardroom, deck 02: pantry		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: wc officers x3, deck 02: wc commanding officer		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: co day room, co office, commanding officer, commanding officer - berth		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: officer, officer - berth		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: elec. equip. Room, ahu room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: lavatory, ship's office, reg. office		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Lighting - deck 02: conference room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		p. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: corridor		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		q. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: small arms locker, deck 03: battery room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		r. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 03: ahu room, locker		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		s. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Lighting - deck 03: main comms. office		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		t. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 03: chart space		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		u. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		4. Label Name: Lighting - deck 03: wheelhouse		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		v. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
16	LIGHTING 220 VOLT DP-L-5	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rating: 80 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 220 V supply (P6-13)		
		5. Breaking Capacity: 35 KA at 415 VAC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 1: external PS		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 1: external SB		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 01: external PS		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sockets - deck 01: external SB		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 1: external PS		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 1: external SB		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 1 + deck 01 + deck 03: external aft ex		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: co day room, co office, commanding officer, commanding officer - berth		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 01: external aft		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 01: external fwd PS		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 01: floodlights fwd PS		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Lighting - deck 01: external fwd SB		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		p. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 01: floodlights fwd SB		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		q. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: floodlights		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		r. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 02: floodlights		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		s. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Lighting - stairway from deck 03 to deck 01		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		t. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: deck 03: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		u. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: deck 03: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		v. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: deck 03: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		w. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 03: external PS + deck 04		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		x. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting - deck 03: external SB + deck 04		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		y. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: deck 04: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		z. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		3. Quantity: 3 Pcs		
		4. Label Name: deck 04: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		aa. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: deck 04: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		bb. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: deck 04: Searchlight supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		cc. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		

Ser.	Equipment Name	Description of Goods	Qty (Pcs)	Remarks
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		

