

EN230103268

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Accurate Solutions
Worth to Automate

A5251

**CONTROL
TECHNIQUES**

VFD Specialist since 1973

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APFC
Supplier
①

Proposal No. P208-2023-03

Customer: Jindal Aluminium Ltd., Bhiwadi

Offer for 1600kVAR APFC Panel



19 - May - 2023

Jindal Aluminium Ltd., Bhiwadi
SP-2/333, RIICO Industrial Area, Bhiwadi
Alwar-301019

Reference No.: Enquiry No. EN230103268'-A5231'

Revised BOQ

Kindly Attn.: Mr. Gopal Raj

Project overview:

Accurate Solutions is pleased to provide following scope items as part of this proposal based on the information provided by customer for the supply of 1600kVAR APFC Panel as described in the following sections:

Design Deliverables:

Wiring Diagram

Hardware Deliverables:

APFC PANEL 1600KVAR						
S.NO.	ITEM	DESCRIPTION	AMP/KW	QTY	MAKE	MODEL NO.
1	ACB	TP MDO ACB 50KA Microprocessor based with O/L S/C & E/F Protection Release +Trip Micro Switch	3200A	1	SIEMENS	3WT8322-6AA04-5AB2
2	MFM	Digital Multifunction Meter CI-1.0 with RS 485 Port	EM6436H	1	CONZERV	
3	MCT	Metering CT -/5A CL-1.0,15VA For Metering	3200A	3	AE/ESSMA	
4	I/L	indicating light LED type (RYB)	220V AC	3	ESBEE/SURDHI	
5	I/L	indicating light LED type (ON/OFF/TRIP)	220V AC	3	ESBEE/SURDHI	
6	APFC	APFC Relay	16 Stage	2	EPCOS	
7	BC	Output Buffer Card	24V	2	EPCOS	
8	PS	Power Supply -10A	24V DC	2	REPUTED	
9	TMR	Timer	220V AC	1	REPUTED	
10	AC	Auxiliary Contactor 2NO+2NC	220V AC	10		
12	CMCB	Control SP MCB 10KA C-Curve	6A	7	SIEMENS	
13	FWF	Exhaust Fan		8	REPUTED	
14	CMCB	Control SP MCB 10KA C-Curve	6A	8	SIEMENS	
O/G: 5KVAR Capacitor Feeder						
1	MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	32A	1	SIEMENS	3VM1132-4ED32-0A40
2	MCCB	Extended Rotary Handle -TP	32A	1	SIEMENS	3VM9117-0FK51
3	AM	Digital Ammeter		1	CONZERV	
4	MCT	Metering CT -/5A CL-1.0,15VA For Metering	50A	3	AE/ESSMA	
5	SF	Semiconductor Fuse-690V -ET-32 for 10KVAR	32A	3	BUSSMAN	
6	TSM	Thyristor Switch Module-Aux Supply-24V DC	5KVAR	1	EPCOS	
7	CB	Capacitor Bank Oil Filled-Heavy duty Type@525V AC (APP Type)+7% Detuned Reactor Copper Winding	5KVAR	1	EPCOS	
8	R	Discharge Resistor 22K,50W,5%		1	EPCOS	
9	I/L	indicating light LED type (ON/OFF)	220V AC	2	ESBEE/SURDHI	
10	PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC - Green-XBSAK13383N	6A	1	ESBEE/SURDHI	
11	AC	Auxiliary Contactor 2NO+2NC	220V AC	1	SIEMENS	
12	NL	Neutral Link		1	WAGO/CONNECTWELL	
13	CMCB	Control SP MCB 10KA C-Curve	6A	1	SIEMENS	
O/G: 10KVAR Capacitor Feeder						
1	MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	32A	2	SIEMENS	3VM1132-4ED32-0A40
2	MCCB	Extended Rotary Handle -TP	32A	2	SIEMENS	3VM9117-0FK51
3	AM	Digital Ammeter		2	CONZERV	
4	MCT	Metering CT -/5A CL-1.0,15VA For Metering	50A	6	AE/ESSMA	
5	SF	Semiconductor Fuse-690V -ET-32 for 10KVAR	32A	6	BUSSMAN	
6	TSM	Thyristor Switch Module-Aux Supply-24V DC	10KVAR	2	EPCOS	
7	CB	Capacitor Bank Oil Filled-Heavy duty Type@525V AC (APP Type) +7% Detuned Reactor Copper Winding	10KVAR	2	EPCOS	
8	R	Discharge Resistor 22K,50W,5%		2	EPCOS	
9	I/L	indicating light LED type (ON/OFF)	220V AC	4	ESBEE/SURDHI	
10	PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -	6A	2	ESBEE/SURDHI	



		Green-XB5AK133B3N				
11	AC	Auxiliary Contactor 2NO+2NC	220V AC	2	SIEMENS	
12	NL	Neutral Link		2	WAGO/CONNECTWELL	
13	CMCB	Control SP MCB 10KA C-Curve	6A	2	SIEMENS	
O/G: 25KVAR Capacitor Feeder						
1	MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	80A	3	SIEMENS	3VM1180-4ED32-QAA0
2	MCCB	Spreader Link +Extended Rotary Handle -TP	80A	3	SIEMENS	3VM9117-0FK51
3	AM	Digital Ammeter		3	CONZERV	
4	MCT	Metering CT -/5A CL-1.0,15VA For Metering	100A	9	AE/ESSMA	
5	SF	Semiconductor Fuse-690V -ET-80 For 25KVAR	80A	9	BUSSMAN	
6	TSM	Thyristor Switch Module-Aux Supply-24V DC	25KVAR	3	EPCOS	
7	CB	Capacitor Bank Oil Filled-Heavy duty Type@525V AC (APP Type)+7% Detuned Reactor Copper Winding	25KVAR	3	EPCOS	
8	R	Discharge Resister 22K,50W,5%		3	EPCOS	
9	I/L	Indicating light LED type (ON/OFF)	220V AC	6	ESBEE/SURDHI	
10	PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC - Green-XB5AK133B3N	6A	3	ESBEE/SURDHI	
11	AC	Auxiliary Contactor 2NO+2NC	220V AC	3	SIEMENS	
12	NL	Neutral Link		3	WAGO/CONNECTWELL	
13	CMCB	Control SP MCB 10KA C-Curve	6A	3	SIEMENS	
O/G: 50KVAR Capacitor Feeder						
1	MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	125A	4	SIEMENS	3VM1112-4ED32-QAA0
2	MCCB	Spreader Link +Extended Rotary Handle -TP	125A	4	SIEMENS	3VM9117-0FK51
3	AM	Digital Ammeter		4	CONZERV	
4	MCT	Metering CT -/5A CL-1.0,15VA For Metering	150A	12	AE/ESSMA	
5	SF	Semiconductor Fuse-690V -ET-160 For 50kvar	160A	12	BUSSMAN	
6	TSM	Thyristor Switch Module-Aux Supply-24V DC	50KVAR	4	EPCOS	
7	CB	Capacitor Bank Oil Filled-Heavy duty Type@525V AC (APP Type)+7% Detuned Reactor Copper Winding	50KVAR	4	EPCOS	
8	R	Discharge Resister 22K,50W,5%		4	EPCOS	
9	I/L	Indicating light LED type (ON/OFF)	220V AC	8	ESBEE/SURDHI	
10	PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC - Green-XB5AK133B3N	6A	4	ESBEE/SURDHI	
11	AC	Auxiliary Contactor 2NO+2NC	220V AC	4	SIEMENS	
12	NL	Neutral Link		4	WAGO/CONNECTWELL	
13	CMCB	Control SP MCB 10KA C-Curve	6A	4	SIEMENS	
O/G: 100KVAR Capacitor Feeder						
1	MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	250A	13	SIEMENS	3VM1225-4ED32-QAA0
2	MCCB	Spreader Link +Extended Rotary Handle-TP	250A	13	SIEMENS	3VM9217-0FK51
3	AM	Digital Ammeter		13	CONZERV	
4	MCT	Metering CT -/5A CL-1.0,15VA For Metering	150A	39	AE/ESSMA	
5	SF	Semiconductor Fuse-690V -ET-160 For 50kvar	250A	39	BUSSMAN	
6	TSM	Thyristor Switch Module-Aux Supply-24V DC	100KVAR	13	EPCOS	
7	CB	Capacitor Bank Oil Filled-Heavy duty Type@525V AC (APP Type)+7% Detuned Reactor Copper Winding	50KVAR	26	EPCOS	
8	R	Discharge Resister 22K,50W,5%		13	EPCOS	
9	I/L	Indicating light LED type (ON/OFF)	220V AC	26	ESBEE/SURDHI	
10	PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC - Green-XB5AK133B3N	6A	13	ESBEE/SURDHI	
11	AC	Auxiliary Contactor 2NO+2NC	220V AC	13	SIEMENS	
12	NL	Neutral Link		13	WAGO/CONNECTWELL	
13	CMCB	Control SP MCB 10KA C-Curve	6A	13	SIEMENS	
OTHER ACCESSORIES						
1		OTHER ACCESSORIES, DOOR LIMIT SW AND LED		1	REPUTED	
2		CONTROL AND POWER WIRING		1	POLYCAB/BCH	
3		BUSBAR, AL		1	EC-GRADE	
4		ENCLOSURE SIZE 1800H X 6200W X 1500D mm SHEET THICKNESS FRAME : 2.0mm DOORS AND PARTITION : 1.6mm GLAND PLATE : 3.0mm PAINT SHADE RAL7035 INGRESS PROTECTION IP42		1	FABRICATED	



Price:

S.No.	Description	HSN	Unit Price	Qty	Price
1	1600kVAR APFC Panel	8537	₹ 32,92,626	1	₹ 32,92,626
2	TOTAL				₹ 32,92,626

GST Extra @ 18%

Agreed to. 29,50,000/-

We appreciate the opportunity to work with you on your requirements and thank you for your interest in Accurate Solutions. Should you have any additional questions or require supplementary information, please contact me at your convenience

→ Price Basis: FOR - Jindal Bhimsani.

