

TECHNICAL SPECIFICATION FOR METER BOX TO HOUSE THE SMART HTTV METERS OF DIFFERENT MAKE.

1. TECHNICAL DETAILS:

The box shall be weather proof made out of **SMC** and flame retardant properties. It shall be capable of withstanding temperatures of boiling water for 5 minutes continuously without distortion or softening. The thickness of the box shall not be less than 2.5 mm on the load bearing side (i.e. back side of the box) and other sides, door and roof shall not be less than 2 mm. The box shall have its roof tapering down to both sides for easy flow of water.

The box shall be of double door construction. The inner door shall be made out of SMC of thickness not less than 2.0 mm. It shall be fixed on one side of the meter box body with corrosion resistant hinges capable of opening the inner door to a minimum angle of 90°. The other side shall have the facility of sealing at two points (Top & Bottom). The inner door shall have a cut size 10CMx12CM at a level same as outer door viewing windows.

The Boxes shall generally comply with the provisions of IS 14772:2000 & IS:13410- 1992 [For SMC Material]. The boxes shall be suitable for outdoor/indoor application. The outdoor box shall have its roof designed for easy flow of rain water without any stagnation on the box. The box shall be with good workmanship.

The overall dimension of the box shall be such that, there should be adequate clearance on front side and all other sides between meter and box surface , to provide flexibility to the installation and operation of different make meter/ SMART Meter & the modem with all its accessories. The approximately size of the box is 45 x 37 x 20 CM.

Soft rubber gaskets shall be provided all around wherever required for protection against entry of dust and water. It shall comply with IP-54.

The contents of the box are as follows

- 2. Viewing window:-** The outer door viewing window for meter reading will be made of break resistant, UV stabilized, transparent Polycarbonate of minimum 2.0 mm thickness or toughened glass of thickness not less than 3.0 mm. The transparent Window will be ultrasonically welded/fixed in rigid way with outer door from inside. The viewing window shall be 10.0 CM x12.0 CM approximately, suitable to give clear view of meter display/name plate. The viewing window shall be covered with (hinged at top) a flap. Innerdoor Viewing window should be without any transparent Polycarbonate Sheet. The size of inner door viewing window should be same as outer door viewing window.

There should not be any ingress of moisture through this window into the box.

3. **Internal hinges:** A minimum of 3 nos. internal hinges well protected against corrosion shall be provided both in inner & outer door. The hinges of the door should be concealed and they shall be fixed to the flanges provided to the base and cover of the box in such a manner that the inner door opens by a minimum of 90 degrees & outer door by 120 degrees . It shall not be possible to access the hinges from outside.
4. **Handle:** Suitable handle or knob shall be provided for opening of the box door.
5. **Fixing arrangement Of Meter Inside the Box:** The meter base supports inside the box are raised by about 10 mm in the box for ease of wiring. While fixing the meter screws should not protrude outside.
6. **Fixing arrangement of Meter to Pole/Wall:** For fixing the box to wall /Pole or wooden board 4 nos. key holes of minimum 6 mm dia shall be provided at the four corners of the meter box. The meter is to be installed in the box and the box in the assembled condition shall have provision to fix it to a pole or on wall.
7. **Latch:** The door shall be provided with a SS latch or a 'U' clamp to secure it with the base of the box.
8. **Sealing arrangement:** The box shall have provision for minimum 2 nos. seals in both doors to make it fully tamper evident.
9. **Inlet:** Suitable circular holes of 1¼ inches (32 mm) shall be provided at the bottom of the box for inlet. No extra hole should be provided on any side of the Box. suitable cable gland to be provided.
10. **Printing :** Metallic label containing the letters "Property of TPXODL" and the P.O. No. and date shall be engraved on the top cover of the box. In place of metallic level embossing/laser printing is also acceptable. The name of the manufacturer shall be engraved on the bottom half of the box. Help Line No XXXX/XXXXXXXXXX(To be provided During GTP Stage) Should be printed on the meter Box. One Danger sign of size 4inch /3 inch should be imprinted on the front side of meter box.

11. Colour :- white/off white

The fixing arrangements shall not be complex and it shall be easily approachable for connections when the door is open and is completely tamper evident once it is sealed.

The dimensional drawing giving details of meter box should be enclosed in the bid.

Bidders are requested to furnish detail Meter mounting arrangement in their bid.

12. **Sample : Bidder** has to submit one sample meter box with Type Test Reports from CIPET / CPRI / NABL accredited laboratory etc. for the offered box conducted within 5 years from the date of opening of Bid.

- 13. Type test report:** The bidder shall furnish the type test certificates for the tests as per the corresponding Indian standards. All the tests shall be conducted at CPRI/ERDA/UL or equivalent accredited labs as per the relevant standards. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports, i.e. any test report not acceptable, same shall be carried out without any cost implication to the TPXODL.
- 14. Guarantee:** Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the purchaser up to a period of at least 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the purchaser will be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the "Security cum Performance deposit" as the case may be.