ANNEX-J

TECHNICAL SPECIFICATION OF DC DISTRIBUTION BOARD

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
1	24 VOLT DC SWITCH BOARD-B-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Fuse With Base:		
		1. Model & Type: To be mentioned		
		2. Rating: 500 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Battery 24 V DC supply (B1-1)		
		5. Number of Poles:2		
		b. Molded Case Circuit Breaker(MCCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		4. Label Name: Wheelhouse Console 24V DC DP-W2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Molded Case Circuit Breaker(MCCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 160 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Comms 24V DC DP-C2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Molded Case Circuit Breaker(MCCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 160 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Engine room 24V DC DP-S3		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency lighting 24V DC DP-EL1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency lighting 24V DC DP-EL2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency lighting 24V DC DP-EL3		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: External emergency lighting 24V DC DP-EL4		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Diesel Generator DCU		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Stop in Case of Fire - SEC. SUPPLY		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Flood Detection and Monitoring System		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: GA system		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: General Broadcast and Entertainment System - Rack 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		p. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: General Broadcast and Entertainment System - Rack2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		q. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Navigation & signal lights		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		r. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fire damper control box		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		s. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: CO2 firefighting system		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		t. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		u. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		v. Molded Case Circuit Breaker(MCCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		w. Molded Case Circuit Breaker(MCCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 50 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
2	WHEELHOUSE CONSOLE 24 VOLT DC DP-W-2	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24V DC Switchboard B1 supply (B1-01)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 2		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Machinery telegraph 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Machinery telegraph 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Man Overboard Alarm System		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: GPS		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Gyrocompass		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Magnetic compass		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		4. Label Name: Electro optical surveillance/ observation system		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Engine room intercom		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Conning intercom		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Engine Room Telephone system		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Refrigerated Chamber Alarm		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fog horn		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 4 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		p. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
3	MAIN COMMS 24 VOLT DC DP-C-2	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 160 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24V DC Switchboard B1 supply (B1-02)		
		5. Breaking Capacity: To Be mentioned		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 2		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: HF Tx/Rx 1 - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: HF Tx/Rx 2 - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: VHF/UHF Tx/Rx - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: VHF/UHF - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Marine VHF Transceiver 1- Back-Up Supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Marine VHF Transceiver 2 - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
4	24 Volt DC DP-S-2	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 250 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main switchboard 220V supply (via internal Power Supply Unit (220V / 24V DC) (P6-14)		
		5. Breaking Capacity: To Be mentioned		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 2		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: ME 1 Control System - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: ME 2 Control System - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: AUX. Engine 1 DCU - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: AUX. Engine 2 DCU - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fuel flow meter ME1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fuel flow meter ME2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fuel flow meter AE1		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fuel flow meter AE 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Stop in Case of Fire - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: PMS 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: PMS 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: GA system - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Sound Powered Telephone system		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS I/O Cabinet (AFT ER) - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		p. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS I/O Cabinet (FWD ER) - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		q. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		4. Label Name: Propulsion Control CAB. 1 - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		r. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Propulsion Control CAB. 2 - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		s. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		t. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
5	ENGINE ROOM 24 VOLT DC DP-S-3	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 160 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24 V DC Switchboard B1 Supply (B1-03)		
		5. Breaking Capacity: To Be mentioned		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 2		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: ME 1 Control System - Main supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: ME 2 Control System - Back-up supply		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: ME 1 DCU supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: ME 2 DCU supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: AUX. Engine 1 DCU - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: AUX. Engine 2 DCU - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Conning Telephone system		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS I/O Cabinet (AFT ER) - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: MCMS I/O Cabinet (FWD ER) - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Propulsion Control CAB. 1 - Back-up supply		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Propulsion Control CAB. 2 - Back-up supply		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		n. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		o. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
6	EMERGENCY LIGHTING 24 VOLT DC DP-EL-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Switchboard 220V supply (via internal rectifier)Incomer		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24V DC Switchboard B1 supply (Incomer)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Steering gear compartment		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Aft engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Forward engine room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: domestic machinery compartments, MCR/DCHQ, stairway fromdeck 2 to deck 1		
		1. Breaking Capacity: To be mentioned		
		2. Trip Unit: Thermal-Magnetic or equivalent		
		3. Number of Poles: 2		
		4. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 2 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 10 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
7	EMERGENCY LIGHTING 24 VOLT DC DP-EL-2	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Switchboard 220V supply (via internal rectifier)(E3-06)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24V DC Switchboard B1 supply (B1-05)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 1: esc., elec. office, hpu room, ahu room, crew, esc., lavatory/shower, stores office, lavatory		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 1: eng./elec. store, esc., aft damage locker, eng. office, seamen office, crew, crew, laundry		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 1: corridor, sick bay, deck store		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 1: fwd damage control locker, ramp winch equipment room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 1: small arms locker, magazine, deck 01: naval store		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 01: dry/tin provisions, cool store, galley, senior & junior dining, scullery		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 01: lavatory, senior crew, senior crew, shower, lav., lav.		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 01: emergency genset, corridor, lobby, diving eq store		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 01: CO2 locker, lobby		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		3. Quantity: 3 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
8	EMERGENCY LIGHTING 24 VOLT DC DP-EL-3	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Switchboard 220V supply (via internal rectifier)(E3-07)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 20 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24V DC Switchboard B1 supply (B1-06)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 02: elec. equip room, co day room, co office, commanding officer, officer, officer, officer, ahu room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 02: reg. office, ship's office, lavatory, pantry, wardroom		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 02: corridor, conference room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 02: small arms locker, deck 03: battery room		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Stairway from deck 03 to deck 1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Deck 03: ahu room, main comms. office, wheelhouse		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		9. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Wheelhouse 03: red lights		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
9	EXTERNAL EMERGENCY LIGHTING 24 VOLT DC DP-EL-4	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Wall-mounted, single door or double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Emergency Switchboard 220V supply (via internal rectifier)(E3-08)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		b. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: 24V DC Switchboard B1 supply (B1-07)		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		c. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 1: external ps		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 1: external sb		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		e. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 01: external ps		
		5. Breaking Capacity: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		f. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 01: external sb		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		g. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Floodlights aer ps		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Floodlights aer sb		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 01: external fwd, lighting ext. stairway from deck 03 to deck 01		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 03: external ps + deck 04 ps		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 03: external sb + deck 04 sb		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Lighting deck 03: external ex		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		9. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 6 Amp at 40°C		
		3. Quantity: 2 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 2		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		

Ser.	Equipment Name	Description Of Goods	Quantity (Pcs)	Remarks
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications.		
		2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		