Best Regards,

Nitin Jhanwar
Business Partner

Phone: +91 96011 76844, +91 63779 19320

email: nitin@accuratesolution.in



Accurate Solutions
Worth to Automate

→ I GST: 18% Extra.

→ Delivery: 6 to 8 weeks

→ Payment: 90% + 100% GST within 7 days from the date of receipt of panel.

A-8, Path No. 4, Jamna Nagar, Sodala, Jaipur - 302006, Rajasthan, INDIA

Complete End to End Solution Provider for Industrial Automation and Electrical System

IIoT | PLC VFD & SCADA Automation | Control Panels | Turnkey & Retrofitting Projects

GSTIN - 08AAXFA4513B1ZL

<https://www.accuratesolution.in>

→ 10% After commissioning subject to submission of PB & valid for one year.



#MAKE IN INDIA

→ Warranty: one year from the date of commissioning.

→ Supervision for commissioning: Party will depute engineer for supervision during commissioning of panel.

→ ESI/PF - Not applicable.

Discussed with Mr. Nitin and agreed above.

[Signature]
07/06/23

Commercial Terms & Conditions

This offer is based on the Enquiry specification received by us. We request that any specific statutory & regulatory requirement not covered in this specification may please be intimated to us in order to enable us to address such requirements suitably.

- 1) **Scope**
Our scope shall be according to the above specified. Additional requirements will be considered on chargeable basis.
- 2) **Basis of Price**
The Prices quoted are F.O.R site Jindal Aluminium, Bhiwadi.
- 3) **Transportation**
Transportation charges are inclusive in offered prices
- 4) **Insurance**
Transit insurance shall be to Purchaser's account.
- 5) **Payment Terms**
Unless otherwise agreed, the following payment terms shall apply:
30% advance, 70% against proforma invoice.
- 6) **Delivery Schedule**
10 - 12 weeks from the date of advance received and drawing approval
- 7) **Drawings**
Electrical drawing
- 8) **Quality Assurance, Inspection and Testing**
Ours / our vendor's standard quality control procedures shall apply to the contract and standard works tests shall be performed. Customer/ Customer's representative shall have the opportunity to inspect and attend the testing at vendor's works at its own expense and within reasonable working hours. Supplier shall inform the schedule of inspection/ testing 15 days in advance of the tentative date of readiness of the equipment. In case the purchaser does not carry out inspection within 5 days of the scheduled date, the inspection shall be deemed as waived and the equipment shall be dispatched to the site. Testing shall include normal and customary tests and measurements prevailing in the industry for such equipment for the purpose of verifying that the equipment conforms to the agreed design and parameters. No third party inspection or testing is envisaged or included and shall have additional implications on prices as well as deliveries quoted.
- 9) **Warranty**
Our liability in respect of any defect in failure of equipment supplied by us or any loss, injury or damage attributable thereto, is limited to making good by replacement or repairs or defects which under proper use appear therein, provided the equipment is operated and maintained in accordance with our instructions and arise totally from proven faulty design, materials, workmanship within a period of 12 months from the date of commissioning or 18 months from the completion of dispatch whichever is earlier, at the termination of which period all liability on our part will cease. This warranty is applicable under the following conditions:
 - a) After repairs / replacement, the period of warranty for the entire equipment including replaced / repaired parts will limit itself to the unexpired portion of the total warranty period.
 - b) No repairs or replacements unless authorized by us in writing will be carried out by any other party on our equipment during the warranty period.
 - c) The warranty obligations will be honored by us provided customer has fulfilled his obligations under the contract relating to release of due payments etc.
 - d) The warranty period does not cover the following:
 - Normal wear and tear
 - Damages / defects arising out of mal-operation of the plant/ equipment by the Customer and accidents.

ZENIYA ELECTECH PVT. LTD.

Mfg of:

Power Distribution Panel, Motor Control Panel,
PLC/Process/Instrumentation Panel,
AC/DC Variable Speed Drive, IDMT Relay Testing,
Power Factor Correction Panel & TTA -IEC-61439 Panel

Office:

E-1098, Ajanta Chowk , Opp. Kamdhenu
Steels,PH-III RIICO Ind. Area, Bhiwadi-301019
Distt. Alwar (Raj.)

Ref:-ZEPL/2022-23/BKY/689R2

Date:- 28-04-2023

M/s:-Jindal Aluminium Limited
Bhiwadi

Sh. Vikram → Purchase

please check and confirm
the BOQ.

Kind Attn. Mr.Rajgopal/Vikramjeet Ji(Mob.No.:+91 9611-195-368)

Sub. :- Our offer for your requirement of RTPFC Panel, A/c Jindal Aluminium Project at Bhiwadi.


02/05/23

Dear Sir,

We acknowledge with thanks receipt of your subject enquiry and are pleased to submit our Techno-Commercial offer under following annexures:

1. Annexure-I : Technical Specification
2. Annexure-II : Price Schedule
3. Annexure-III : General Terms & Conditions.
4. Annexure-V : Bill of Material.

We are the system house for medium voltage of ABB & system integrators of ABB for totally type tested assembly (TTA) Panels as per IEC 61439-1 & 2

We hope you will find our offer competitive and look forward to receive your valued order in our favour.

Thanking You,

Sandeep Yadav
Manager-Estimations & Tendering
7340019364
mail: info@zeniyagroup.com

For ZENIYA ELECTECH PVT. LTD.
Bhiwadi- 301019

ANNEXURE - II

PRICE SCHEDULE FOR SUPPLY OF FOLLOWING PANELS

M/s:-Jindal Aluminium Limited

S. No	Description	Qty	Unit	Unit Quoted Price	Total Quoted Price (Ex-works)
1	1600Kvar RTPFC Panel -Indoor Type	1	No.	35,37,900	✓ <u>35,37,900</u>
2	250Kvar RTPFC Panel -Indoor Type	1	No.	7,39,100	24,67,000 <u>7,39,100</u>
TOTAL (Basic Price)		2		-	<u>42,77,000</u>

HSN CODE FOR ELECTRICAL LT PANELS : 85371000

HSN CODE FOR ELECTRICAL HT PANELS : 85372000

Final Agreed for 1600 KVAR
Rs. 31,50,000/-

Deviation/Clarification

NOTE:-

1.0 Our offer shall be strictly based on attached BOM.

→ Price Basis: FOR-JAL BMD.

→ GST: 18% Exclng.

→ Delivery: 6-8 weeks from the date of approval of clear.

→ Payment: 7 days from the date of receipt of panel.

→ Warranty: Warranty 2 year

→ Erection - will depite engine for supervision

→ Commissioning & Party scope.

For ZENIYA ELECTECH PVT. LTD.
Bhiwadi- 301019

Discussed with Mr. Yogesh Jadhav and agreed above.


07/06/23

ANNEXURE - I
TECHNICAL SPECIFICATIONS OF LT PANEL

ZENIYA Make Electrical Panels housed in 2.0/1.6mm standard sheet steel enclosure, fixed type, **Single front** compartmentalized, totally enclosed, free standing, **Floor/Wall mounted type**, dust and vermin Proof, duly wired up and ready for installation at site. The Bus bars will be **Electrolytic grade Aluminium** duly sleeved with heat shrinkable PVC sleeves. The technical particulars will be as under: -

1. Our prices are as per the BOQ enclosed. Any change in specifications, rating and feeder quantity will attract price revision (if any) .

2. Enclosure sheet thickness will be 1.6mm for non-load bearing members and 2.0mm for all load bearing members, unless specified otherwise.

3. Panels will be painted with Powder coating – **Siemens Grey Shade RAL – 7035**.

4. Cable lugs/glands will not be in our scope of supply.

5. Equipment will be offered for following routine test only.

- * Check of Bill of Materials as per approved drawing.
- * Visual and dimensional Check.
- * Functional Check.
- * HV/Megger test as per relevant IS.

6. Commissioning

Scope is for Design, Engineering, Manufacturing, Supply, Testing and supervision of Commissioning. Erection is not included in this offer. However, a separate offer can be submitted .

7. Our panel / bus duct has been successfully tested at CPRI for short circuit strength of 75kA, 1sec. (We are CPRI approved panel manufacturer) .

8. We have fully automatic Nine tank process for metal treatment which consists of Solvent/alkaline Degreasing, Rinsing, De-rusting, Phosphating and Passivation. The treatment is followed by Powder-coated paint of approved shade .

