

**Pre-Bid Query Response**

TN TPCODL/P&S/216/20-21

Package N 1-Phase Energy Meters with Meter Box

Sr. No.	Detailed Reference to concerned Document . Please specify Document No / Clause No / Page No	Description as per Bid Document	Query / Clarification / Deviation	TPCODL Response
1	2	3	4	5
<b>GENERAL</b>				
1	Clauses related to TPCODL GCC	General Conditions of Contract	Query / Clarification / Deviation related to GCC	Any Deviations on GCC shall be clearly mentioned in the bid in the prescribed 'Deviation Sheet'. TPCODL reserves the right to reject bids with major deviations on the GCC.
2	1.4 of Event Information	Mandatory documents required along with the Bid 1.4.1 EMD (Line Item wise) of requisite value and validity.	We request to kindly grant 2 weeks time after the Bid submission date for EMD submission.	Tender specification/conditions to be complied.
3	7.1 of Event Information	Completion Schedule / Delivery period shall be as per timelines defined in Technical Specifications.	Delivery Schedule is not mentioned. We propose order Prototype sample submission within 2 months from the Order and 45 days after acceptance / approval of the prototype sample.	Delivery period shall be 45 days from the date of receipt of release order[RO].
4	7.5 of Event Information	Payment Terms: The payment shall be released within 45 days from the date of submission of certified bills / invoices	Request you to amend the Payment Terms for releasing payment within 45 days from receipt of material & not from bill submission.	Payment shall be released within 45 days of material receipt & acceptance at site.
5	Annexure I	Column 7 : Appl. Taxes & Duties  NOTE: * The unit price with GST in column no. 8, is landed price for TPCODL.	Please inform whether TCS (Tax Collection at Source) are to be put in the Price Bid or not.	Price should be inclusive of TCS, if applicable.
6	GCC - 13.3	Any repairs during the Guarantee Period shall be carried out by the Associate within 30 days of reporting the issue to Associate by TPCODL. However, if replacement of the Equipment is required, Associate shall notify the same to TPC within 7 days of reporting the issue by TPCODL.	Since the quoted item (meter as per specification) is a customised product, we request you to allow repair & replacement within 60 days of receipt of report for the same.	Tender specification/conditions to be complied.
7	GCC - 13.6	Latent Defect: Hidden defects in manufacturing or design of the product supplied and which could not be identified by the tests conducted but later manifested during operation of the equipment are termed as latent defects. Associates shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Company.	Energy Meters are Guaranteed for 5 years from the date of commissioning or 5.5 years from the date of supply, whichever is earlier. This period is sufficient to decide for any design defect. Further period of 3 years for Latent defect should not be applicable.  Request to remove this clause.	Noted
8	GCC - 14.0	LIQUIDATED DAMAGES: For delay of each week and part thereof from the delivery schedule specified in the contract, 1% of contract value corresponding to undelivered quantity, provided full quantity is supplied within 130% of the original contract time. If full contractual quantity is not delivered within 130% of contract time for delivery, TPC has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value.	Request you to please accept the LD charges of 1% per week of undelivered part to maximum 10% on undelivered part.	Tender specification/conditions to be complied.
9	Annexure IV	1c. Inclusive of Excise Duty 1d. Sales tax applicable at concessional rate 1e. Octroi payable extra	Kindly amend by providing the applicable Tax Clauses, i.e. GST & TCS (Tax Collection at Source)	Noted
<b>METER</b>				
10	Cl. 4.4 Page No. 20	Vref: 230V	We request you to kindly accept 240 V (complying to 230V) on complete while the functioning of the meter shall comply to 230V.	Noted
11	Cl. 4.25 Page No.21	In case of power failure, reading/data shall be to downloaded with the help of battery of long life(minimum ten years)	We request you to kindly accept the battery life as equivalent to guarantee of the meter i.e 5.5 years.	Specification to be complied
12	Cl. 4.27 Page No. 21	8.5mm ( minimum ) 25 mm	We request you to kindly accept terminal holes depth of 20mm +/- 1mm.	Noted
13	Cl. 5.0 Para : 2 Page No.22	The complete data shall be downloaded within 2 minutes.	The Meter protocol is defined as per IS : 15959. Hence data downloading time shall follow the same.	Specification to be complied
14	Cl. 5.0 Para : 3 Page No.22	Optical Communication port shall be available for communication along with additional RJ11 port with specific pin configuration of utility along with sealing arrangement to communicate with GSM/GPRS/RF modems	We suggest you to kindly accept One port for communication i.e Optical Port.	Noted
15	Cl. 5.0 Para : 6 Page No.22	Bidder should also provide software for changing firmware of meters in mass without any additional cost.	Meter firmware is not possible to Change in field. It is a smart meter feature.	Noted
16	Cl. 5.0 Para : 10 Page No.22	Communication of the meter at optical port should be as per IS15959 (Part-2):2016	Is 15959 Part -2 is for Smart meters. The meter will follow IS:15959 Part -1 with latest amendment.	Noted
17	Cl. 6.0.2 Para : 4 Page No.23	The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves etc.	Immunity against Microwave is not possible. Hence We request you to kindly remove the requirement of Mico wave.	Noted
