



GUJARAT ENERGY TRANSMISSION CORPORATION LTD.

**SARADAR PATEL VIDYUT BHAVAN,
RACE COURSE, BARODA – 390 007.**

TECHNICAL SPECIFICATION

FOR

YARD LT AC DISTRIBUTION BOARD

GETCO / E / TS- MACC 2801 / R2 June, 2022

Blank

Blank

SPECIFICATIONS
FOR
YARD LT AC DISTRIBUTION BOARD

CONSTRUCTION:

The cubicle shall be constructed from good quality steel sheet. The cubicle shall be robust in construction. The cubicle shall be made of steel sheet of 2.0 mm size for all sides and 2.5 mm for bottom. It will be reinforced by steel frame and shall be mechanically strong. It shall be Outdoor, floor mounting, fixed standing type and naturally air-cooled type designed for continuous operation in an ambient temperature of 50°C. Necessary phosphating treatment shall be given to the cubicle and shall be painted with two coats of red oxide primer followed by a coat of gray synthetic enamel paint, shed No. 631, IS: 05 on external side and on internal side with glossy white colour.

The distribution board shall be of dust and vermin proof construction and shall be provided with a degree of protection of IP: 55 as per IS 2147. The cubicle shall have minimum dimensions of 1200mm (H) (including base frame of the size 50 x 50 x 4) x 1000mm (W) x 400mm (D) so that all the components shall be approached and replaced easily. It will be provided with the front & rear side door with the handle and handle lock. It should be possible to erect the cubicle side by side. The replacement of the components and testing should be possible from front and backside of cubicle. The cubicle shall be mounted on 'C' Type channel with opening for cable entry on rear side.

The cubicle shall be designed to receive two 3^{1/2} core 50 mm² incoming armoured aluminum cables. One cable shall be used as Main cables and other cable shall be used as standby. Both the cables shall be terminated on separate incomers (i.e. SFUs) having rating 100A. The punched holes shall be provided for above cable entries. The dimensional drawing of the cubicle with all mountings shall be furnished by the bidder. Necessary cable glands shall be supplied with the ACDB.

There will be 20/12 Nos. A.C. outlets (for 20 feeders, 7 Nos of 63 amp rating + 13 Nos of 32 amp rating and for 12 feeders, 6 Nos of 63 amp rating + 6 Nos of 32 amp rating). Each outlet shall be controlled by TPN MCBs (Miniature Circuit Breaker shall conform to IEC: 898-1987 and IS: 8828) of respective current ratings. The cable gland for the cable size 3^{1/2} core 25 & 10 mm² armoured aluminum cables shall be provided at the bottom for all the outlets. The LED type indicating lamps for incoming feeders indicating availability of supply shall be provided inside of the cubical.

There will be Main copper bus bar of electrolytic copper confirming IS 8130/84, which will be liberally rated. It will receive A.C. input from incoming cables through TBs and Main / standby Incomers of 100 A. The input to MCB of each outgoing feeder shall be extended from the bus bars. The thickness and width of bus bar shall not be less than 5 mm and 30 mm respectively. The bus bar shall be of sufficient length to avoid congestion. The separation

between connection points of cable of two successive outgoing feeders on Bus shall be 4 Cms. Bus bar shall be insulated to avoid accident while working inside A.C.D.B. Insulation on the bus bar may reduce the rate of dissipation of heat generated in bus bar. This will increase temperature of bus bar, which will affect the insulation. Therefore, bus bar design should take all these factors into account so that there is no temperature rise. Each MCB shall be then connected to Terminal Blocks by using insulated copper cable of suitable size as per feeder ratings. Voltage rating of Terminal Blocks shall be 800V and Current rating of Terminal Blocks shall be as per respective Incomer / Feeder rating.

The wiring shall be neat and clean without any congestion and shall be supported mechanically as well as tied up to withstand transit vibrations. More than two wires shall not be terminated at a point.

Digital A.C. Voltmeter with voltage selector switch and Aux. powered (230V AC) transducer having two separate O/Ps of 4 – 20 mA to read A.C. voltage upto 500 V shall be provided. Digital A.C. Ammeter with CTs, current selector switch and Aux. powered (230V AC) transducer having two separate O/Ps of 4 – 20 mA shall be provided to read current upto 100 A. The meters and transducers shall be of good quality suitable to give a long and satisfactory service.

A CFL of 14W with its fixture and door operated switch shall be provided for cubicle illumination.

Space heater shall be provided in all the boards for preventing harmful moisture condensation. The space heaters shall be suitable for continuous operation on 240V AC, 50 Hz, single phase supply, and shall be automatically controlled by thermostats. Necessary isolating switches and fuses shall also be provided.