For **ZENIYA ELECTECH PVT. LTD.**
Bhiwadi- 301019

ANNEXURE - IV

Projects:-

1 1600Kvar RTPFC Panel -Indoor Type

Item	Item Description	Rating	Make	Qty.	
	I/C:-3200A 3P MDO ACB Feeder				
ACB	TP MDO ACB 50KA Microprocessor based with O/L S/C & E/F Protection Release +Trip Micro Switch	3200A	Siemens -3WT	1	No.
MFM	Digital Multifunction Meter CI-1.0 with RS 485 Port	EM6436H	Conzerv	1	No.
MCT	Metering CT -/5A CL-1.0,15VA For Metering	3200A	AE/Kappa	3	Nos.
I/L	Indicating light LED type (RYB)	220V AC	L&T-Esbee	3	Nos.
I/L	Indicating light LED type (ON/OFF/TRIP)	220V AC	L&T-Esbee	3	Nos.
NL	Neutral Link		Reputed	1	No.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	5	Nos.
APFC	APFC Relay	16 Stage	Epcos	2	Nos.
BC	Output Buffer Card	24V	Epcos	2	Nos.
PS	Power Supply -10A	24V DC	Reputed	2	Nos.
TMR	Timer	220V AC	Gic	1	No.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	10	Nos.
FWF	Exhaust Fan		Reputed	8	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	8	Nos.
	O/G:-5KVAR Capacitor Feeder				
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	32A	Siemens -3VA11	1	No.
MCCB	Extended Rotary Handle -TP	32A	Siemens -3VA11	1	No.
SF	Semiconductor Fuse-690V -ET-32 for 10KVAR	32A	Busman	3	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	5Kvar	Epcos	1	No.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Winding	5Kvar	Epcos	1	No.
R	Discharge Resister 22K,50W,5%		Epcos	1	No.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	2	Nos.
PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green- XB5AK133B3N	6A	Schneider	1	No.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	1	No.
MCT	Metering CT -/5A CL-1.0,5VA	32A	AE/Kappa	3	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	1	No.
NL	Neutral Link		Reputed	1	No.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	1	No.
	O/G:-10KVAR Capacitor Feeder				
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	32A	Siemens -3VA11	2	Nos.
MCCB	Extended Rotary Handle -TP	32A	Siemens -3VA11	2	Nos.
SF	Semiconductor Fuse-690V -ET-32 for 10KVAR	32A	Busman	6	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	10Kvar	Epcos	2	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Winding	10Kvar	Epcos	2	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	2	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	4	Nos.

PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	2	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	2	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	32A	AE/Kappa	6	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	2	Nos.
NL	Neutral Link		Reputed	2	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	2	Nos.
O/G:-25KVAR Capacitor Feeder					
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	80A	Siemens -3VA11	3	Nos.
MCCB	Spreader Link +Extended Rotary Handle -TP	80A	Siemens -3VA11	3	Nos.
SF	Semiconductor Fuse-690V -ET-80 For 25KVAR	80A	Busman	9	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	25Kvar	Epcos	3	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Wounding	25Kvar	Epcos	3	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	3	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	6	Nos.
PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	3	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	3	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	80A	AE/Kappa	9	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	3	Nos.
NL	Neutral Link		Reputed	3	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	3	Nos.
O/G:-50KVAR Capacitor Feeder					
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	125A	Siemens -3VA11	4	Nos.
MCCB	Spreader Link +Extended Rotary Handle -TP	125A	Siemens -3VA11	4	Nos.
SF	Semiconductor Fuse-690V -ET-160 For 50kvar	160A	Busman	12	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	50Kvar	Epcos	4	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Wounding	50Kvar	Epcos	4	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	4	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	8	Nos.
PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	4	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	4	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	125A	AE/Kappa	12	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	4	Nos.
NL	Neutral Link		Reputed	4	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	4	Nos.
O/G:-100KVAR Capacitor Feeder					
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	250A	Siemens -3VA12	13	Nos.
MCCB	Spreader Link +Extended Rotary Handle-TP	250A	Siemens -3VA12	13	Nos.
SF	Semiconductor Fuse-690V -ET-160 For 50kvar	250A	Busman	39	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	100Kvar	Epcos	13	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Wounding	50Kvar	Epcos	26	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	13	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	26	Nos.

PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	13	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	13	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	250A	AE/Kappa	39	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	13	Nos.
NL	Neutral Link		Reputed	13	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	13	Nos.
T	Door limit switch with LED Light		Reputed	8	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	8	Nos.
Panel Dimension(2375HX6400WX1400D)					
Electrolytic grade TPN Aluminium Horizontal Bus Bar 3200A(4000Sq.mm) -Each Phase-4x100x10mm,Neutral-2x100x10mm					

2 **250Kvar RTPFC Panel -Indoor Type**

Item	Item Description	Rating	Make	Qty.	
	I/C:-630A TP MCCB Feeder				
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	630A	Siemens -3VA14	1	No.
MCCB	Spreader Link +Extended Rotary Handle +Aux & Trip Alarm Contact-TP	630A	Siemens -3VA14	1	No.
MFM	Digital Multifunction Meter CI-1.0 with RS 485 Port	EM6436H	Conzerv	1	No.
MCT	Metering CT -/5A CL-1.0,15VA For Metering	630A	AE/Kappa	3	Nos.
I/L	Indicating light LED type (RYB)	220V AC	L&T-Esbee	3	Nos.
I/L	Indicating light LED type (ON/OFF/TRIP)	220V AC	L&T-Esbee	3	Nos.
NL	Neutral Link		Reputed	1	No.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	5	Nos.
APFC	APFC Relay	16 Stage	Epcos	1	No.
BC	Output Buffer Card	24V	Epcos	1	No.
PS	Power Supply -10A	24V DC	Reputed	1	No.
TMR	Timer	220V AC	Gic	1	No.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	5	Nos.
FWF	Exhaust Fan		Reputed	2	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	2	Nos.

O/G:-5KVAR Capacitor Feeder

MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	32A	Siemens -3VA11	1	No.
MCCB	Extended Rotary Handle -TP	32A	Siemens -3VA11	1	No.
SF	Semiconductor Fuse-690V -ET-32 for 10KVAR	32A	Busman	3	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	5Kvar	Epcos	1	No.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Winding	5Kvar	Epcos	1	No.
R	Discharge Resister 22K,50W,5%		Epcos	1	No.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	2	Nos.

PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	1	No.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	1	No.
MCT	Metering CT -/5A CL-1.0,5VA	32A	AE/Kappa	3	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	1	No.
NL	Neutral Link		Reputed	1	No.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	1	No.

O/G:-10KVAR Capacitor Feeder					
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	32A	Siemens -3VA11	2	Nos.
MCCB	Extended Rotary Handle -TP	32A	Siemens -3VA11	2	Nos.
SF	Semiconductor Fuse-690V -ET-32 for 10KVAR	32A	Busman	6	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	10Kvar	Epcos	2	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Wounding	10Kvar	Epcos	2	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	2	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	4	Nos.
PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	2	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	2	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	32A	AE/Kappa	6	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	2	Nos.
NL	Neutral Link		Reputed	2	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	2	Nos.
O/G:-25KVAR Capacitor Feeder					
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	80A	Siemens -3VA11	3	Nos.
MCCB	Spreader Link +Extended Rotary Handle -TP	80A	Siemens -3VA11	3	Nos.
SF	Semiconductor Fuse-690V -ET-80 For 25KVAR	80A	Busman	9	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	25Kvar	Epcos	3	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Wounding	25Kvar	Epcos	3	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	3	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	6	Nos.
PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	3	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	3	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	80A	AE/Kappa	9	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	3	Nos.
NL	Neutral Link		Reputed	3	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	3	Nos.
O/G:-50KVAR Capacitor Feeder					
MCCB	TP MCCB 36kA Thermal Magnetic based with O/L & S/C Protection Release	125A	Siemens -3VA11	3	Nos.
MCCB	Spreader Link +Extended Rotary Handle -TP	125A	Siemens -3VA11	3	Nos.
SF	Semiconductor Fuse-690V -ET-160 For 50kvar	160A	Busman	9	Nos.
TSM	Thyristor Switch Module-Aux Supply-24V DC	50Kvar	Epcos	3	Nos.
CB	Capacitor Bank Oil Filled-APP-Heavy duty Type@525V AC +7% Detuned Reactor Copper Wounding	50Kvar	Epcos	3	Nos.
R	Discharge Resister 22K,50W,5%		Epcos	3	Nos.
I/L	Indicating light LED type (ON/OFF)	220V AC	L&T-Esbee	6	Nos.
PB	Illuminated Selector Switch with 2NO Aux Supply-24V DC -Green-XB5AK133B3N	6A	Schneider	3	Nos.
AM	Digital Ammeter inbuilt Selector Switch CI-1.0	DM3110	Conzerv	3	Nos.
MCT	Metering CT -/5A CL-1.0,5VA	125A	AE/Kappa	9	Nos.
AC	Auxiliary Contactor 2NO+2NC	220V AC	Siemens	3	Nos.
NL	Neutral Link		Reputed	3	Nos.
CMCB	Control SP MCB 10KA C-Curve	6A	Siemens	3	Nos.
T 689 - R	220V AC with LED Light		Reputed	8	Nos.

Rajgopal C. Sarda

From: Navneet Kumar <navneet.kumar@inphase.in>
Sent: 20 May 2023 11:32
To: Rajgopal C. Sarda
Cc: InPhase Power; Pannalal Biswas; Sourav Saharoy; Santosh Kumar Sharma; Vikram Jeet
Subject: Re: FW: InPhase Power Techno-Commercial Offer: SUPPLY OF 1600 KVAR , 7% DETUNED 525V Smart Hybrid PANEL WITH THYRISTOR SWITCHING
Attachments: IPM-23068-Rev-01 BOM 1600KVAR at 525V.pdf; IPM-23068 REV-04_JINDAL_Rajasthan Techno-Commercial Offer.pdf

Dear Rajgopal Sir,

Greetings from InPhase Power!

With reference to the trailing mail, Please find the attached revised offer along with revised BOQ.

We have agreed to all the points mentioned in the trailing mail and the same has been updated in the attached revised BOM.

Advantages of the Offered Solution: Please see below for the M/s InPhase Smart Hybrid Panel advantages compared to 1600KVAR Conventional Thyristor Panel.