ANNEX-K

TECHNICAL SPECIFICATION OF MOTOR CONTROL CABINET

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
01	MCC-1	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Floor mounted, double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 200 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415 V supply (P1-03)		
		5. Breaking Capacity: 35 KA at 415 V AC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		10. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
		b. Molded Case Circuit Breaker (MCCB)		
		1. Model & Type: To be mentioned		
		2. Rated Current: 30 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Auxulary Machinary-1 SW Cooling Pump		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		c. DOL Starter		
		1. Capacity: 1.8 kW (approximately 2.5 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Lub Oil Transfer Pump 1		
		4. Start/Stop Push Switch		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		d. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		e. Molded Case Circuit Breaker (MCCB)		
		1. Model & Type: To be mentioned		
		2. Rated Current: 30 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Fuel Oil Transfer Pump-1		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: To Be Mentioned		
		f. Molded Case Circuit Breaker (MCCB)		
		1. Model & Type: To be mentioned		
		2. Rated Current: 63 Amp at 40°C		
		3. Quantity: 2 Pcs		
		4. Label Name: FWD Engine Room Exhaust Fan-1 & 2		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: To Be Mentioned		
		g. Automatic Star-Delta Starter		
		1. Capacity: 12 kW (approximately 16 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Aft Engine room Exhaust Fan-1		
		4. Start/Stop Push Switch		
		5. Type: Flush-mounted push button switch.		
		a) Start: Momentary push button (typically green)		
		b) Stop: Momentary push button (typically red)		
		c) Mounting: Flush-mounted on the front door		
		6. Indicator Lamp		
		a) Type: LED lamp		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		b) Green: Running		
		c) Red:Stop		
		7. Control Relay		
		a) Model: Suitable relay for control circuit		
		Controls the sequence of operation for star and delta contactors.		
		8. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		h. DOL Starter		
		1. Capacity: 1.5 kW (approximately 2 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Black Water Transfer Pump		
		4. Start/Stop Push Switch		
		5. Type: Flush-mounted push button switch.		
		a) Start: Momentary push button (typically green)		
		b) Stop: Momentary push button (typically red)		
		c) Mounting: Flush-mounted on the front door		
		6. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		7. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		i. Molded Case Circuit Breaker (MCCB)		
		1. Model & Type: To be mentioned		
		2. Rated Current: 30 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Grey Water Transfer Pump		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 63 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		l. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		m. Miniature Circuit Breaker (MCB):		