18	Cl. 12 Page No.30	Load survey: The meter shall be capable of recording load profile of 90 days 15 min IP for ON days only for following parameters.	We request you to kindly amend the requirement and accept 60 days load survey with demand integration period of 15 min.	Specification to be complied
19	Cl. 12 Page No.30	MID Night Energy: Meter shall be capable of recording daily Midnight Energy(KWH, KVAH, KVARH Lag, KVARH Lead) and Demand(KW,KVA) 00:00 to 24:00 Hrs for 90 power ON days.	We request you to kindly amend the requirement and accept Midnight energy for 60 On days.	Specification to be complied
20	Cl. 13 Page No.31	Display Unit : Para 2: The KWh register shall have minimum 6 digits and size of the digits shall be minimum 10mmx6mm	We request you to kindly accept 6 Digits with Digit Size of minimum 8mmX5 mm.	Noted
21	Page No. 45	Pin configuration of RJ11 Port	We request you to kindly accept RJ-11 Plug with 4 pins instead of 6 pins. Even in 6 pins the actual working is done by 4 pins only.	Optional requirement

22	Meter Technical Specification Clause No. 8.0 METER BODY Page No. 28 of 108	Meter base shall be opaque with <u>polycarbonate LEXAN 500R</u> or equivalent on prior approval from the Purchaser. Meter cover shall be transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the Purchaser.	Our submission: Sir, please also <u>accept equivalent Material</u> like <u>LEXAN 143/143R</u> for Meter Base, as the same Material grade is also accepted for Meter Cover.  Request you to please also consider the same.	<b>Specification to be complied</b>
23	Meter Technical Specification Clause No. 9.0 Terminals, Terminal Block Page No. 28 of 108	terminals shall be preferably of <u>MS cage clamp</u> type as per IS: 15707	Our submission: Sir, there are other types of Terminal available, which are having facility of proper grip of conductor, with the help of 2 Screws.  So, we request you to kindly <u>accept the alternate Terminal arrangement</u> .	<b>Noted</b>
24	Meter Technical Specification Clause No. 9.0 Terminals, Terminal Block Page No. 28 of 108	terminals shall be preferably of <u>MS cage clamp</u> type as per IS: 15707 or of <u>flat end screw with at least 9 mm dia</u> of screw for better contact area.	Our submission: Sir, <u>alternatively Slotted headless Grub/Set Screws of M6 size for Terminal screws may also be accepted</u> .  Kindly confirm the acceptability of the same.	<b>Noted</b>
25	Meter Technical Specification Clause No. 9.0 Terminals, Terminal Block Page No. 28 of 108	Internal diameter of the terminal holes shall be minimum 8.5 mm; minimum clearance between adjacent terminals shall be 10 mm. Depth of the terminal holes shall be of <u>25 mm</u> .	Our submission: Sir, kindly note that depth of Terminal Holes shall be as per Manufacturer Design however, Hole Diameter shall be <u>minimum 9.5 mm</u> .  Kindly accept he same as per IS 13779.	<b>Noted</b>
26	GENERAL TECHNICAL REQUIREMENTS Clause No. 4.27 Page No. 21 of 108	Internal diameter of the terminal holes 8.5mm (minimum) Depth of the terminal <u>holes 25mm</u> .		<b>Noted</b>
27	Meter Technical Specification Clause No. 4.28 GENERAL TECHNICAL REQUIREMENTS BODY Page No. 21 of 108	Clearance between adjacent terminals is <u>10 mm (minimum)</u> .	Our submission: Sir, we request you to kindly also <u>accept clearance and crepage distance between adjacent Terminals as per clause No. 6.60 IS 13779 /CBIP 325</u> .  Please confirm the same.	<b>As per IS</b>
28	Similarly in clause No. 9.0 Terminals, Terminal Block Page No. 28 of 108	minimum clearance between adjacent terminals shall be <u>10 mm</u> .		<b>As per IS</b>
29	Meter Technical Specification Clause No. 9.0 General technical requirements Page No. 28 of 108	Terminal screws shall be of <u>Zinc plated MS bottle type</u> .	Our submission: Sir, we could not understand the word "MS bottle type Terminal" and request you to <u>kindly clarify the same</u> , if possible kindly provide some Photographs or Diagrams for our understanding purpose.	<b>The terminal screws shall have flat end for easy gripping of conductor.</b>
30	Meter Technical Specification Clause No. 4.35 General technical requirements Page No. 22 of 108	Meter Dimension in MM. Is not more than <u>170L*140W*100H</u> .	Our submission: Sir, we understand that this is the maximum size (170Lx140Wx100H mm) of the Meter to be used in this Box so we are <u>considering the same for designing new Meter Box as per the given Technical Specification</u> .  So, the actual clearances shall be more than the clearances specified in the Technical Specification.  Sir, we have to develop new tool of Meter Box (Cover and Base) as per specification because presently we don't have the Box as per the Technical Specification.	<b>Specification to be complied</b>
31	Meter Technical Specification Clause No. 5.4 Meter Box technical specification Page No. 48 of 108	the meter shall be mounted with the help of MS plate such that it is centrally placed in the box and there shall be <u>clearance of 25 mm between the meter and top of the box. A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back &amp; 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.</u>		<b>Noted</b>
32	(Clause No - 5 )	5. The bidder should provide DLMS compliance for Communication with the meter at Optical / RJ11 (RJ11 is optional). Optical Communication port shall be available for communication along with additional RJ11 port with specific pin configuration of utility along with sealing arrangement to communicate with GSM/GPRS/RF modems.	No RJ 11 port will be provided since its optional.	<b>Noted</b>