1) With the help of just +/-134 KVAR Dynamic Reactive Power Compensator, following are the advantages you will get as compared to complete 1600 KVAR Thyristor Switched Capacitor Bank

Parameters	Thyristor Switched Capacitor Bank	Smart Hybrid I
Technology	1600 KVAR (Passive Technology)	+/-134 KVAR Active + 146 Thyristor based Capa
Type of Technology	Thyristor switched detuned Capacitor Banks	Combination of detuned , along with Dynamic C
Step compensation / Smooth stepless compensation	Step compensation	Smooth Stepless Con
Realtime Power parameters monitoring-Mobile/ computers	Mostly Not available	Available
Parallel Resonance risk	High	No
Temperature derating capability	Not possible	Available
Reaction time	slow	In mSec
Achieving Fine correction of Power Factor	Not possible	Yes because it is s
Life time because of frequent switching	5, 10, 25, 50 KVAR Steps will continuously ON/OFF to maintain PF and because of frequent switching Failure will be more of smaller steps	No requirements of sma in capacitor banks as compensation will be tak +/- 134 KVAR Dynamic Cc Smart Hybrid Panel will e of complete systems maintenance
Fast Dynamic Industrial Loads applications	Not applicable	Highly applica
Over voltage / Over compensation	High due to stepwise compensation	No over compen

Effect on Life of existing other Equipment	Reduces	Existing equipment Lif
Future Expansion	Not applicable	Easily Possible with sligh
Life of the System	Very less	High
Dual PF settings	Not Applicable	Yes in built in Dynamic

Hope it is in line with your requirements. Expecting your valuable PO.

In case of any query feel free to contact us.

Thanks and Regards



Navneet Singh
Manager - Advanced Power Quality
 InPhase Power Technologies Private Limited
 Mobile: +91-831-892-8467
Head Office : No 59, Temple Road,
 Near Embassy Public School,
 Chikka Gollarahatti, Magadi Main Road,
 Bangalore - 560091.

On Tue, May 16, 2023 at 5:42 PM Rajgopal C. Sarda <rajgopal@jindalaluminium.com> wrote:

Dear Mr. Navneet.

Please find below details of missed out scope of supply against your submitted offer.

You are requested to please consider the below and send us revised offer with complete BOQ in the separate annexure to enable us to process the same accordingly.

Best Wishes,

Rajgopal. C. Sarda.

From: Santosh Kumar Sharma <santoshkumar.sharma@jindalaluminium.com>

Sent: Tuesday, May 16, 2023 5:30 PM

To: Rajgopal C. Sarda <rajgopal@jindalaluminium.com>

Cc: Vikram Jeet <vikramjeet@jindalaluminium.com>

Subject: FW: InPhase Power Techno-Commercial Offer: SUPPLY OF 1600 KVAR , 7% DETUNED 525V Smart Hybrid PANEL WITH THYRISTOR SWITCHING

Dear Mr. Rajgopal,

BOM received from inphase power for 1600 kvar APFC panel has some discrepancy as per our requirement, You are requested to ask the supplier to submit quotation by considering following points.

1. We need siemens make MCCB 250amp, 36ka breaking capacity to isolate each bank separately:- 12 Nos.
2. We need Epcos make 7% detune copper wound reactor. Inphase not disclose reactor material :- 12 Nos
3. Digital ammeter required to display each phase load of each bank. Make – Conserve :- 12 Nos.
4. Metering CT for each ammeter as per requirement:- 39Nos.
5. Multifunction meter with main incomer, Conzerv EM6436H :- 1 Nos.
6. All switch gears like MCB and contactors make will be siemens.
7. 3 phase 525Vac Capacitor bank make will be epcos with heavy duty oil filled APP type:- 12 Nos
8. All banks ON/OFF indication on panel door.

From: Vikram Jeet <vikramjeet@jindalaluminium.com>

Sent: Tuesday, April 11, 2023 9:03 AM

To: Santosh Kumar Sharma <santoshkumar.sharma@jindalaluminium.com>

Subject: FW: InPhase Power Techno-Commercial Offer: SUPPLY OF 1600 KVAR , 7% DETUNED 525V Smart Hybrid PANEL WITH THYRISTOR SWITCHING

Check

Warm Regards

Vikram Jeet

Senior Manager - Electrical Maintenance

M: +91 9900-032-152 | **L:** +91 8023-715-555



www.JindalAluminium.com

From: Navneet Kumar <navneet.kumar@inphase.in>

Sent: Monday, April 10, 2023 9:50 PM

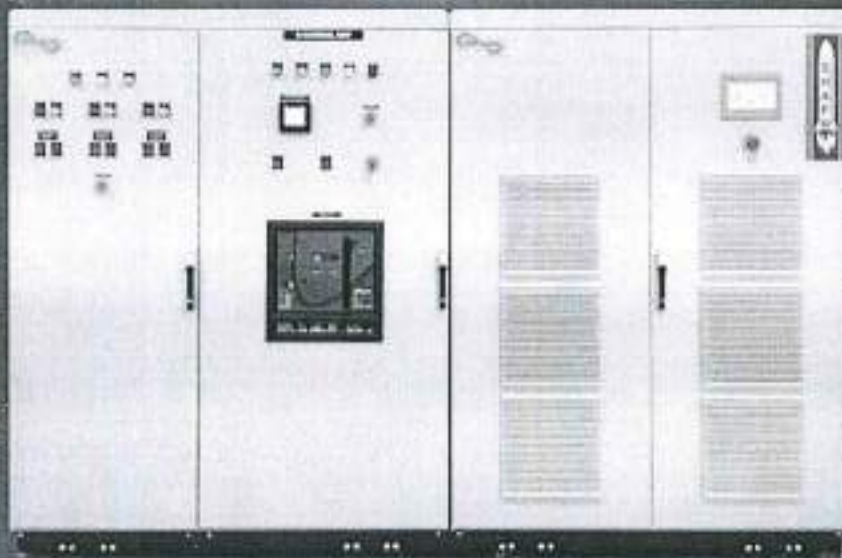
To: Vikram Jeet <vikramjeet@jindalaluminium.com>

Techno-commercial Offer

SHAF[®]

SMART HYBRID ACTIVE FILTER
"Reactive Power Compensation Redefined"

Unity Power Factor-KVAH Billing Reduction



PROJECT INFORMATION

PROJECT NAME	M/s. JINDAL ALUMINIUM LIMITED_Bhiwadi (Rajasthan)
KIND ATTENTION	Mr. Rajgopal
PREPARED BY	Mr. Natarajan, sales@inphase.in
APPROVED BY	Mr. Panna Lal Biswas

All documents, information, data and IP rights etc. supplied by InPhase in relation to this offer is confidential and should not be shared with any other parties without a written approval from InPhase.

1. TECHNICAL SPECIFICATIONS (1600KVAR @525V SMART HYBRID ACTIVE FILTER) – SUMMARY

1.1 Active - Specifications

Operating Conditions		Description/Data
Electrical Characteristics		
Connection method		3-Ph,3-Wire System
Permissible Voltage Variation	Volts	+/-10%
Rating	KVAR	1600KVAR @525V Smart Hybrid Active filter with 150A (134KVAR @525V) Active and 1466KVAR @525V Passive
IGBT Connection Topology		3 Level Topology
System Frequency	Hz	50 Hz (± 5%)
Equipment Efficiency	%	98% of the equipment power typically
Compensation Modes		Closed Loop
Reaction time	ms	0.1 ms (Instantaneous)
Response time	ms	1 ms
Harmonics Compensation		Resource Delivery from 3 rd to 61 st Order Harmonics
Modularity	Nos	Maximum 32 units can be combined
Internal Protection		250A MCCB, 36kA Siemens make x 1 no.
Programming/Communication Characteristics		
Communications		Mod bus
Programming Interface		Using IPC Manager (7-Inch Colour Touch Screen - GUI)
Redundancy		Master/master arrangement
Reactive Power range		-100% inductive to +100% capacitive of the rated kVar
Target cos pi		Programmable from 0.6 (inductive) to 0.6 (capacitive)
Installation Aspects(Per unit)		
Ingress Protection (IP)		IP-30
Altitude	Meter	Up to 1000m
Ambient Temperature	Centigrade	0 to +50° C (derating after 40° C)
Humidity	%RH	Maximum 95% RH, Non-condensing
Cable Entry		Bottom entry
Cooling Arrangements		Forced-air cooling
CT Requirements		3 CT's (class 1.0 or better) with sufficient VA Burden
SPECIAL FEATURES FOR LONGER LIFE		
DC Capacitors Used in DC Link		FILM TYPE DC CAPACITORS
PWM Reactors		Foil Type reactors specially designed with Multiple Airgaps
INPUT FILTER		RC TANK as per requirement with Mandatory LCL Filter
Controller Design		Rugged Design with Multiple I/Os
IGBT Max Junction Temperature		175 Degree Centigrade