ANNEX-K

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		
2	MCC-2	1. General Information	03	
		a. Brand, Model & Maker: To be mentioned		
		b. Country of Origin: To be mentioned		
		c. Country of Manufacture: To be mentioned		
		d. Year of Manufacture: 2025		
		2. Enclosure Specifications		
		a. Dimensions: To be mentioned (Compact and minimal size preferred)		
		b. Box Material: Galvanized Plain (GP) Sheet		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		c. Sheet Thickness: 16 Gauge		
		d. Finish: Powder Coated		
		e. Color: Light Gray		
		f. Ingress Protection (IP): IP 56 or better (Waterproof)		
		g. Panel Type: Floor mounted, double door with lock		
		h. Ventilation: Equipped with louvers for natural ventilation, with forced ventilation via a fan if required, in compliance with applicable standards.		
		i. Panel Cabinet Light: Each panel will include a door switch and LED light powered by self-charging DC supply.		
		3. Electrical Components		
		a. Electrical Components Brand: To be mentioned		
		b. Country of Origin & Manufacture for Electrical Components: To be mentioned		
		4. Internal Electrical Components:		
		a. Disconnected Switch / Molded Case Circuit Breaker (MCCB):		
		1. Model & Type: To be mentioned		
		2. Rating: 200 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Main Switchboard 415 V supply (P5-02)		
		5. Breaking Capacity: 35 KA at 415 V AC		
		6. Trip Unit Protection: LI or equivalent		
		7. Trip Unit Technology: Thermal-Magnetic (TM-D) or equivalent		
		8. Number of Poles: 3		
		9. Switch: Rotary on-off switch mounted on the front door		
		10. Note: A rotary on-off switch will be supplied with the disconnected switch and will be mounted on the front door of the enclosure. This design allows for convenient operation of the main power disconnected switch without the need to open the door		
		b. DOL Starter		
		1. Capacity: 4 kW (approximately 6 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Aux. Gen set 2 SW Cooling Pump		
		4. Start/Stop Push Switch		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Mounting: Flush-mounted on the front door		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		c. Automatic Star-Delta Starter		
		1. Capacity: 11 kW (approximately 15 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Ballast pump 1		
		4. Start/Stop Push Switch		
		5. Type: Flush-mounted push button switch.		
		a) Start: Momentary push button (typically green)		
		b) Stop: Momentary push button (typically red)		
		c) Mounting: Flush-mounted on the front door		
		6. Indicator Lamp		
		a) Type: LED lamp		
		d) Green: Running		
		e) Red: Stopped or fault condition		
		7. Control Relay		
		a) Model: Suitable relay for control circuit		
		Controls the sequence of operation for star and delta contactors.		
		8. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		d. Automatic Star-Delta Starter		
		1. Capacity: 4.5 kW (approximately 6 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Fuel Oil Transfer Pump 2		
		4. Start/Stop Push Switch		
		5. Type: Flush-mounted push button switch.		
		a) Start: Momentary push button (typically green)		
		b) Stop: Momentary push button (typically red)		
		c) Mounting: Flush-mounted on the front door		
		6. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		7. Control Relay		
		a) Model: Suitable relay for control circuit		
		Controls the sequence of operation for star and delta contactors.		
		8. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		e. 2 Speed DOL Starter		
		1. Capacity: 0.8 kW (approximately 1.1 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Steering Gear Compartment Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		f. 2 Speed DOL Starter		
		1. Capacity: 2.5 kW (approximately 3.35 HP)		
		2. Quantity: 1 Pcs		
		3. Label Name: Domestic Machinery Room Supply Fan		
		4. Start/Stop Push Switch and Speed control knob:		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		a) Type: Flush-mounted push button switch.		
		b) Start: Momentary push button (typically green)		
		c) Stop: Momentary push button (typically red)		
		d) Speed control knob: 2 position Rotary Switch		
		e) Mounting: Flush-mounted on the front door		
		5. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		6. Additional Considerations		
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		g. DOL Starter		
		1. Capacity: 1.5 kW (approximately 2 HP)		
		2. Quantity: 2 Pcs		
		3. Label Name: Oily water separator transfer Pump, Oily sludge transfer pump		
		4. Start/Stop Push Switch		
		5. Type: Flush-mounted push button switch.		
		a) Start: Momentary push button (typically green)		
		b) Stop: Momentary push button (typically red)		
		c) Mounting: Flush-mounted on the front door		
		6. Indicator Lamp		
		a) Type: LED lamp		
		b) Green: Running		
		c) Red:Stop		
		7. Additional Considerations		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		a) Control Circuit Wiring: Ensure wiring is correctly rated and configured for star-delta operation.		
		b) Overload Protection: The thermal overload relay will protect the motor against overheating.		
		c) Labeling: Clearly label all buttons, indicators, and contactors for user safety and operational clarity.		
		d) Remote Control Option: The equipment must have the capability to start, stop, and provide status indication remotely via the Machinery Control and Monitoring System (MCMS) as well as locally near the equipment. A minimum of two remote start-stop and monitoring options must be available.		
		e) Remote Emergency Stop Option: Provides the capability to stop the motor during a fire or emergency by pressing any of the emergency stop switches installed at multiple locations on separate consoles.		
		h. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 40 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		i. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 32 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		j. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 25 Amp at 40°C		
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		k. Miniature Circuit Breaker (MCB):		
		1. Model & Type: To be mentioned		
		2. Rated Current: 16 Amp at 40°C		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		3. Quantity: 1 Pcs		
		4. Label Name: Spare		
		5. Breaking Capacity: To be mentioned		
		6. Trip Unit: Thermal-Magnetic or equivalent		
		7. Number of Poles: 3		
		8. Mounting: Din Rail		
		5. Metering & Indicators:		
		a. Meters: All meters (digital/analog display) will be flush-mounted on the front panel of the Distribution Board. All meters will be calibrated before final delivery, with certificates issued accordingly. Required meters include:		
		1. Volt Meter		
		2. Ammeter		
		b. Indicator Lamps: Power Indication lamp colored red, yellow, and blue and other indication lamp if necessary.		
		6. Bus Bar:		
		a) Bus Bar Material: Made of pure copper with color-coded indication or insulated pin type MCB Bus-Bar as required.		
		b) Bus Bar Protection Sheet: Acrylic transparent sheet protection when using copper bus bars.		
		7. Cable Management: Adequate number and size of cable inlets will be provided.		
		8. Labeling and Color Coding:		
		a) Circuit breakers, control switches, instruments, indicating lights, and terminal blocks will be clearly labeled for identification of purpose and function.		
		b) Fuse labels will indicate fuse ratings.		
		c) Feeder nameplates will indicate designation, application, and rated current.		
		d) Each feeder breaker will be distinctly marked with color codes (Blue, Red, Green, White, and Yellow).		
		9. Drawings: Detailed Drawing of electrical schematics, general arrangement, foundation, and wiring diagrams will be provided, including as-built drawings and an equipment list for installation and maintenance.		
		10. Environmental Conditions:		
		The panel must be designed to operate under the following environmental conditions:		
		a) Operating Temperature Range: 0°C to +50°C		
		b) Humidity: 95% non-condensing		
		c) Corrosion Resistance: Suitable for marine environments with exposure to saltwater, high humidity, and corrosive conditions. The enclosure will be coated with marine-grade anti-corrosion paint, and all external components will be made of corrosion-resistant materials.		