33	30	Instantaneous Parameters: Meter shall be capable of recoding following Instantaneous parameter In Memory and should be available in BCS Meter Serial No Meter Type Meter date and time MRI date and time Dump date and time Phase Current Neutral current Signed Power Factor Instantaneous Load (KW, KVA) Present Cumulative energy (KWH, KVAH) Cumulative Tamper count Cumulative Billing Count Cumulative Power ON duration in minutes Other Parameter as per IS15959	We will provide Instantaneous Parameter as per DLMS IS15959. In place of Phase current and Neutral Current in Instantaneous Parameter we will provide Metering Current.	<b>Specification to be complied</b>

34	30	<p>Billing Information</p> <ol style="list-style-type: none"> <li>1) Current+ 12 History billing Date</li> <li>2)Current + 12 Month History of Energy (KWH, KVAH, KVARH Lag, KVARH Lead,)</li> <li>3)Current + 12 Month History Consumption (KWH, KVAH, KVARH Lag, KVARH Lead)</li> <li>4)Current + 12 Month History of Demand (KW,KVA, KVAR Lag, KVAR Lead) Along with date and time</li> <li>5)Stamp</li> <li>6)Current + 12 Month History of PF</li> <li>7)Current + 12 Month Power ON/Off Hours</li> <li>8)TOD wise billing Information</li> <li>9)Current + 12 Month History of Energy (KWH, KVAH, KVARH Lag, KVARH Lead)</li> <li>10)Current + 12 Month History of Consumption (KWH, KVAH, KVAR Lag, KVAR Lead)</li> <li>11)Current + 12 Month History of Demand (KW, KVA, KVAR Lag, KVAR Lead) along with date and time</li> <li>12)Stamp</li> <li>13)Current + 12 Month History of PF</li> </ol>	We will not provide TOD wise billing of Reactive Parameters and Current + 12 Month History of PF IN TOD will not be provided.	Noted
35	24	The cover open tamper detection should be through heavy duty sturdy micro switch.	We will provide top cover open feature through our proprietary implementation for cover open event detection.	Specification to be complied
36	22	Bidder shall also provide the software for changing Firmware of meters in Mass.	Meter are factory calibrated and firmware cannot be updated in field to prevent any unauthorized access to meter.	Noted
37	48	The meter shall be mounted with the help of MS plate such that it is centrally placed in the box and there shall be clearance of 25 mm between the meter and top of the box. A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back & 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.	We will provide a minimum clearance of 30mm shall be maintained on both sides, between meter and box. A minimum clearance of 30mm shall be provided from the terminal cover to the box will be provided.	Noted
38	30	<p>Load survey:</p> <p>The meter shall be capable of recording load profile of 90 days 15 min IP for ON days only for following parameters.</p> <p>Voltage Phase Current Neutral Current PF KWH KVAH KW KVA</p>	In place of Phase Current and Neutral Current we will provide Metering Current.	Specification to be complied
39		Tamper threshold and defraud metering	Please clarify tamper threshold and defraud meter will be on 230V or 240V	Tamper Threshold & defraud meter should be at Vref.
40	2.0 (C)	Applicable standards : IS15959 Part 2 : 2016 : Data exchange for electricity meter reading , tariff and load control	Kindly note that IS 15959 Part 2 is applicable for Smart meters. Hence we request you to kindly delete the same from specification.	Noted
41	4.4	Reference Conditions for testing the performance of the meter Vref = 230V	Meter may kindly be accepted with reference voltage of 240V however shall be suitable for 230V. Name Plate details and Tamper document will be provided with the same Vref = 230V please confirm	Noted
42	5	<p>Communication capabilities and software feasibility :</p> <ol style="list-style-type: none"> <li>a. The complete data shall be downloaded within 2 minutes.</li> <li>b. The bidder should provide DLMS compliance for Communication with the meter at Optical / RJ11 (RJ11 is optional). Optical Communication port shall be available for communication along with additional RJ11 port with specific pin configuration of utility along with sealing arrangement to communicate with GSM/GPRS/RF modems.</li> <li>c. Bidder should also provide software for changing firmware of meters in mass without any additional cost.</li> <li>d. The XML files of downloaded data from meter will be as per MIOS standards.</li> <li>e. API required for converting raw files to XML should also provided.</li> </ol>	<ol style="list-style-type: none"> <li>a. Complete data of 90days as per specifications required with minimum of 15 minutes for downloading.</li> <li>b. As provided RJ11 is optional we will comply with Optical port only for the design.</li> <li>c. Changing firmware of meter is not feasible and cannot be provided.</li> <li>d. File format will be EXCEL and PDF for report viewing.</li> <li>e. As the meter is DLMS protocol and hence API is not required from manufacturer. Kindly confirm above clarification.</li> </ol>	<ol style="list-style-type: none"> <li>a. Specification to be complied</li> <li>b. Noted</li> <li>c. Noted</li> <li>d. Specification to be complied.</li> <li>e. necessary software to be provided for converting raw files to XML format.</li> </ol>
43	6.0.1	<p>Magnetic Field :</p> <p>Meter shall show "Magnet" in the display.</p>	We will provide with magnet sign during its influence. Kindly accept	Noted