TYPE TEST:

The following tests from NABL accredited laboratory shall be carried out in accordance with IS:2147 or the latest / amended / up to date IS/IEC. The bidder has to submit the all type test reports as stated hereunder for the offered item along with the technical bid. The type test reports from NABL approved laboratory shall not be older than seven years. Type test reports shall be valid as on the last date of submission of bid.

Type test:

Degree of Protection IP-55

Note:

In case of non-submission /partial submission or type test reports of which validity is over, bidder shall submit pending type test report/s from NABL accredited laboratory, in the event of an order, before commencement of supply without affecting delivery schedule, free of cost to GETCO. Confirmation for above shall be invariably submitted along with technical bid.

GENERAL:

1. The bidder shall provide detailed GA Drawing and Electrical Diagram indicating all fuses and bus bars etc. with the size and rating. The offer shall not be considered without the drawing.
2. The bidder shall clearly indicate deviations, if, any.
3. The bidder shall give the bill of materials including the make of the components used of reputed make.
4. **All the drawings submitted in soft form shall be in pdf format. However, requirement in AutoCAD form shall be at the discretion of GETCO.**

GUARANTEED TECHNICAL PARTICULARS

The bidder must fill up all the point of GTP for offered item/s. Instead of indicating “refer drawing, or as per IS/IEC”, the exact value/s must be filled in.

1. Name of Manufacturer :
2. Type & designation :
3. Size :
 - a) Height (mm) :
 - b) Width (mm) :
 - c) Depth (mm) :
4. Colour of panel :
 - a) Outside :
 - b) Inside :
5. Thickness of sheet steel :
6. Main Bus bars :
 - a) Material :
 - b) Rated current in Amp :
 - c) Size (mm x mm) :
 - d) Current density-A/mm² :
 - e) Position, vertical/ Horizontal :
7. Earth bus bar :
 - a) Material :
 - b) Size :
8. Current transformer :
 - a) Make :
 - b) I.S. Applicable :
 - c) Nos. of core :
 - d) Accuracy class :
 - e) VA Burden :
 - f) I.S.F :
 - g) C.T. Ratio :
 - h) One min. P.F. withstand
voltage KV (rms) :
 - i) Rated service voltage :

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|----|----------------------------|---|-----------|
| 9. | Ammeter | : | |
| | a) Make | : | |
| | b) Size | : | |
| | c) Flush mounted type | : | Yes / No |
| 10 | Voltmeter | : | |
| | a) Make | : | |
| | b) Size | : | |
| | c) Flush mounted type | : | Yes / No. |
| 11 | Transducer For Voltmeter | | |
| | a) Make | | |
| | b) Type | | |
| | c) Accuracy Class | | |
| | d) Input Volts | | |
| | e) Output DC mA | | |
| | f) Measuring range output. | | |
| | g) % AC Ripple on output | | |
| | h) Load Resistance in Ohm | | |
| | i) Aux Voltage required | | |
| | j) Response Time | | |
| | k) Working Temp range | | |
| 12 | Transducer For Ammeter | | |
| | a) Make | | |
| | b) Type | | |
| | c) Accuracy Class | | |
| | d) CT ratio | | |
| | e) Input amp | | |
| | f) Output DC mA | | |
| | g) Measuring range output | | |
| | h) % AC Ripple on output | | |
| | i) Load Resistance in Ohm | | |
| | j) Aux Voltage required | | |
| | k) Response time | | |
| | l) Working temp range | | |

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|----|--|---|-----------|
| 13 | Selector switches | : | |
| | a) Make | : | |
| | b) Rated capacity (Amp) | : | |
| 14 | Indicating lamps | : | |
| | a) Make | : | |
| | b) Type | : | |
| | c) Wattage | : | |
| 15 | Switch fuse unit for | : | Make |
| | a) 100 Amps. TPN | : | |
| 16 | MCBs : | : | |
| | a) Whether ISI Marked | : | Yes / No. |
| | b) Make | : | |
| 17 | Constructional details | : | |
| | a) Metal clad | : | Yes / No. |
| | b) Totally enclosed | : | Yes / No. |
| | c) Outdoor type | : | Yes / No. |
| | d) Floor mounting | : | Yes / No. |
| | e) Free standing | : | Yes / No. |
| | f) Panels shall be vermin proof
and highly corrosion
resistive. | : | Yes / No. |
| | g) Rubber gaskets provided to
the door | : | Yes / No. |
| | h) Maintenance can be carried
out from the front for switch
fuse unit / indicating meters /
indicating lamps. | : | Yes / No. |
| | i) GA drawing attached with
the tender. | : | Yes / No. |
| | j) Cable entry & exist from
bottom. | : | Yes / No. |
| | | : | Yes / No. |
| 18 | Material of the wires used for
complete internal wiring of the
panel. | : | |
| 19 | Terminal Blocks | : | |
| | a) Make | : | |
| | b) Voltage grade | : | |