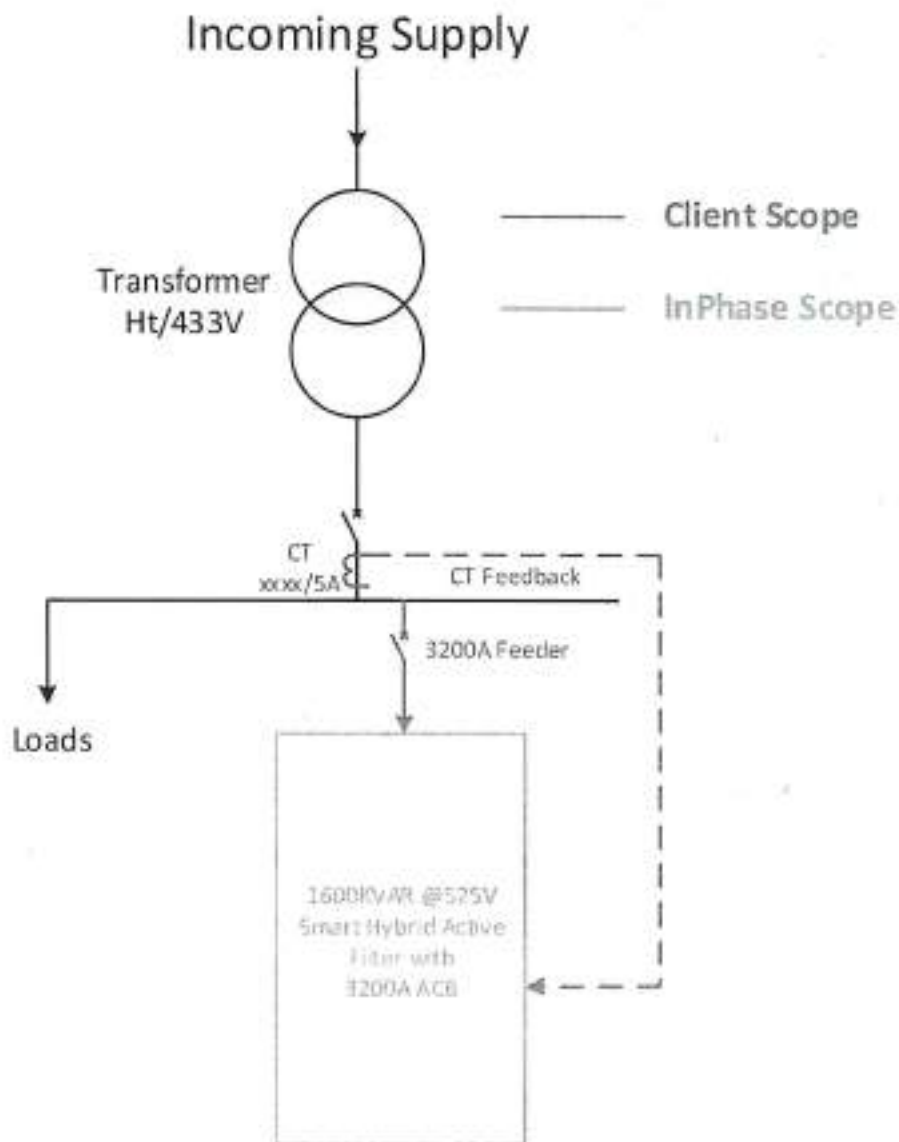
All documents, information, data and IP rights etc. supplied by InPhase in relation to this offer is confidential and should not be shared with any other parties without a written approval from InPhase.

1.2 CAPACITOR BANK – SPECIFICATIONS

Capacitor Panel Technical Specifications	
Parameters/Details	InPhase Proposal
General Information	
Capacitor Voltage	525 V, +/-10%
Rated Frequency	50 Hz (± 5%)
Type	Thyristor Switched Capacitor Panel
Configuration	Delta Connected, 525V rated APP heavy duty oil filled capacitors – Unistar/Reputed make
Capacitor KVAR at rated Voltage	1466KVAR @525V which will deliver 1100KVAR @440V (Steps-133KVAR x 11 nos. @525V)
Cable Entry	Bottom through cable gland
Main busbar	Aluminium
Switchgear details	
Main protection	3200A ACB (3WT) Siemens Make x 1 no.
Step protection Back-up Protection	Each step with Fuse and 250A MCCB, 36kA Siemens make x 11 nos.
Digital Ammeter	Digital Ammeter for each step x 11 nos.
Metering CT	39 nos.
Multi-function Meter	Conzerv EM-6436H x 1 no.
On-Off Indication lamp on panel door	For each capacitor step.
7% Series Reactor Details	
Detuned Series Reactors	Detuned Series 7% reactor Copper wound with Class H insulation, InPhase Make
Thyristor Stack details with Protection Features	
Each Thyristor PIV Voltage	2200V
Thyristor Stack configuration	R Phase: SCR-SCR + CT; Y Phase: SCR-SCR + CT; B Phase: CT
All 3-Phase CTs required for each Module	Yes, CTs in all 3-Phases for each step for protection
Short Circuit protection	Yes, Short circuit protection included for each Thyristor module
Over current protection	Yes, over current protection included for each Thyristor module
Unbalance current protection	Yes, unbalanced current protection included for each Thyristor module
Capacitor deteriorating protection	Yes, current deteriorating protection included for each Thyristor module
Thyristor short	Yes, included
Thyristor Open	Yes, included
Temperature protection	Yes, through NTC
Enclosure Details	
Panel Shell	CRCA Housing with powder coating
Panel Finish	RAL 7035
Panel Protection Class	Indoor, IP-30
Panel construction	Free standing
Panel Cooling	Forced Air cooling

All documents, information, data and IP rights etc. supplied by InPhase in relation to this offer is confidential and should not be shared with any other parties without a written approval from InPhase.

1.3 SIMPLIFIED SINGLE LINE DIAGRAM WITH SOLUTION



InPhase Proposes 1600KVAR @525V Smart Hybrid Active Filter along with 3200A ACB

2. BILL OF MATERIALS

InPhase Power Quality Solution				
S. No	DESCRIPTION	QTY	UNIT	MAKE
A]	INPHASE SCOPE OF WORK - SUPPLY			
1	1600KVAR @525V Smart Hybrid active Filter along with 3200A ACB. As per technical datasheet given above.	01	Set	INPHASE
B]	CLIENT SCOPE OF WORK			
1	3Phase, suitable feeder for connecting the Power Quality Equipment.	01	Set	REPUTED
2	XXX/5A, 3-Ph CT erection and CT cables from all the respective Feeders for automatic operations of AHFs	01	Set	REPUTED
3	All Power Cables / Control Cables interconnections from the Feeder and the Panels			
4	All erection works involved in the project at site. This includes the erection for Hybrid Panels, Power & Control cables, earthing materials, Breaker panels, CT mounting etc.			
5	Earthing and Earthing materials like GI flats for all the above components.			
6	All civil works involved in the project at site. This includes the civil work for Hybrid Panels control room building with cable trench, Transformer, earthing, busduct etc.,			
7	Supply of Civil and Control Room and Air Conditioning or forced cooling arrangements for high performance of IGBT panel stacks of Hybrid Panel to maintain the required temperature.			
8	Necessary approvals & inspections from the Electricity Board if required.			
9	Necessary plant shutdown in case if required while connecting the CT feedback.			

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3. PRICE SCHEDULE

S No	DESCRIPTION	QTY	UNIT PRICE (FOR-SITE)
1	1600KVAR @525V Smart Hybrid active Filter along with 3200A ACB. As per technical datasheet given above.	1 Set	₹ 27,25,000/-
2	Supervision of Erection & Commissioning	1 Set	₹ 25,000/-
Total Price (Basic, FOR-SITE)			₹ 27,50,000 /- <i>Final Rate</i>

Note:

- The above prices are based on the BOM as in this document in other chapters.
- For additional days for reasons not attributed to the supplier there shall be a charge of Rs. 10,000/- day will be charged with Taxes as applicable.
- The above prices are FOR-SITE however, all taxes and duties applicable at the time of dispatch are payable by client.
- To and fro travel, lodging, boarding and local conveyance for the commissioning engineer will be in the scope of the customer.

Exclusions

Our scope of work shall be limited to above and shall exclude the following, please refer the BOM and Schematics for detailed scopes and responsibilities of the InPhase and the Client.

→ Price Basis: FOR - Jindal Bhivani.

→ I GST: 18% Extra.

→ Delivery: 10 to 12 weeks from the date of receipt of order.

→ Payment: 90% + 100% GST within 7 days from the date of receipt of panel.
10% after Installation and Commissioning subject to submission of PBG (valid for one year from the date of commissioning).

→ Warranty: One year from the date of Commissioning.

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→ Party will depute 02 Out of 03 engineers for installation and commissioning at one site free of cost.

Discussed with Mr. Navneet and Mr. BSW as and not agreed to include price further.

26/05/23

Revised BOM

Customer Name : M/s JINDAL ALUMINIUM LIMITED_Rajasthan

BOM for 1 NO 1600KVAR (134KVAR + 1466KVAR) at 525V SMART HYBRID PANEL

A. Active 134KVAR at 525V - 1 NO.
B. TSC 1466KVAR at 525V - 1 NO.

A BOM for Active 134KVAR at 525V - 1 NO.				
SL.NO.	Description	Manufacturer	Quantity	PC
1	Bare Panel	Reputed	1	PC
2	250A MCCB, 36kA	Siemens	1	PC
3	Fuse Base	Eaton	1	PC
4	250A Fuse	Eaton	3	PC
5	3P Power Contactor	Siemens	1	PC
6	1-PH PWM Reactor	InPhase	3	PC
7	1-PH Filter Reactor	InPhase	3	PC
8	Input AC Filter Capacitor (PCB)	InPhase	1	PC
9	134Kvar 3L power stack	InPhase	1	PC
10	Aux Contactor	Siemens	1	PC
11	15V DC Supply DSP Controller	InPhase	1	PC
12	4 Channel Voltage sensor card	InPhase	1	PC
13	I/P:24V DC O/P:230V AC 75W SMPS	Omron	1	PC
14	I/P:24V DC,O/P:230V AC 70W SMPS	Omron	1	PC
15	7 Inch HMI with Software	Delta	1	PC
16	230V AC 4 Inch Panel cooling FAN	EBM	1	PC