44	6.0.2	<p>Electrostatic Discharge (ESD):</p> <ol style="list-style-type: none"> <li>a. Meter shall be immune up to 50 kV and shall record accurate energy as per IS13779:1999.Meter shall log the event into memory as 'ESD' with date &amp; time stamp for any ESD greater than 50 kV.</li> <li>b. Meter should be immune to high/low frequency jammer devices. Meter shall log the event in memory as jammer with date and time stamp along with snap shot</li> <li>c. The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves etc.</li> </ol>	<ol style="list-style-type: none"> <li>a. Kindly note the ESD ignition coil jigs are generally available up to 35 KV. The meter shall remain immune kindly accept</li> <li>b. Meter will be immune for jammer device. Logging and display cannot be provided. Request to provide jammer details.</li> <li>c. Kindly note that meter may or may not be immune under influence of microwave since meter damaged in fraction of second hence logging is also not possible. We request you to kindly delete the requirement of immunity under micro wave.</li> </ol>	<ol style="list-style-type: none"> <li>a. Specification to be complied</li> <li>b. Noted</li> <li>c. Noted</li> </ol>
45	6.0.3	DC injection shall be tested both in phase and neutral	DC injection tamper is applied in neutral only (Outgoing terminal). Kindly confirm	Specification to be complied
46	6.0.5	Meter shall have neutral CT for tamper identification and analysis.	Kindly accept the design with battery which will be suitable for tamper analysis.	Specification to be complied

47	6.0.5	Abnormal Tamper Conditions: Persistence Time for Occurrences Microwave immediate (record only 1event on first application &only one event for next 1min).	Meter shall not be able to log the event, Kindly delete the point	noted
48	6.0.5	Table No. 1: Top Cover Open: 5 no.	As per IS15959:2011, Cover open is non roll over event and remain as non-recovery state. Request to amend the same as 1no.event instead of 5no.	Specification to be complied
49	6.0.5	Current Mismatch: In-Ip>=20% of Ib and In-Ip Meter recording should be on higher of the current (either phase or neutral) if there is a mismatch  Low Voltage: Voltage < 70% of Vref and Current > 2% of Ib	Current Mismatch icon will be of earth symbol indication where as Low Voltage icon in display will not be provided. However, event logging will be provided with manufacturer specific ID.	Specification to be complied
50	6.0.5	Temperature rise tamper	As considered there is no tamper logging for temperature as it is a withstanding result of components with error limits.	Specification to be complied
51	6.0.5	Abnormal and Tamper conditions : Each tamper compartment records are separate	We will provide compartment wise as per IS15959:2011 (Amendment No. 2, March 2015) table 49 to 54. Kindly accept	Specification to be complied
52	7	Components	Please add following components also : computing chip : Renesas/NXP Memory chips: Renesas/ST Micro/Atmel/TI Display : Everlite Battery : EVE/Panasonic/Mitsubishi/Tekcell RTC/Microcontroller : Renesas/NXP Display : Hijing	Noted
53	9	Terminals, Terminal Block: Terminal screws shall be of Zinc plated MS bottle type	Nickle plated terminal screws will be provided which will match the specification kindly accept	Specification to be complied
54	10	TOD Feature : The meter shall be capable of measuring Cumulative Energy (KWh), KVarh Lag, Kvarh Lead, Kvah and MD (KW, KVA)with time of day (TOD) registers having 2 zones (no. of zones & time slot shall be programmable by CMRI with adequate security level).	kWh and kVAh in single phase meters IS15959:2011 with latest amendmends will be provided. The requirement of kVAh Lag & Lead to be deleted	Specification to be complied
55	12	Parameters in BCS : Billing information & TOD wise billing information : Current + 12 Month History of Energy, consumption energy, demand in (KWH, KVAH, KVARH Lag, KVARH Lead.)  Load Survey : kW , kVA  MID Night Energy Meter shall be capable of recording daily Midnight Energy(KWH, KVAH, KVARH Lag, KVARH Lead) and Demand(KW,KVA)  General Information : TOD profile showing timing and seasons Meter display sequence	kWh and kVAh in single phase meters IS15959:2011 with latest amendmends will be provided. The requirement of kVAh Lag & Lead to be deleted  TOD profile showing timing and seasons in meter display sequence may be deleted	Specification to be complied
56	2.c	IS15959 Part 2:2016	Applicable standards: IS 15959 Part 1 for conventional meters, Part-2 is for smart meters	Noted
57	4.27	Depth of the terminal holes - 25mm	We can provide 20mm±1mm. Please accept.	Noted
58	9.0	Depth of the terminal holes shall be minimum 22 mm.		Noted
59	4.31	The meter shall be compatible to communicate with GSM/GPRS/RF modems in DLMS protocol.	RF communication not supported.	Noted
60	4.36	Accuracy of RTC Should be as per CBIP-325 report and shall not vary by more than 6 min per year.	As per CBIP-325 +/- 7 min is applicable	As per CBIP-325
61	5.0	The complete data shall be downloaded within 2 minutes.	Biling data can be downloaded in 2 minutes. Complete data download may take up to 15 minutes.	Specification to be complied
62	5.0	Meter Optical port base of meter to be magnetic type.	Optical port can be either Magnetic type or Rotating-fit type, depending upon design suitability.	Noted
63	5.0	The bidder should provide DLMS compliance for Communication with the meter at Optical / RJ11 (RJ11 is optional).	Please clarify whether RJ11 port is optional or DLMS compliance on RJ-11 is optional	RJ11port is optional requirement.