Ser.	Equipment name	Description of goods	Quantity (Pcs)	Remarks
		d) Vibration and Shock: The equipment must withstand vibration and shock conditions typical of sea-going vessels, including impacts and motions experienced during operation.		
		11. Earthing and Grounding:		
		a) Each panel will be equipped with an earthing bar to ensure proper grounding of all electrical components.		
		b) The grounding system will comply with IEC 61439 and relevant marine standards to ensure electrical safety and reduce potential faults.		
		c) Copper earthing bus bars will be used, and grounding lugs will be provided for external connections.		
		12. Spare Capacity:		
		a) Each panel will include 20% spare capacity to allow for future expansion and additional load without the need for extensive modification.		
		b) Spare slots will be clearly marked and equipped with blanking plates for future circuit breakers or other control equipment.		
		13. Certification: All components will be marine certified.		
		14. Standards: The equipment will comply with relevant industry standards, including:		
		a) IEC 61439 for low-voltage switchgear and control gear assemblies.		
		b) ISO and other applicable international and local standards.		
		15. Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		

ANNEX-L

TECHNICAL SPECIFICATION OF FIRE AND BILGE ALARM SYSTEM.

Ser.	Equipment name	Description of Goods	Quantity (Pcs)	Remarks
1.	Marine type Bilge Level Switch	1. Brand: To Be Mentioned	90	
		2. Model: To Be Mentioned		
		3. Body material: Stainless Steel		
		4. Type: Marine		
		5. Rated voltage: 24 V DC or 250 V AC		
		6. Current Rating: 10 A		
		7. IP:68		
		8. Country of origin: to be mentioned		
		9. Country of manufacture: To be mentioned		
2.	Fire and Bilge Alarm System	1. Brand: To Be Mentioned	03	
		2. Model: To Be Mentioned		
		3. Body Material: GP Steel		
		4. Finish: Powder Coated		
		5. Color: Gray		
		6. Operating Voltage: 415 VAC, 50 Hz		
		7. Function:		
		a) 30 zones for bilge and flood alarms		
		b) Audio and visual alarm		
		c) Alarm audio reset push button		
		d) 30 LED indicators with nameplates for identification		
		8. Type: Marine		
		9. IP:44		
		10. Country of origin: to be mentioned		
		11. Country of manufacture: To be mentioned		

ANNEX-M

TECHNICAL SPECIFICATION FOR DARKENED SHIP ILLUMINATED SYSTEM (DSIS)

