



**GUJARAT ENERGY TRANSMISSION
CORPORATION LTD.**

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

TECHNICAL SPECIFICATION

FOR

CT – PT/CVT JUNCTION BOX

GETCO / E / TS- MACC 2803 / R1 June, 2022

TECHNICAL SPECIFICATIONS FOR CT – PT/CVT JUNCTION BOX

A. CONSTRUCTIONAL DETAILS:

1. CT – PT/CVT Junction Box shall be of metal enclosed outdoor floor mounted and fixed-standing type.
2. All Junction box shall be fabricated using suitable mild steel cold-rolled sheet steel of thickness not less than 2 mm. Doors and covers shall also be cold rolled sheet steel of thickness not less than 2 mm. Stiffeners shall be provided wherever necessary. Base plate on which cable gland plate is provided shall be of 3 mm. Gland plates shall be of 3 mm HR sheet steel.
3. Surface finish shall be with 7tank process followed by powder coating. The color shade shall be Light grey - 631 of IS 5 for exterior and glossy white for interior. Paint thickness shall be 60 to 100 microns.
4. All panel edges and cover / door edges shall be reinforced against distortion by rolling, bending or by the addition of welded reinforcement members. Top cover shall be of rain shade type with at least 25 mm overhang all sides.
5. The complete structures shall be rigid, self-supporting, free from flows, twists and bends. All cut-outs shall be true in shape and devoid of sharp edges.
6. The cubicle shall have three point door locking arrangement and PAD lock arrangement near to middle lock knob.
7. All boxes shall be of water, dust and vermin proof construction and shall be provided with a degree of protection of IP: 55.
8. A copper earthing bus of 25X3 mm tinned Cu shall be provided having 5mm Φ holes drilled at regular intervals of 50 mm with M4 BRASS bolts & nut.
9. Suitable Cu earthing pad on side surfaces preferably of 50x50x6 mm shall be provided externally for secure connectivity to station earthing grid.
10. Suitable arrangement shall be provided in the earthing bar to connect earth wires (Green, 4 sq.mm flexible copper) from the Terminal Blocks.

11. The hinged doors shall be earthed through flexible copper braid.
12. The Junction box shall be, completely wired, ready for connecting to the purchaser's equipment.
13. Name plate with required details like Type of JB, Project name, Order No, Mfg. details, Property of GETCO etc. shall be provided at the front. Name plates shall be of Aluminium anodized having black background with white engraved letters.
14. The junction box shall have dimensions 1025mm (H) (including base frame structure of MS angle of 50 x 50 x 5 having height 300mm) x 750mm (W) x 300 mm (D).

B. GENERAL REQUIREMENT:

1. For CT Junction box, Minimum 63 Nos, of Disconnecting M4 stud type terminal blocks of 800V, 41A rating suitable for connecting 4 sq mm copper cable shall be provided with mounting arrangement, channels, end plates, end locks, PVC wire ways etc. in vertical formation for CT secondary wiring.
2. For PT/CVT Junction box, Minimum 30 Nos, of Disconnecting M4 stud type terminal blocks of 800V, 41A rating suitable for connecting 4 sq mm copper cable shall be provided with mounting arrangement, channels, end plates, end locks, PVC wire ways etc. in vertical formation for PT/CVT secondary wiring. HRC fuses & neutral link with fuse base of 6 Amp rated capacity shall be provided for PT/CVT secondary wiring.
3. There shall be minimum clearance of 125mm between the first row of terminal blocks and the associated cable gland plate. Also the clearance between two rows of terminal blocks edge shall be minimum of 150mm.
4. The bidder shall have to submit Quality Assurance Plan adopted for manufacturing Junction boxes specifying detailed manufacturing process right from raw material to finished product testing. Precaution taken for ensuring usage of quality raw materials and sub- components shall be stated in the quality assurance plan.
5. The bidder shall submit drawing of General Arrangement showing all dimensions - Internal view showing mounting arrangement - Side view & top view, Constructional details, Name plate details, Foundation plan, Bill of material etc. with all relevant details for approval.

6. Inspection of the material shall be offered only after successful completion of routine testing at the works. The inspection may be carried out by the purchaser at any stage of manufacture. The successful bidder shall grant free access to the purchaser's representative at a reasonable time when the work is in progress. The purchaser reserves the right to insist for witnessing the acceptance routine testing of bought out items.