64	5.0	Optical Communication port shall be available for communication along with additional RJ11 port with specific pin configuration of utility	We will provide 4P4C type as per our design.	Noted
65	5.0	Bidder should also provide software for changing firmware of meters in mass	Firmware cannot be changed in field, it has to be sent to factory for the same.	Noted
66	6.0.1	Abnormal magnetic field is defined as below; a) continuous DC magnetic induction: >0.27T ±5% (value of the MMF to be applied shall be generally >10000ATS, should be immune up to 0.27 Tesla) b) AC magnetic induction: Immune for 10 milli Tesla... c) Permanent Magnet: Immune up to 0.5T...	As per CBIP-325, meter will be immune to Stray magnets only. For any abnormal magnets, if the meter gets affected, it will log at Imax as per the provision given in the standard.	As per CBIP-325
67	6.0.2	The shielding around the meter shall be such that it does not get affected by high Voltage and high energy or low energy impulse when comes in contact with meter from any side.	Meter as a whole is immune to such signals, hence separate shielding is not provided.	Specification to be complied
68	6.0.2	Meter should be immune to high/low frequency jammer devices. Meter shall log the event in memory as jammer with date and time stamp along with snapshot.	Meter will be immune for jammer device, logging and display cannot be provided.	Noted
69	6.0.4	Single Wire ... b) Condition no. 38 of Annexure I ( Timer test ) : The timer operation duration shall be 30 seconds	Kindly provide further details of this anti-tamper test/requirement.	Specification to be complied
70	6.0.5 (Table)	The timer operation duration on/ off time for 30 seconds with constant current for 30 min.		Specification to be complied

71	6.0.5	All the tamper events i.e. shall be logged in the memory of the meter with date and time stamp of occurrence and restoration along with instantaneous electrical parameter (Voltage, Current (phase and neutral), energy, pf, frequency etc.)	Voltage, Current, Energy, PF will be provided; Frequency will not be provided.	Noted
72	6.0.2, 6.0.5 (Table)	The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves etc.	Immunity to microwave cannot be guaranteed as device strength keeps varying.	Noted
73	6.0.5 (Table)	Current Mis match	This can be recorded, however tamper name will be different, say 'NCT' tamper. However, at the same time EL tamper will also be logged, as the condition will satisfy. Kindly clarify on exact requirement.	Noted
74	6.0.5 (Table)	ESD/Jammer	Meter will be immune to Jammer device. Immunity provided for ESD up to 50 KV. Logging provided for ESD above 50kV (if not immune).	Noted
75	6.0.5 (Table)	Meter top cover open - 5 events	Tamper recovery is provided if top cover is fitted back to the meter, with recovery persistence time of 1min.	Specification to be complied
76	7.1	Measurement/computing chips	Renesas, Teridian to be added	Noted
77	7.2	Memory Chips	Renesas, ST to be added	Noted
78	7.3	Display Modules	Tianma, Yeboo, RCL, AV Display to be added.	Noted
79	7.4	Optical Port	Osram to be added	Noted
80	7.6	Electronic Components	Panasonic, Epcos, PRAN, MANN, Nippon, Lenon to be added	Noted
81	7.7	Battery	Panasonic, Mitsubishi, Eve, Maxell to be added	Noted
82	7.8	RTC	Renesas (Internal) to be added	Noted
83	8.0	Meter Body : FV0	Meter case will be FV2; Block will be FV0	Specification to be complied
84	9.0	Terminals shall be preferably of MS cage clamp type as per IS: 15707 or of flat end screw with at least 9 mm dia of screw for better contact area	Conventional barrel type terminals with head size of 6mm dia will be provided.	Specification to be complied
85	9.0	Terminal screws shall be of Zinc plated MS bottle type.	Normal grub screws will be provided.	Noted
86	9.0	Terminal cover . . . . Appropriate space shall be available for incoming / outgoing cables without damaging/stressing terminal cover	30mm terminal cover can be provided	Noted
87	10.0	TOD Feature: The meter shall . . . . with time of day (TOD) registers having 2 zones (no. of zones & time slot shall be programmable by CMRI with adequate security level).		Specification to be complied
88	12	Billing Information . . . . Current + 12 Month Power ON/Off Hours	Please confirm that either Power ON hours or Power OFF hours can be provided.	Either Monthly Power ON or OFF Hours to be provided.
89	12	Meter shall be capable of recording daily Midnight Energy(KWH, KVAH, KVARH Lag, KVARH Lead) and Demand(KW, KVA) 00:00 to 24:00 Hrs for 90 power ON days.	Midnight energy parameter values will be provided. Demand (KW, KVA) are not daily parameters and cannot be provided.	Noted
90	12	Instantaneous Parameters: . . . . Present Cumulative energy (KWH, KVAH) Cumulative Tamper count Cumulative Billing Count Cumulative Power ON duration in minutes	These parameters will be provided in the respective (i.e. Billing, Tamper) registers	Noted
91	12	General information	Standard DLMS related parameters will be provided	Specification to be complied
92	13	Separate mode for high resolution display to be provided with scroll lock facility.	We can provide 30 minutes scroll lock period.	Specification to be complied
93	16	TESTS: All routine, acceptance & type tests shall be carried out on the meter and meter body separately in accordance with the relevant IS/IEC.	All these tests are conducted in fully assembled meter.	Noted
94	20	The bidder shall be responsible for "Free replacement at site" for another period of Three year from the end of the GP for any "Latent Defect"	We confirm Guarantee Period for 60 months from commissioning or 66 months from supply, whichever is earlier only. Latent defect clause not acceptable.	Noted
95	22	Bidders are required to manufacture 3 nos. sample meters as per the Purchaser specification and submit the sample along with bid for approval.	It is not practically possible to prepare and submit Sample meters in such short notice. For sample submission, we request you to grant 4 weeks' time after issue of Prebid clarifications.	3 weeks' time for Sample submission after issue of Prebid clarifications.