Ser.	Equipment name	Description of Goods	Quantity (Sets)	Remarks
1.	DARKENED SHIP ILLUMINATED SYSTEM (DSIS) Complete set	1. Purpose: The Darkened Ship Illuminated System (DSIS) will be installed to ensure that no internal lighting is visible externally, even when doors and hatches are opened. This system should operate efficiently in a zoned configuration, allowing selective illumination control while maintaining stealth conditions. The system shall include: a. Darken switchboxes and door switches fitted at strategic locations. b. A master control switch at the bridge to disable all non-essential external lighting and navigation lights when the ship is in "darkened" mode.	03	
		2. Brand, Model & Maker: To be mentioned		
		3. Country Of Origin: To be mentioned		
		4. Country of Manufacture: To be mentioned		
		5. Dimension: To be mentioned (Compact and less size will be preferable)		
		6. System Requirements:		
		a. Functionality:		
		1) Lighting Zones: The system should be divided into multiple zones for independent control.		
		2) Emergency Override: The system must allow immediate override to restore full illumination in emergencies.		
		3) Automatic Activation: Darkening mode should automatically activate when designated doors or hatches are opened.		
		b. Control Panel (Bridge Main Unit):		
		1) Located on the bridge with a centralized monitoring & control system.		
		2) Digital indicators and alarms for "Darken Ship On/Off" and "Control Voltage Fail."		
		Operable through manual switches and remote relay activation.		
		7.Electrical Requirements:		
		a. Power Supply:		
		1) Control Voltage: 24V DC		
		2) Lighting Operating Voltage: 220V AC / 24V DC		
		8. Sensors & Switches:		
		a. Door & Hatch Sensors:		
		1) Number of Door Sensors: 20 pcs Minimum		
		2) Number of Hatch Sensors: 4 pcs Minimum		

Ser.	Equipment name	Description of Goods	Quantity (Sets)	Remarks
		3) Type: Magnetic proximity switches with IP-67 rating. Magnetic proximity switches will be provided by the supplier.		
		4) Function: Automatically activate darkened mode when doors/hatches are opened.		
		b. Darken Switchboxes:		
		1) Number: To be determined based on ship layout.		
		2) Indicators: Visual (LED) & Audio Alarm for "Darken Ship On/Off" and "Voltage Failure."		
		3) Ingress Protection (IP) Rating:		
		1) Internal units: IP-54		
		2) External units: IP-67		
		9. Navigation Light Integration: All Navigation Lights must automatically turn off when the darkened ship mode is activated.		
		10. Compliance & Standards:		
		a. Applicable Marine Standards: To be mentioned		
		b. Environmental Conditions:		
		1) Operating Temperature: -10°C to +50°C		
		2) Humidity: Up to 95% RH (Non-condensing)		
		3) Vibration Resistance: Compliant with marine vibration standards		
		11. Supplier Responsibilities:		
		a. Control Box & Accessories: The supplier must provide all required components, including:		
		1) Control Box		
		2) Switches & Sensors		
		3) Darken Switchboxes		
		b. Drawings & Documentation: Supplier must provide the following:		
		1. Electrical Drawing of the Darkened Ship Illuminated System.		
		2. Installation Drawing of Control Box.		
		3. Connection Diagram of DSIS.		
		c. Shipyard Responsibilities: Khulna Shipyard Ltd. will provide:		
		1. General Arrangement Drawing of the ship.		
		Lighting Arrangement Drawing & Wiring Diagram.		
		12. Testing & Commissioning: The supplier must conduct functional testing and commissioning in the presence of shipyard engineers.		
		13. Warranty & Support:		
		a) Minimum 2-year warranty on all electrical components.		

Ser.	Equipment name	Description of Goods	Quantity (Sets)	Remarks
		b) Supplier to provide onsite support for troubleshooting during installation.		
		14.Note: 1. All standard accessories required for smooth operation and protection will be included, regardless of mention in the specifications. 2. Before starting production, the supplier must prepare a draft drawing and obtain approval from KSY. Minor modifications may be required throughout the project, and any associated costs will be borne by the supplier.		