B BOM for 1 NO 1466KVAR AT 525V TSC				
SL NO	DESCRIPTION	MAKE	QTY	PC
1	Bare Panel	STANDARD	1	PC
2	250A MCCB, 36kA	Siemens	1	PC
3	3200A ACB, MDO type with LSIG protection_Siemens (3WT)	Siemens	1	SET
4	Local/ Remote SWITCH	L & T	1	PC
5	APFC Relay (Addon Card)	Inphase	1	PC
6	AUXILIARY CONTACTOR N 40 E	Siemens	4	PC
7	AUXILIARY CONTACTOR N 31 E	Siemens	1	PC
8	AUXILIARY CONTACTOR N 22 E	Siemens	2	PC
9	Fuse Link for 100 KVAR	EATON/BUSSMANN	3	PC
10	Fuse Base for Power Circuit	Inphase	1	PC
11	133KVAR at 525V SHASTRA - Thyristor module	Inphase	1	PC
12	Line CT 200/5 class-1 5 VA	KALPA	3	PC
13	VAF Meter	Selec	1	PC
14	Line CT 3200/5 class-1 5 VA	KALPA	3	PC
15	Conzerv EM-6436H	Schneider	1	PC

16	compact range pilot light LED type Flush Mounted 22.5 mm dia colour-RED supply voltage-230V AC 50/60 HZ	TEKNIC	13	PC
17	compact range pilot light LED type Flush Mounted 22.5 mm dia colour-YELLOW supply voltage-230V AC 50/60 HZ	TEKNIC	1	PC
18	compact range pilot light LED type Flush Mounted 22.5 mm dia colour-BLUE supply voltage-230V AC 50/60 HZ	TEKNIC	1	PC
19	compact range pilot light LED type Flush Mounted 22.5 mm dia colour-GREEN supply voltage-230V AC 50/60 HZ	TEKNIC	12	PC
20	PUSH BUTTON FLUSH MOUNTED 22.5 MM DIA COLOUR - RED WITH 1 NC & NO CONTACT	TEKNIC	12	PC
21	PUSH BUTTON FLUSH MOUNTED 22.5 MM DIA COLOUR - GREEN WITH 1 NC & NO CONTACT	TEKNIC	12	PC
22	SMPS 24V 150W	XP POWER/OMRON	2	PC
23	Control Transformer 415V/230V, 2000 VA, 1 PHASE	TS INTERNATIONAL	1	PC
24	6 inch fan	EBM	11	PC
25	32A 3P SFU	EATON	1	PC
26	16 A FUSE	BUSSMAN/ EATON	3	PC
27	MCB16A 2P 10KA D Curve	Siemens	1	PC
28	MCB 6A 5P 10 KA C curve	Siemens	2	PC
29	66.2 KVAR CAPACITOR AT 525 V	Unistar/Reputed Make	22	PC
30	7% Detuned Copper Reactor	INPHASE	11	PC
31	ON delay /Interval timer (0-3 sec/min)	Selec	2	PC



QUOTATION

Annexure 'I'

Sr. No	Product Description	Quantity	Unit	Unit Price	Amount
1	1600Kvar RTPFC Panel-Indoor Type	1.00	Nos	3510000.00	3510000.00
		Total Qty:	1.00	Taxable Amount:	3510000.00
				SGST:	315900.00
				CGST:	315900.00
				Total Amount:	INR 4141800.00

Final Agreed

Amount In Words : INR FORTY-ONE LAKHS FORTY-ONE THOUSAND EIGHT HUNDRED ONLY

Payments Terms

100% within 7 days against delivery. ✓

fe.

Annexure 'II'

Terms & Conditions:-

* PRICES :

Unless mentioned otherwise in the offer, all prices indicated herein are unit prices for supply Exworks/ F.O.R. Khushkhhera basis, exclusive/ inclusive of packing but exclusive of Transit Insurance, GST, Octroi etc "All the above-mentioned charges and levies & any other unforeseen taxes, duties & levies shall be charged extra to the Customer's account at actual at the rates prevailing at the time of invoicing
Statutory Variation of Govt Taxes, duties, levies etc shall be to customer's account. EXPERT ENGINEERS has quoted the price considering the full quantity order placed on them. In case the Customer wishes to place part quantity, EXPERT ENGINEERS reserve the right to change the offer prices & other terms of supply

The prices quoted are Firm / Subject to the IEEMA Variation Clause without ceiling/ limit, enclosed separately.

The price quoted is strictly for supply of equipment within contractual delivery period but not exceeding from the date of agreed Contractual Delivery Date. The contractual price would be subject to our renegotiation if delivery is delayed beyond the above calendar month, for whatever be the reason

* DELIVERY PERIOD :

The material shall be dispatched from our works within 6-8 weeks from the date of receipt of techno-commercial clear order. The date of dispatch shall be reckoned from the date of receipt of the date of receipt by us of your fully clear order, advance and approval of drawings, whichever is last

The delivery of the equipment is based on the present-day shop-loading and shall be subjected to our confirmation at the time finalization of the order.

The delivery schedule indicated is in good faith and is subject to Force Major Clause

Expert Engineers

G1-287, RIICO Industrial Area Khushkhhera, Bhiwadi, Distt Alwar, Bhiwadi, Rajasthan, 9711377735, sales@expertengineers.co.in



QUOTATION

QT.NO : QUO0235/2023-24-RD
QT Date : 6/3/2023 12:00:00AM

Enquiry No. : ENQ0287/2023-24
Enquiry Date : 02-Jun-2023

To,
M/s. Jindal Aluminium Limited
SP- 2/333, RIICO Industrial Area, Bhiwadi, Dist. Alwar Rajasthan 301019
Kind Attn: Vikram Jeet (9900032152)
Email : vikramjeet@jindalaluminium.com

Project Name : Offer for 1600KVAR APFC Panel

Subject : Offer for 1600KVAR APFC Panel

Dear Sir,

We acknowledge with thanks the receipt of your enquiry for your requirement for above mentioned subject and we are glad to furnish our most reasonable and competitive offer for the Control Panel as per your specifications

We are pleased to submit our offer as mentioned below :-

Annexure I : Price Schedule
Annexure II : Commercial Terms & Condition
Annexure III : Technical Specifications
Annexure IV : Bill of Materials

We hope that the offer will be in line with your requirement and please feel free to contact us in case you have any query.

Thanking you,
Yours faithfully
for **EXPERT ENGINEERS**

Lokesh Gupta
Regional Sales Manager
9717797659

Expert Engineers

G1-287, RIICO Industrial Area Khushkhara, Bhiwadi, Distt Alwar, Bhiwadi, Rajasthan, 9711377735, sales@expertengineers.co.in

M/s. Expert Engineers - Bhavnagar.

→ Price Basis: FOR - JAL BWP.

→ GST: 18% Extra.

→ Delivery: 8 to 10 weeks from the date of order.

→ Payment: 100% within 7 days from the date of receipt of panel.

→ Warranty: one year from the date of commissioning.

→ EPC: Party will depute engineers for erection and commissioning of one plant.

Discussed with
Mr. Lokesh Gupta and
agreed above


07/06/23



QUOTATION

The requirement of delivery period will be deemed to have been met when the goods is notified as being ready for inspection/dispatch.

We reserve the right to advance the delivery and claim balance payment as per the agreed terms of payment. You shall accept delivery of items bought from sub-suppliers as and when ready.

In case of specific liquidated damage/compensation/price fall clause has been separately agreed upon, the exact rate and value is to be agreed upon before effecting the delivery of the equipment.

* **PAYMENT TERMS:**

30% advance along with purchase order and balance with taxes and duties prior to dispatch against proforma invoice.

* **VALIDITY :**

Our offer is valid for acceptance for a period up to 30 days, thereafter, it shall be subjected to our confirmation in writing. At the time of revalidation, we reserve the right to review the price and/or the delivery period offered, based on the conditions existing at that time.

* **TESTS :**

Routine tests on completed equipment are carried out as essential process of internal inspection. Unless specifically agreed to, therefore, those tests, or any other tests will not be repeated at the time of inspection. For bought out items like switchgears, relays, accessories manufacturer's test certificates, if available, can be furnished, upon prior intimation. No certificate can be furnished for CT's, PT's, Meters etc.

* **INSPECTION :**

Wherever inspection is agreed upon, your inspector shall carry out the inspection within 7 days of intimation and shall be empowered to authorize dispatch after successful inspection failing which it shall be considered that the inspection has been waived and we shall be free to dispatch the equipment.

Equipment obtained from sub-supplier will not be offered for inspection.

* **SCOPE OF SUPPLY:**

Our scope of supply is strictly limited to items specifically included in the enclosed offer. Unless otherwise mentioned, the offer is exclusive of erection/commissioning of material and supply of spares.

In case any equipment changes or modifications are requested by you during the course of manufacturing of equipment, and in the event EXPERT ENGINEERS agree to carry out the same, the change in prices on this account may not be limited to changes in hardware only. The delivery time shall also be extended accordingly.

* **RETENTION OF TITLE & PASSING OF RISKS**

The goods remain the sole and absolute property of EXPERT ENGINEERS as legal and equitable owner until all money due to EXPERT ENGINEERS has been paid, but such good will be at the Customer's risk from the time of dispatch of goods to the customer.