96	27	Blue Tooth Meter Reading: Inbuilt facility for blue tooth based meter reading is preferable.	Bluetooth cannot be provided.	Inbuilt facility for blue tooth based meter reading is preferable.
97	29	Bidder shall subsequently provide Four (4) complete sets of final drawings, one of which shall be auto positive suitable for reproduction, before the dispatch of the equipment.	Please explain the requirement.	Shall be provided in the event of order.
98	Technical specification for static Single phase WC meter / Clause No.2 /Page no. 19	Clause no. 2.0 Application standards: b) IS 15959 (part-2 2011)	This DLMS standard is applicable for Smart Meter, hence it is not applicable for this tender Please amend accordingly.	Noted
99	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 20	Clause no. 4.3 General Technical Requirements: Basic Current (Ib) & rated Maximum current (Imax) Ib= 10A; Imax= 60 Amps (Meter shall be able to continuously carry 120% of Imax Meeting the accuracy requirements)	Meter can continuously carry 120% of Imax however accuracy will be complying with IS13779. Kindly accept the same.	Noted
100	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 20	Clause no. 4.4 General Technical Requirements: b) reference condition Vref=230V	Vref-240Volt should also be acceptable. Meter complies with 230 volt also.	Noted
101	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 20	Clause no. 4 4.15 Resistance to heat & fire The terminal block & meter case shall ensure safety against the spread of fire. These should not be ignited by thermal overload of live parts in contact with them as per clause 6.8 of IS 13379 fire retardant material shall be used	Terminal block is most important part as it undergoes thermal stresses due to over current/heating. Our meter's terminal block is V0 compliant plastic. Meter enclosure and terminal cover are made of LEXAN 143A/943 or equivalent material FV2 Compliant. It has to be noted that over current related heating affects the terminal block most. Not the meter cover or terminal cover.  Same should be acceptable	Specification to be complied

102	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 21	<p>Clause 4 4.23 Self Diagnostic features The meter shall have indications for un satisfactory /non functioning of</p> <p>1. Real time clock 2. RTC battery 3. Non Volatile Memory</p>	<p>Status of RTC &amp; NVM will be available on meter display under "self diagnostic "display parameter. Also in case of NVM &amp; RTC failure meter will log the same as event along with date &amp; time. Status of RTC &amp; NVM not available at BCS ends in healthy condition. Self diagnostic will be available on Display only, as describe below:-</p> <p>Self Diagnostic Where Value displayed place of "Good" if meter health is not good: Memory fail = 1, Low battery = 2 Bad battery = 4 RTC BAD= 8 If more than one condition persists then value comes some of this value. However in case of NVM failure &amp; Low battery event will also log &amp; can be viewed at BCS end.</p> <p>Same should be acceptable.</p>	Noted
103	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 21	<p>Clause 4 4.25 Alternate mode of supply to meters. In case of power failure reading data shall be downloaded with the help of battery of long life(min. 10 years)</p>	meter would have battery for metering, display and reading in the absence of mains supply or single-wire connection (5-year life)	Specification to be complied
104	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 21	<p>Clause no. 4 4.27 Depth of the terminals- 25mm</p>	Depth of terminal hole will be 21mm (approx). It is sufficient to accommodate cable of desired current carrying capacity. Same should be acceptable.	Noted
105	Technical specification for static Single phase WC meter/ Clause No.4 /Page no. 21	<p>Clause no. 4 4.28 Clearance between adjacent terminals- 10 mm(minimum)</p>	Center to center 10 mm clearance from adjacent terminals is available, which meets the requirement of IS13779. Same should be acceptable	Noted
106	<p>Technical specification for static Single phase WC meter / Clause No.4 /Page no. 21</p> <p>Technical specification for static Single phase WC meter/ Clause No.5/Page no. 22</p>	<p>Clause No. 4 4.31 Software &amp; communication capability: The meter shall be compatible to communicate with GSM/GPRS/RF modems in DLMS protocol.</p> <p>5.0 Communication capabilities and software feasibilities: The meter shall have facilities for data transfer locally through CMRI (Using optical portGSM/ GPRS/RF modems).</p>	Offered meter comply as per IS: 15959. The meter will have facility to data transfer locally through CMRI and remotely through GSM/GPRS Modem. We understand that supply of external modem is not in the scope of this tender. Please confirm the same.	Noted
107	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 21	<p>4.32 Calibration However parameter like RTC,TOD slots ,billing date, display, tariff etc shall be reconfigurable through CMRI</p>	Display parameters are not field configurable as per IS 15959, same is not supported in offered meter. Display parameters are not field configurable. Same should be acceptable	Noted
108	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 21	<p>Clause no. 4 4.34 Ultrasonic welding Meter cover and body should be ultrasonic / Chemical welded.</p>	The offered have encapsulated design/integrated meter and cover. Hence, ultrasonic welding will not applicable. Meter case and terminal block will be chemically welded. Please accept the same.	Noted