ANNEX-N

TECHNICAL SPECIFICATION FOR NAVIGATION LIGHT CONTROL PANEL

Ser.	Equipment name	Description of Goods	Quantity (Pcs)	Remarks
1	Navigation Light Control Panel	**1. Scope** This specification covers the design and supply of a Navigation Light Control Panel for a sea-going vessel. The system shall control and monitor all navigational and signal lights, ensuring redundancy through dual power sources (AC and DC) for operational reliability.	03	
		2. Brand: To be mentioned		
		3. Model: To be mentioned		
		4. System Overview The Navigation Light Control Panel shall control the following lights installed on the vessel: A. Main Navigation Mast: a) 2 x Masthead Lights (Double-tier: 1 x AC, 1 x DC each) b) 1 x Morse Signal Light (Double-tier: 1 x AC, 1 x DC) c) 4 x NUC (Not Under Command) Lights (2 x Port & 2 x Starboard) (Double-tier: 1 x AC, 1 x DC each) d) 2 x RAM (Restricted in Ability to Maneuver) Lights (1 x Port & 1 x Starboard) (Double-tier: 1 x AC, 1 x DC each) e) 2 x Flashing Lights (1 x Port & 1 x Starboard) (Double-tier: 1 x AC, 1 x DC) B. Jack Staff: a) 1 x Anchor Light (Double-tier: 1 x AC, 1 x DC) b) 1 x Masthead Light (Double-tier: 1 x AC, 1 x DC) C. Ensign Staff: a) 1 x Anchor Towing Light (Double-tier: 1 x AC, 1 x DC) b) 1 x Stern Light (Double-tier: 1 x AC, 1 x DC) c) 1 x Anchor Light (Double-tier: 1 x AC, 1 x DC)		
		5. Control Panel Features a) Power Source Selector Switch (AC/DC) for each light b) Separate Switches for AC and DC operation for each light c) LED Indicators for power status and fault indications d) Test Switch for each individual light e) Alarm System for bulb failure (visual and audible)		

Ser.	Equipment name	Description of Goods	Quantity (Pcs)	Remarks
		f) Manual Override Switches for all lights g) IP54 Protection rating minimum, or better h) Backlit Labeling for night-time operation i) Panel-Mounted Mimic Diagram showing the position of each light j) Operational Note: 1. DC lights shall operate even if AC power is available. 2. All control switches shall be located on the mimic diagram, adjacent to their corresponding light positions		
		6. Power Supply a) AC Supply: 220 V, 50 Hz (or vessel-specific voltage) – Primary Power b) DC Supply: 24 V DC (or vessel-specific voltage) – Backup Power c) Operational Logic: The control panel shall remain operational if either AC or DC power is available.		
		7. Construction & Mounting a) Marine-grade enclosure, powder-coated or stainless steel as applicable b) Suitable for flush or surface mounting based on bridge layout c) Vibration-resistant and corrosion-resistant construction d) Compact and ergonomic design, optimized for bridge installation		
		8. Country of Origin: To be mentioned		
		9. Country of Manufacture: To be mentioned		

ANNEX-H

BANK GUARANTEE IN LIEU OF EARNEST MONEY

Guarantee

No.....

Dated:

.....

For (mention amount).

Dear Sir,

Whereas (Name of tender floating organization) under tender No. .... dated ..... inviting tenders for supplies of (described supplies) has agreed to waive the requirement of Cash deposit / Call deposit of US$ / £ / Tk..... being 02% (Two percent) of the value of supplies as earnest money by the tenderer for making the supplies in accordance with the terms and conditions of the tenderer and the tenderer shall provide a bank guarantee for payment for the said amount.

And whereas the tenderer M/S. .....of .....has requested us (name of bank) of ..... to issue as guarantee for payment of the amount of US$/£/Tk ..... when called upon.

In consideration of the aforesaid, we (name of bank) of ..... hereby undertake and guarantee due performance of the tender by the tenderer M/S. .... of ..... and unconditionally and absolutely bind ourselves:

1. To make payment without any question whatsoever of US$/£/Tk ..... to.....(Name of organization) or as directed by the organization immediately on receipt of demand from the said, organization in writing, in the event the tenderer fail to perform the tender. It is expressly understood that the organization shall be the sole judge for-deciding whether the tenderer has performed the tender and fulfilled the terms and conditions of the tender.

2. It is specially stipulated and understood by the bank that any grant of time or indulgence to the tenderer without reference to the bank shall not in any manner tent to absolve the bank from its liability to make the payment stipulated above under this guarantee.

3. The Bank's commitment under this guarantee is limited to an amount of US$/£/Taka .....(.....) only.

4. The guarantee will remain valid upto .....

Yours faithfully

..... Bank

(Seal of the Bank)