Expert Engineers

G1-287, RIICO Industrial Area Khushkhara, Bhiwadi, Distt Alwar, Bhiwadi, Rajasthan, 9711377735, sales@expertengineers.co.in



Bill of Materials:

1600Kvar RTPFC Panel -Indoor Type		BOARD QTY			
A	INCOMER	1	FEEDER QTY	1	
SR NO.	BOQDESCRIPTION	MAKE	CATALOG NUMBER	QTY	TOTAL QTY
1	3200A 3P Frame Size:2 MIDO ACB, Release: ETU35WT: LSI+Display, Type:3WT	SIEMENS	3WT8322-5AA04-5AB2	1	1
2	3200/5A 10VA Acc. Ct: 1 Ring Type Current Transformer	AE	NA	3	3
3	Multifunction Meter-Load Manager with RS485 port, Parameters: V, A, F, PF, W/Vh, Wh /VAh, Runhrs, Onhrs & Interupts & Suppression Current (5 to 99 mA), Acc. Ct: 1.0, 3Ph, Operating voltage: 80 to 480V AC, Size: 96X96, Model: EM6436H	SCHNEIDER	METSEEM6436HCL10K5	1	1
4	10A Auxiliary Contactor, Coil: 230V AC, Aux Contact: 2NO+2NC, Size: 50, Type: 3TH3	SIEMENS	3TH3022-0AP0	10	10
5	16 Steps APFC Relay for Contactor Switching with 3 CT Inputs, Size: 244X144, Voltage: 415/110V AC, Type: etaULTRA	L&T/EPCOS	CS910510000	2	2
6	Output Buffer Card	EPCOS		2	2
7	Power Supply -10A	NHP		2	2
8	Red Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPUR240A	2	2
9	Yellow Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLY240A	1	1
10	Blue Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLB240A	1	1
11	Green Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLG240A	1	1
12	Amber Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLA240A	1	1
13	ON Delay Timer, Time Setting: 0.3sec - 30hrs, Voltage: 240V AC / 24V AC/DC, Contact: 1 C/O	GIC	12ODT4	1	1
14	6A 2P 2Way Local - Remote/ Auto-Manual Switch with Center Off, 60 Deg. Operation	SALZER	610265AB13	1	1
15	6A 1P 10kA C-Curve MCB	SIEMENS	SSL41067RC	13	13
16	Door limit switch with LED Light	Reputed		8	8
17	6A 1P 10kA C-Curve MCB	SIEMENS	SSL41067RC	8	8
18	Fan B"	Reputed		3	3
19	Filter	Reputed		6	6
8	100KVAR CAP.BANK			FEEDER QTY	13
1	250A 3P 36kA MCCB, Release: TM Release(Adjustable Thermal Fixed Magnetic), Type: 3VA12	SIEMENS	3VA1225-4EE32-0AA0	1	13
2	Spreader Links - Broadened (with phase barriers) (one set = 3 links+ 2 phase barriers) for 3 Pole, 3VA12 250A	SIEMENS	3VA9253-0QC50	2	26
3	Extended Door Mounted Rotary Operator (including BUC handle) for 3VA12 250A	SIEMENS	3VA9257-0FK51	1	13
4	250A 200kA 690V AC High Speed Semi Conductor Protection Fuse, Type: BS 88	BUSSMANN	250FM	3	39
5	250A 690V AC Screw Mounting Fuse Base for Semiconductor Protection Fuse, BS Size: DIN Size 1, Type: SD1-S	BUSSMANN	SD1-S	3	39
6	50kVar 3Ph Heavy Duty IT-APP - Box 525V AC Capacitor	EPCOS	B25160C5050T 25	2	26
7	100kVar Thyristor Switch Module, Voltage: 440V AC, Type: TSM 100	EPCOS	B44066T1001440	1	13
8	50kVar 3Ph 7% Copper Wound Detuned Reactor, Voltage: 440V AC	EPCOS	B44066D70501440	2	26
9	Green 3-position Illuminated Stayput Selector Switch, Contacts: 2NO, Voltage: 24V AC/DC	SCHNEIDER	X85AK13303N	1	13
10	10A Auxiliary Contactor, Coil: 230V AC, Aux Contact: 2NO+2NC, Size: 50, Type: 3TH3	SIEMENS	3TH3022-0AP0	1	13
11	250/5A 15VA Acc. Ct: 1 Ring Type Current Transformer	AE	NA	3	39
12	Three Phase Ammeter, Acc. Ct: 1.0, Model: DM3110	SCHNEIDER	30002385	1	13
13	Red Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	8PLR240A	1	13
14	Green Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLG240A	1	13
15	6A 1P 10kA C-Curve MCB	SIEMENS	SSL41067RC	1	13
16	32A Neutral Link, Color: Black/Khaki	FTC	FNL 32	1	13



C	50KVAR CAP.BANK		1	FEEDER QTY	4
1	125A 3P 25KA MCCB, Release: TM Release(Adjustable Thermal Fixed Magnetic), Type: 3VA11	SIEMENS	3VA1112-3EE32-0AA0	1	4
2	Spreader Links - Broodeded (with phase barriers) (one set = 3 links+ 2 phase barriers) for 3 Pole, 3VA10/11 100A/160A	SIEMENS	3VA9153-0QC50	2	8
3	Extended Door Mounted Rotary Operator (including 8UC handle) for 3VA10/11 100A/160A	SIEMENS	3VA9157-0FK51	1	4
4	160A 200KA 690V AC High Speed Semi Conductor Protection Fuse, Type: BS 88	BUSSMANN	160EET	3	12
5	160A 1P Fuse Base for Fuse Type: 160NHG008/100NHG008, BS Size: 00/C00	BUSSMANN	5B00-FB	3	12
6	50kVAr 3Ph Heavy Duty LT-APP - Box 525V AC Capacitor	EPCOS	B25160C5050T 25	1	4
7	50kVAr Thyristor Switch Module, Voltage: 440V AC, Type: TSM 50	EPCOS	B44066T3050R442	1	4
8	50kVAr 3Ph 7% Copper Wound Detuned Reactor, Voltage: 440V AC	EPCOS	B44066D7050J440	1	4
9	Green 3-position Illuminated Stayput Selector Switch, Contacts: 2NO, Voltage: 24V AC/DC	SCHNEIDER	XBSAK133B3N	1	4
10	10A Auxiliary Contactor, Coil: 230V AC, Aux Contact: 2NO+2NC, Size: 50, Type: 3TH3	SIEMENS	3TH3022-0AP0	1	4
11	150/5A 15VA Acc. Cl: 1 Ring Type Current Transformer	AE	NA	3	12
12	Three Phase Ammeter, Acc. Cl: 1.0, Model: DM3110	SCHNEIDER	30002385	1	4
13	Red Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLR240A	1	4
14	Green Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLG240A	1	4
15	6A 1P 10KA C-Curve MCB	SIEMENS	5SL41067RC	1	4
16	32A Neutral Link, Color: Black/Khaki	FTC	PNL 32	1	4
D	25KVAR CAP.BANK		1	FEEDER QTY	3
1	80A 3P 36KA MCCB, Release: TM Release(Adjustable Thermal Fixed Magnetic), Type: 3VA11	SIEMENS	3VA1180-4EE32-0AA0	1	3
2	Extended Door Mounted Rotary Operator (including 8UC handle) for 3VA10/11 100A/160A	SIEMENS	3VA9157-0FK51	1	3
3	80A 200KA 690V AC High Speed Semi Conductor Protection Fuse, Type: BS 88	BUSSMANN	80ET	3	9
4	125A Offset Bolted Front Connection Fuse Fitting for Fuse Type: L14/RL14/M14, BS Size: A4	BUSSMANN	LA125	3	9
5	25kVAr 3Ph Heavy Duty LT-APP - Box 525V AC Capacitor	EPCOS	B25160C5025T 25	1	3
6	25kVAr Thyristor Switch Module, Voltage: 440V AC, Type: TSM 25	EPCOS	B44066T3025R442	1	3
7	25kVAr 3Ph 7% Copper Wound Detuned Reactor, Voltage: 440V AC	EPCOS	B44066D7025J440	1	3
8	Green 3-position Illuminated Stayput Selector Switch, Contacts: 2NO, Voltage: 24V AC/DC	SCHNEIDER	XBSAK133B3N	1	3
9	10A Auxiliary Contactor, Coil: 230V AC, Aux Contact: 2NO+2NC, Size: 50, Type: 3TH3	SIEMENS	3TH3022-0AP0	1	3
10	80/5A 15VA Acc. Cl: 1 Ring Type Current Transformer	AE	NA	3	9
11	Three Phase Ammeter, Acc. Cl: 1.0, Model: DM3110	SCHNEIDER	30002385	1	3
12	Red Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLR240A	1	3
13	Green Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLG240A	1	3
14	32A Neutral Link, Color: Black/Khaki	FTC	PNL 32	1	3
15	6A 1P 10KA C-Curve MCB	SIEMENS	5SL41067RC	1	3
E	10KVAR CAP.BANK		1	FEEDER QTY	2
1	32A 3P 36KA MCCB, Release: TM Release(Adjustable Thermal Fixed Magnetic), Type: 3VA11	SIEMENS	3VA1132-4EE32-0AA0	1	2
2	Extended Door Mounted Rotary Operator (including 8UC handle) for 3VA10/11 100A/160A	SIEMENS	3VA9157-0FK51	1	2
3	32A 200KA 690V AC High Speed Semi Conductor Protection Fuse, Type: BS 88	BUSSMANN	32ET	3	6
4	32A Clip on Front Connection Fuse Fitting for Fuse Type: F06/MSD, BS Size: F1	BUSSMANN	FA32	3	6
5	10kVAr 3Ph Heavy Duty LT-APP - Box 525V AC Capacitor	EPCOS	B25160C5010T 25	1	2
6	10kVAr Thyristor Switch Module, Voltage: 440V AC, Type: TSM 10	EPCOS	B44066T 10R440	1	2