109	Technical specification for static Single phase WC meter / Clause No.4 /Page no. 22	<p>Clause no. 4 4.36 Real Time clock: Accuracy of RTC Should be as per CBIP-325 report and shall not vary by more than 6 min per year. RTC should be programmed by BCS and MRI</p>	Accuracy of RTC will be complying with CBIP-325 . Please accept the same.	As per CBIP-325
110	Technical specification for static Single phase WC meter / Clause No.5 /Page no. 22	Meter Optical port base of meter to be magnetic type.	Meter have optical port base with groove to support the optical cable however it does not have magnetic base please accept the same. Same should be acceptable.	Noted
111	Technical specification for static Single phase WC meter / Clause No.5 /Page no. 22	<p>Clause No. 5 Communication capabilities and software feasibilities: The bidder should provide DLMS compliance for Communication with the meter at Optical / RJ11 (RJ11 is optional). Optical Communication port shall be available for communication along with additional RJ11 port with specific pin configuration of utility along with sealing arrangement to communicate with GSM/GPRS/RF modems.</p>	<p>The offered meter having two communication port 1) Optical port: authenticated password will be required for communication. 2) RS 232 (Micro USB) will be placed under sealable ETBC. Sealing provision is not available on Optical port Same should be acceptable</p>	Noted
112	Technical specification for static Single phase WC meter / Clause No.5 /Page no. 22	<p>Clause No. 5 Communication capabilities and software feasibilities: The XML files of downloaded data of the meters will be as per MIOS standards. Bidder should provide communication protocol/API as per MIOS standards for communication with meter through local (MRI (HHU)/BCS as and when required by TPC, free of cost during life of meter.</p>	<p>Offered meter comply as per IS: 15959.</p> <p>We will provide windows based common meter reading API for meter reading which will run at head end system and perform in transparent mode. We will provide reading software i.e. BCS &amp; CMRI reading software</p>	Specification to be complied
113	Technical specification for static Single phase WC meter / Clause No.5 /Page no. 22	<p>Clause No. 5 Communication capabilities and software feasibilities: Bidder should also provide software for changing firmware of meters in mass without any additional cost. API required for converting raw files to XML should also provide. Bidder must provide necessary support if required for integration of his meters with AMR/Ami systems of the utility whenever required. Bidder to supply protocol to read the meters supplied against, using intelligent GSM/GPRS/RF modems with store and forward feature without any additional cost. Bidder to provide API on MIOS standard to convert meter data in to XML and read API for hosting in server and modems GSM/GPRS/RF based for readings of meters from any third party manufactured modems. Bidder must provide necessary support if required during integration.</p>	<p>Offered meter comply as per IS: 15959.</p> <p>We do not recommend firmware change of the meter however meter configuration changes allowed by IS 15969 are possible, e.g. TOD, Billing date etc. We will provide windows based common meter reading API for meter reading which will run at head end system and perform in transparent mode. We will provide MIOS based XML file of meter data, However integration is not in our scope.</p> <p>Please confirm the same.</p>	Noted

114	Technical specification for static Single phase WC meter / Clause No.6 /Page no. 23	<p>Clause: 6.0.1 Magnetic field : Meter shall be immune to magnetic field such that it shall not affect the normal overall functionality however, in case of abnormal magnetic field as defined below meter shall perform as per the following actions:</p> <p>a) Meter shall log the event in its memory as "MAGNET" with date and time stamp within 1max and after removal of magnet, back to normal recording within 2 min.</p> <p>b) Meter shall show "Magnet" in the display.</p>	<p>Meter with compliance to CBIP 325 for influence of magnetic induction shall also be acceptable. Meter would be immune and within permissible accuracy limits as per CBIP 325 and if meter gets affected it will log magnetic event with date and time and start recording at I Max.</p> <p>Magnet P time for occurrence &amp; restoration shall be 20-30 secs approx. to avoid tampering through any timer based tampering methods.</p> <p>Legend will be blink till tamper is persisting. On restoration of tamper Legend will remain steady state and stop blinking. After reading Legend will be reset.</p> <p>Additionally suitable abbreviation/information will be provided under "present status other than CT &amp; PT related events". Display parameter.</p> <p>Same should be acceptable</p>	Noted
115	Technical specification for static Single phase WC meter / Clause No.6 /Page no. 23	<p>Clause: 6.0.1 Magnetic field : Abnormal magnetic field is defined as below:</p> <p>a) Continuous DC magnetic induction: &gt;0.20 Tesla±5% (value of the magneto motive force to be applied shall be generally&gt;10000 AT)</p>	Meter will compliance to CBIP 325 for influence of magnetic induction will also be acceptable. Either Meter would be immune and if meter gets affected it will log magnetic event with date and time and start recording at I Max.	As per CBIP-325