C. 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:

1. **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.**
2. **Type test report shall invariably indicate details like type and size of Gasket material, Door and Gasket profile, GA drawing etc.**

GURANTEED TECHNICAL PARTICULARS - CT/PT/CVT JUNCTION BOX					
Manufacturer :-					
Rating / Type :-					
Sr. No.		Parameters	Acceptable Design Data	Verification status	Remarks
		Manufacturer			
		Type & Designation if any			
A		Product Specification Sheet			
	1	Constructional details			
		Structural requirement			
		- Outdoor type			
		- Floor mounting			
		- Fixed standing			
		- Metal enclosed			
		- Rigid			
		-self Supporting			
		-Free from flows/ Twists& bends			
		-Cutout details	True in shape, & No sharp Edges.		
	2	Colour Shade & Process	Surface finish shall be with 7 tank process followed by Powder coating. & paint thickness shall be of 60 to 100 microns.		
		- Outside	Light Grey as per		

			631 of IS:5		
		- Inside	Glossy White		
		-Usage of stiffeners	Yes/No		
		-Thickness of CR sheet steel			
		- All sides & cover (mm)	2		
		- Doors(mm)	2		
		- Base Plate (mm)	3		
	3	Gland Plates			
		- Material	HR steel		
		-Thickness (mm)	3		
	4	Reinforcement	All Panel/ cover /Door edges shall be re inforced by rolling, bending by the additional members		
	5	Door Locking Arrangement	At Three Points & Pad lock arrangement near to middle lock knob.		
	6	Vermin proofing/Protection against Water & Dust			
		- Degree of Protection	IP 55 As per IS 2147		
		- Gaskets			
		- Material	Neoprene / Synthetic Rubber		
		- Size			
		-Gasket Profile			

		drawing			
	7	Earthing Bus			
		- Material	Tinned Cu		
		- Size	25*3 mm strip having 5 mm Φ holes drilled at 50 mm interval of M4 size.		
		-Hard ware (N/Bs) Material	Brass		
		- Size of Hardware	M4		
		-Connection to the Bus	with Green , 4 sq. mm flexible copper wire		
		- Door earthing	Shall be earthed through Flexible Cu braid		
	8	Earthing Pad			
		-Location	shall be on sides of the box		
		- Material	Cu		
		-Dimensions	50*50*6		
	9	Dimension			
		- Height (mm) including the base frame structure height	1025		
		- Width (mm)	750		
		- Depth (mm)	300		
	10	Top cover			
		-Type	Rain Shade		
		-dimensions	Atleast 25 mm		

			overhanged		
	11	Base frame structure			
		- Dimensions	50*50*5		
		-Height of frame(mm)	300		
	12	Front View			
		Hinged Doors with lock			
	13	Clearance between Last TB to gland plates(mm)	125		
	14	Clearance between TB to TB of same row (mm)	150		
	15	Top View			
		Gland plates			
		Foundation Drawing			
		- Cable cutouts			
		- Foundation Bolt pockets			
	16	Side View			
		Sectional View (showing Inside Arrangement)			
	17	Name Plate			
		Material	Aluminium anodized having black background with white engraved letters.		
		Details of Name Plate			
		- Make			
		- Type of JB			

		- Project Name			
		- Sr. No.			
		-Year Of manufacturing			
		- Weight			
		- A/T No.			
		- Property of GETCO			
B		Schematic Drawings			
	1	Terminal Block Details			
		-Type	Disconnecting M4 Stud		
		-Ratings	800V,41A		
		- Connection Suitability	Suitable for 4 sq mm copper cable		
		- Min. requirement of Terminal Blocks	CT JB - 63 Nos. PT JB- 30 Nos.		
	2	Fuse (For PT/CVT JB)	HRC Fuse & Neutral link with "FUSE BASE" of 6 Amp. Capacity		
C		Document Submission			
	1	Drawings			
		- GA Drawing	All dimensions		
		- Internal view	Mounting arrangement, Clearances		
		- Side View			
		- Top View			
		- Foundation Plan			

	2	Constructional details			
	3	TB Diagram			
	4	Name plate details			
	5	BOM			
	6	QAP			
D		TYPE TESTS			
	1	Degree of protection	IP 55 As per IS 2147 & Type test report from NABL lab		