7	10kVAr 3Ph 7% Copper Wound Detuned Reactor, Voltage: 440V AC	EPCOS	B44066D7010J440	1	1
8	Green 3-position Illuminated Stayput Selector Switch, Contacts: 2NO, Voltage: 24V AC/DC	SCHNEIDER	X85AK13383N	1	1
9	10A Auxiliary Contactor, Coil: 230V AC, Aux Contact: 2NO+2NC, Size: 50, Type: 3TH3	SIEMENS	3TH3022-0AP0	1	1
10	30/5A 15VA Acc. CI: 1 Ring Type Current Transformer	AE	NA	3	3
11	Three Phase Ammeter, Acc. CI: 1.0, Model: DM3110	SCHNEIDER	30002385	1	1
12	Red Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLR240A	1	1
13	Green Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLG240A	1	1
14	6A 1P 10kA C-Curve MCB	SIEMENS	5SL41067RC	1	1
15	32A Neutral Link, Color: Black/Khaki	FTC	FNL 32	1	1
F	5KVAR CAP.BANK		1	FEEDER QTY	1
1	32A 3P 36kA MCCB, Release: TM Release(Adjustable Thermal Fixed Magnetic), Type: 3VA11	SIEMENS	3VA1132-4EE32-0AA0	1	1
2	Extended Door Mounted Rotary Operator (including BUC handle) for 3VA10/11 100A/160A	SIEMENS	3VA9157-0FK51	1	1
3	32A 200kA 690V AC High Speed Semi Conductor Protection Fuse, Type: B5 B8	BUSSMANN	32ET	3	3
4	32A Clip on Front Connection Fuse Fitting for Fuse Type: F05/NSD, B5 Size: F1	BUSSMANN	FA32	3	3
5	5kVAr 3Ph Heavy Duty LT-APP - Box 525V AC Capacitor	EPCOS	B25160CS005T 25	1	1
6	10kVAr Thyristor Switch Module, Voltage: 440V AC, Type: TSM 10	EPCOS	B44066T 10R440	1	1
7	5kVAr 3Ph 7% Copper Wound Detuned Reactor, Voltage: 440V AC	EPCOS	B44066D7005J440	1	1
8	Green 3-position Illuminated Stayput Selector Switch, Contacts: 2NO, Voltage: 24V AC/DC	SCHNEIDER	X85AK13383N	1	1
9	10A Auxiliary Contactor, Coil: 230V AC, Aux Contact: 2NO+2NC, Size: 50, Type: 3TH3	SIEMENS	3TH3022-0AP0	1	1
10	30/5A 15VA Acc. CI: 1 Ring Type Current Transformer	AE	NA	3	3
11	Three Phase Ammeter, Acc. CI: 1.0, Model: DM3110	SCHNEIDER	30002385	1	1
12	Red Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLR240A	1	1
13	Green Gen Next Pro LED Indicator 22.5 mm, Voltage: 240V AC	ESBEE	EPLG240A	1	1
14	6A 1P 10kA C-Curve MCB	SIEMENS	5SL41067RC	1	1
15	32A Neutral Link, Color: Black/Khaki	FTC	FNL 32	1	1
A	FABRICATION DETAILS	MAKE	SIZE (HxWxD) mm	QTY	UNIT
1	Panel Enclosure 14 Gauge (Indoor)	EXPERT	2375 x 4900 x 1400 mm	1	JOB
B	BUSBAR DETAILS	MAKE	RATING	SET	Material
1	BUSBAR - MAIN	HINDALCO	4000A	1	Busbar AL
2	BUSBAR - VERTICAL DROPPER BUSBAR	HINDALCO	2000A	1	Busbar AL
3	BUSBAR - EARTH	HINDALCO	300A	1	Busbar AL



NOT as per JAL BOM

[Handwritten signature]

Ref. No.: offer#6477/2022-23/R

Date: 20th March 2023

M/S Jindal Aluminum Limited
SP-2/333,RIICO Industrial Area
Bhiwadi Rajasthan-301019

Email : rajgopal@jindalaluminium.com
Phone No: +91-9611195368

Kind Attn.: Mr Raj Gopal

Sub: Offer for Neptune Ducati Make RTPFC Panel.

Dear Sir,

We acknowledge with thanks receipt of your above referred enquiry. We are pleased to submit our most competitive offer for the same as per following Annexure:-

- Annexure 'A' - Price Schedule
- Annexure 'B' - General Terms & System Requirements
- Annexure 'C' - Commercial Terms & Conditions

Thanking you and looking forward for your valued order, which shall have our prompt attention.

With best Regards

For NEPTUNE INDIA LIMITED

SANDEEP KUMAR SAINI

(Sales Engineer)

96500 58853

NEPTUNE INDIA LTD.

Corporate & Marketing Office:
A-11, Sector 59, Noida - 201301, India

tel: 0120-420 5900, 429 7900
CIN: U51909DL1990PLC042022

e: enquiry@neptuneindia.com
web: www.neptuneindia.com



Annexure-A
Price Schedule For RTPFC System

Sl. No	Description	Qty. (No)	Unit Price (INR)	Amount (INR)
1)	<p><u>Neptune Ducati Make Activecomp Series RTPFC Panel</u></p> <p><u>Supply of Activecomp Series 1600 KVAR output at 440 V (2112 KVAR @ 525 V) Real Time Thyristor Switched Power Factor Correction System with 7 % Harmonic Block Reactor.</u></p> <p>Cap Banking : 1x5 KVAR, 2x10 KVAR, 3x25 KVAR, 4x50 KVAR, 13x100 KVAR</p> <p>Capacitor Type : Heavy Duty APP Box Type Capacitor from Neptune Ducati 525 V</p> <p>Network Voltage : 440 V (Output at 440 V is 1600 KVAR)</p> <p>Capacitor Voltage : 525 V (Output at 525 V is 2112 KVAR)</p> <p>Controller : Neptune APFC Controller with Advance Power Quality management system</p> <p>Harmonic Reactor : Neptune make 7 % Copper Wound Harmonic Block Reactor</p> <p>Incomer : 3200 A TP MP Based ACB 50 KA (Siemens 3WT)</p> <p>Back up protection : TP TM MCCB 36 KA (Siemens-3VM) and HRC Fuses (Bussman-DIN Type)</p> <p>Switching : Activecomp Thyristor Switching Modules</p> <p>Busbar : Aluminum(Hindalco)</p> <p>Enclosure : Neptune Make Standard Enclosure, Powder Coated Siemens Grey RAL 7035- Non-Compartmentalized Design with front and back both side accessible, IP 40 Protection 2 mm thick sheet, Indoor Type</p>	1 Nos.	38,90,000.00	38,90,000.00

Rs. 36,00,000/-

oil filled capacitor Required.

Need epas.

Discussed with Mr. Sandeep Saini and agreed above

[Signature]

10/05/23

[Signature]

NEPTUNE INDIA LTD.

Corporate & Marketing Office:
A-11 Sector 59, Noida - 201301, India

tel: 0120-420 5900, 429 7900
CIN: U51909DL1990PLC042022

e: enquiry@neptuneindia.com
web: www.neptuneindia.com

Annexure-B General Terms & System / Site Requirement

System & Network Requirement

Three phase Amperometric connection from Mains sensing CTs 3 nos. as per the position shown in manual has to be brought to APFC System Controller.
Supply and connection of Mains CTs is not in our scope and has to be carried out by your qualified technician.

Commissioning Support

We provide detailed manual, circuit diagram for commissioning of APFC System. Moreover, if required, we take responsibility to train your engineer at our factory before dispatch, but in case you require additional commissioning support for installation of APFC system, it can be provided at your site on cost of Rs. @ 4000/- per man day basis.

Spares

Our APFC System are one of the most reliable and advanced PF Correction System manufactured by us. We have taken adequate precaution and quality control measures to make sure that in gives long service life. Incase spare are required after warranty you can contact our sales office.

Warranty Clause

1. Our equipment's are warranted against manufacturing defects only for a period of twelve months from the date of commissioning or fifteen months from the date of invoice whichever is earlier. Our responsibilities in such case will be limited to replacement / repair of the defective parts.
2. Our warranty clause does not cover HRC fuses.
3. This warranty is however subject to the provision of proper usage efficient maintenance and does not cover defect arising out of fire and willful or accidental damages to the system.

Documents

Following documents are send along with each APFC system.

1. User Manual ~ 1 Set
2. Final Inspection Report ~ 1 Set
3. Drawing & Circuit Diagram ~ 1 Set

Annexure-C Commercial Terms & Conditions

→	PRICES	--	Exworks FOR - JAZ Blinoads.
→	FREIGHT	--	Extra as per actual - Included.
→	PACKING & FORWARDING	--	Extra as per actual - Nil
→	GST	--	Extra 18% as applicable rates Prevailing at the time of delivery shall be charged extra. TCS Tax shall be charged extra.
→	TRANSIT INSURANCE	--	Extra at actual - JAZ A/E
→	DELIVERY	--	within 8-10 weeks from the date of receipt of your techno commercially cleared order and approved drawings along with advance.
→	PAYMENT	→	90% with 100% GST within 7 days from the date of receipt 40% advance and balance against Performa Invoice, prior to dispatch but after inspection at our factory premises.
→	INSPECTION	→	10% with against commissionary <u>subject to submission PBE</u> <u>valid for one year from the date of commissioning.</u> If required, at our works before dispatch. 7 days' notice will be given in case your inspector does not turn up within this period, then material will be considered inspected.
→	MODE OF TRANSPORT	--	By any road transport charges extra as per actual.
	VALIDITY	--	Offer is valid for 15 days.
	ARBITRATION	--	any disputes arising under this contract will be Subject to Delhi Court.