TECHNICAL SPECIFICATIONS OF UNIVERSAL POLYCARBONATE METER BOX FOR SINGLE PHASE METER

(PUSH TO FIT TYPE)

**1. SCOPE:**

The meter box shall be intended to house one number single-phase electronic energy meter. The meter box complies with IS: 14772:2000 with latest amendment.

**2. MATERIAL:**

The meter box shall be made of Transparent Polycarbonate material which complies following properties:

Meter box shall be weather proof, capable to withstanding temperatures of boiling water for 5 minutes continuously without distortion or softening. It shall withstand Glow wire test at 650°C as per IS : 11000. HDT of Polycarbonate material shall be minimum 120° C (at 1.8 MPa ° C),

**3.** **CONSTRUCTION:**

1. The meter Box shall have roof tapering down for easy flow of rainwater.
2. The thickness of the box shall be minimum 2.0 mm on all sides.
3. The cover should be fitted with base by non-detachable push fit, self-locking type arrangement it should have knobs/anchors provided with the cover so that if shut/press fitted once inside the arrangement in the main body of the base, it becomes the part of the box and cannot be detached from the base without breakage.
4. The cover shall rest on the base of box in such a way that any access from outside to the meter is not possible. The cover in closed position should be overlapped on collar of base such that direct entry of screw driver or tool is not possible.
5. The top cover when opened after installation must have visible cracks/damages to make visible that the meter box has been forcibly opened up.
6. Minimum one Anchor Lock fitting arrangements must be made on each side of box. The anchor fit arrangement should have adequate barriers (Except for cable entry side) around the sealing arrangement such that any attempt to reach the sealing arrangement is not possible.
7. There shall be no hinges in the box cover.
8. The overall dimensions of the box shall be such that a minimum 20 mm clearance from left, right side and top, 10 mm from front and back side & 75 mm from meter terminals and bottom side shall be maintain in between meter and box surface.
   1. The box cover should be push to fit type, 4 Nos. push to fit snap should be provided.
   2. Soft rubber gasket shall be provided all around the periphery of box for protection against ingress of dust and water inside the box.
   3. Meter Box should comply with IP - 54. Type test report should be enclosed along with offer.
   4. All metallic parts would be well protected against corrosion.
   5. Push button arrangement shall be required on the cover of the box to operate the meter display push button from outside the meter box for reading the meter display parameters without opening the meter box cover.
   6. Two nos. latches should provide to hold the base with cover along with provision of sealing arrangement.
   7. **The provision for connecting optical probe for meter communication through meter reading instrument without opening the box seal shall be provide. It shall have independent sealing arrangement. There should be provision of providing laser printed meter serial number on box cover and base from inside.**
   8. **Colour**:

The front cover and base of meter box should be made of transparent Polycarbonate material.

* 1. **Box Mounting:**

Box shall have minimum 3 nos. holes of 6 mm diameter for fixing the meter box on wall / wooden board.

* 1. **Cable Entry:**

Suitable provision should be available at the bottom side of the meter box bottom for cable inlet & outlet and the same shall be capable of accommodating cable of 18- 22 mm diameter, two nos. engineering plastic cable gland shall be provide for cable incoming & outgoing.

* 1. **Name plate:**

Printed name plate shall have details of Purchase order No. & Date. Bidder may provide required details on front cover of the box.

Name of Manufacturer & danger sign shall be engraved/ embossed.

**2. GUARANTEED TECHNICAL PARTICULARS:**

The guaranteed technical particulars as detailed in the specification shall be furnished in the format along with the bid.

**3. TESTS FOR BOXES:**

The following tests are to be conducted on the box at any independent NABL accredited laboratory and test reports shall be carried out as per IS : 14772.

i) Test of HDT minimum 120° C (at 1.8 MPa ° C),

ii) Test for mechanical strength

iii) Test for water absorption

iv) Glow wire test at 650°C as per IS: 11000

1. Material Identification test

**4**. **ACCEPTANCE TEST**

i. Physical verification of dimensions of the box.

ii. Compatibility of the box for housing the single phase meter, and ensuring ease of connecting and reading the meter.

**5.** **ROUTINE TEST**

The routine test certificates for the following shall be furnished for approval of the purchaser.

i. Physical verification of dimensions of the box.

ii. Compatibility of the box for housing the meter, and ensuring ease of connecting and reading the meter.

iii. At the time of inspection at vendor works, the inspection team of the purchaser shall also ensure that the data is easily downloadable from top of the meter box.

**Note:-** Meter Boxes supplied by contractor must be suitable for HPL, Genus, L&T & Landis + Gyr , Modern, Bentec, Secure, Capital, Flash, Avon meters, Eppeltone, Allied, Linkwell, Maxwell make 1 ph. Electronic meters.

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# GUARANTEED TECHNICAL PARTICULARS FOR UNIVARSAL POLYCARBONATE METER BOX FOR SINGLE PHASE METER

(PUSH TO FIT TYPE)

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| **Sl. No.** | **Characteristics** | **Bidders Particulars** |
| 1. | Manufacturer’s Name |  |
| 2. | Material used for box body |  |
| 3. | Color of Box for base and cover – Transparent |  |
| 4. | Dimensions of box (L x W x H) suitable for all the make mentioned in the technical specification |  |
| 5 | Clarence from Meter surface :   1. Left , Right side : 20 mm 2. Bottom : 75 mm 3. Front & back : 10 mm 4. Top : 20 mm   ( General tolerance ± 2 mm) |  |
| 6. | Thickness of Meter box : 2 mm |  |
| 7. | Display Push Button operating arrangement at cover of the box(suitable for all the make mentioned in the technical specification) |  |
| 8 | Sealing arrangement for Meter Box cover |  |
| 9. | Material withstanding temperature  - Boiling water Test  - Glow wire test at 650 deg. C |  |
| 10. | Inlet & Outlets |  |
| 11. | Suitable for outdoor installation  - IP Class : IP 54 |  |
| 12. | Push to fit type arrangements (4 Nos.) |  |