(Guaranteed Technical Particulars for supply of SMC Make Meter Box for SMART HTTP Meter)

Sr No.	Characteristics	Purchaser's Requirements	To be furnished by Bidder
1	Manufacturer's / Supplier's name and address with works address. Address for correspondence with e-mail & name of contacting person with mobile no		
2	Material used for box body	SMC (Sheet Moulding Compound) ref-IS: 13410/1992	
3	Material withstanding temperature	Capable withstanding temperatures of boiling water for 5 minutes continuously without distortion or softening.	
4	Dimensions of box (l x w x h)	Drawing of box with clear dimensions to be submitted by bidder to house the different make meter & modem with all its accessories. The approximately size of the box is 45 x 37 x 20 CM.	
5	Meter fixing arrangement	The meter base supports inside the box are raised by about 10 mm in the box for ease of wiring. While fixing the meter screws should not protrude outside. For fixing the box to wall /Pole or wooden board 4 nos. key holes of minimum 6 mm dia shall be provided at the four corners of the meter box. The meter is to be installed in the box and the box in the assembled condition shall have provision to fix it to a pole or on wall. Adjustable meter mounting arrangement to be provided to accommodate HTTP Meter .	
6	Thickness (mm)	2.5mm on the load bearing side(i.e. back side of the box) & other sides 2mm.	

7	Colour	white/off white	
8	Viewing window outer door	Shall be transparent	
9	Clearance of meter from box surface	The meter base supports inside the box are raised by about 10 mm in the box for ease of wiring. While fixing the meter screws should not protrude outside. Sufficient clearance should be provided to accommodate different make HTTV meter with all its accessories.	
10	Reading from outside of the box	Suitable provision shall be provided in the inner door of the box with sealing arrangement for downloading data through MRI	
11	Doors	Provision of two (Inner door & outer door) arrangement to be provided.	
13	Suitable to House	The meter box should be suitable to house different make HTTV meter / SMART Meter with accessories.	
14	Cable Entry Hole.	1¼ " (32mm) hole shall be provided on the bottom of HTTV TP Box for cable entry through 1" M.S./PVC pipe. No extra hole should be provided on any side of the Box. Suitable cable gland to be provided.	
15	Inner door Material	SMC of thickness not less than 2.0 mm.	
16	Type of Use	Meter Box should be suitable for indoor & outdoor use.	
17	The meter box shall comply with	IS:14772 - 2000	
18	Degree of Protection	IP-54	
19	Roof tapering	Meter Box will have a roof tapering arrangement for easy flow of rainwater.	
20	Hinges	Minimum of 3 nos. internal hinges well protected against corrosion shall be provided both in inner & outer door. The hinges of the door should be concealed and they shall be fixed to the flanges provided to the base and	

		cover of the box in such a manner that the inner door opens by a minimum of 90 degrees & outer door by 120 degrees .It shall not be possible to access the hinges from out side.	
21	Inner door, viewing window	<p>The box shall be provided with two(inner & outer) doors. The inner door shall have a cut size 10CMx12CM at a level same as outer door viewing windows for clear view of meter reading.</p> <p>Suitable provision shall be made in the inner door of the box with proper sealing arrangement so that data can be down loaded from the meter with out opening meter box inner door.</p>	
22	Fixing Holes	For fixing the box to wall /Pole or wooden board 4 nos. key holes of minimum 6 mm dia shall be provided at the four corners of the meter box. The meter is to be installed in the box and the box in the assembled condition shall have provision to fix it to a pole or on wall.	
23	Sealing & Latches.	For holding and sealing the outer door, U-shaped latches/clamps with two sealing holes should be provided. Two nos Latches will be provided on the base of the box. These latches will also hold the box cover with base. All metallic parts will be protected against corrosion. Provision shall be made for sealing of doors at two location.	
24	Viewing window	The outer door viewing window for meter reading will be made of break resistant, UV stabilized, transparent Polycarbonate of minimum 2.0 mm thickness or toughened glass of thickness not less than 3.0 mm. The transparent Window will be ultrasonically welded/fixed in rigid way with outer door from inside. The viewing window shall be 10.0 CM x12.0 CM approximately. Suitable to give clear view of meter display/name plate. The viewing window shall be covered with (hinged at top) a	

		flap. Sample dummy meter shall be provided for necessary accommodation .	
25	Handle Provision	Handle/Knob will be provided on the Box door for easy door opening.	
26	Gasket	Soft rubber gasket for protection from ingress of dust and water will be provided on all around the box.	
27	Name Plate.	Metallic label containing the letters “Property of TPXODL” and the P.O. No. and date shall be engraved on the top cover of the box. In place of metallic level embossing/ledger printing is also acceptable. The name of the manufacturer shall be engraved on the bottom half of the box. A blank sticker shall also be fixed on the meter box for use of field staff to indicate service no. etc.	
28	Sample	Sample : Firm has to submit one sample meter box with Type Test Reports from CIPET / CPRI / NABL accredited laboratory for the offered box conducted within 5 years from the date of opening of Bids.	
29	Guarantee	Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the purchaser up to a period of at least 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the purchaser will	

		<p>be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the " Security cum</p> <p>Performance Deposit" as the case may be.</p>	
30	Type test report	<p>The bidder shall furnish the type test certificates for the tests as per the corresponding Indian standards. All the tests shall be conducted at CPRI/ERDA/UL or equivalent accredited labs as per the relevant standards. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports, i.e. any test report not acceptable, same shall be carried out without any cost implication to the</p> <p>TPXODL.</p>	
30	Clause-wise compliance	Agreed/ Not agreed	

Signature of Bidder

With Name and Seal of Company