116	Technical specification for static Single phase WC meter / Clause No.6 /Page no. 23	<p>Clause: 6.0.1 Magnetic field : Abnormal magnetic field is defined as below:</p> <p>b) AC magnetic induction: &gt;10 mili Tesla (if produced with circular metal core with square cross section as specified in CBIP latest report with 2800 AT</p>	Meter will compliance to CBIP 325 for influence of magnetic induction will also be acceptable. Either Meter would be immune and if meter gets affected it will log magnetic event with date and time and start recording at I Max.	As per CBIP-325
117	Technical specification for static Single phase WC meter / Clause No.6 /Page no. 23	<p>Clause: 6.0.1 Magnetic field : Abnormal magnetic field is defined as below:</p> <p>c) Permanent magnet: Immune up to 0.5T and event logging&gt; 0.5T</p>	Meter will compliance to CBIP 325 for influence of magnetic induction will also be acceptable.	As per CBIP-325
118	Technical specification for static Single phase WC meter / Clause No.6.0.2 /Page no. 23	<p>Clause: 6.0.2 Electrostatic Discharge (ESD) Meter shall be immune up to 50KV and shall record accurate energy as per IS: 13779:1999/CBIP 325. Meter shall log the event into memory as ESD with date and time stamp for any ESD greater than 50KV</p>	<p>Offered meter will be immune under influence of spark up to 35KV. However the meter immune up to certain high level of spark. "Abnormal interference" event with date and time stamp will indicate ESD tampering.</p> <p>Offered meter is as per previous supplies, it is kindly requested to accept the same.</p>	Noted
119	Technical specification for static Single phase WC meter / Clause No.6.0.2 /Page no. 23	<p>Clause: 6.0.2 Meter should be immune to high/low frequency devices. Meter shall log the event in its memory as "Jammer/ESD" with date and time stamp with snapshot.</p>	<p>Against any external interference devices offered meter will complies as per IS 13779 &amp; CBIP 325. "</p> <p>Meter will be immune to high/low frequency. If it gets affected, it will log event "abnormal external interference.</p>	Noted
120	Technical specification for static Single phase WC meter / Clause No.6.0.2 /Page no. 23	<p>Clause No. 6.0.2 The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves etc.</p>	<p>Offered meter comply as per IS: 13779 for external environmental fields.</p> <p>Meter does not comply against micro wave test (magnetron). Accuracy &amp; functionality is not guaranteed against Magnetron.</p>	Noted
121	Technical specification for static Single phase WC meter / Clause No.6.0.3 /Page no. 23	<p>Clause 6.0.3 to Neutral Disturbance The meter shall log in the memory as 'NEUTRAL DISTURBANCE' with date and time stamp and show 'ND' for Frequency variation below 47 Hz and above 53 Hz with time delay of 2 min and for Pulsating DC and Chopped AC of any value with time delay of 2 min.</p> <p>The meter shall not saturate on passage of direct current, which can cause the meter either to stop recording/ record inaccurately. DC injection shall be tested both in phase and neutral.</p> <p>Measurement by meter shall not get influenced by injection of DC signal/ DC pulse upto 330V and for any value beyond this, the meter shall log the event into memory as 'NEUTRAL DISTURBANCE' with date &amp; time stamp after time delay of 2 min(occurrences and restoration time).</p> <p>The meter shall record energy proportional to the current and V Ref (230V) when any of the tamper circuits enclosed as per annexure are used to tamper energy using a diode or a variable resistance or a variable capacitance energy saving device. The measurement by meter shall not get influenced by injection of AC Voltages/Chopped signal/DC signal/ DC pulse of low frequency and harmonics. The meter should be immune to such Neutral Disturbance. In case the meter accuracy is disturbed under Neutral Disturbance, it should be able</p>	<p>The offered meter remains immune up to specified limit of frequency i.e. approx ± 7 %</p> <p>Meter will remains either immune or if it gets affected metering functionality log ND event &amp; record energy at V-ref X Actual current X UPF. Accuracy will be ±4%.</p> <p>Meter will have separate legend for neutral disturbance tamper on LCD display which will remain till metering reading subject to restoration of event.</p> <p>P time: 30 sec approx If voltage goes below 70%Vref, meter will log Low voltage event</p> <p>Offered meter is as per previous supplies, it is kindly requested to accept the same</p>	Noted
122	Technical specification for static Single phase WC meter / Clause No.6.0.4 /Page no. 24	<p>Other tampers: Clause No. 6.0.4 single wire tamper When neutral is disconnected from both load side and supply side, the meter should record energy as per rated parameters (V ref). However, meter shall start registering energy</p> <p>a) At a current of &gt;500mA amps under tamper condition of neutral missing (where battery used for voltage reference). Meter will perform the fraud energy registration above 500mA assuming Vref (from battery) and unity power factor.</p> <p>b)Condition no. 38 of Annexure I ( Timer test ) : The timer operation duration shall be 30 seconds.</p>	<p>In single wire event meter will record energy at Vref X actual current X UPF, When Load current is greater than 10% of Ib.</p> <p>a) Load current should be greater than 10% of Ib, Display will be in off state &amp; meter will continuously record energy at Vref X I actual X UPF.</p> <p>b) Meter will logged single wire event, and metering will be on Deficiency mode( Vref x (Summation of both current x UPF)</p> <p>However LCD will be in Off state and on state as per timer.</p>	Noted

123	Technical specification for static Single phase WC meter / Clause No.6.0.5/Page no. 24	Clause No. 6.0.5 All the tamper events i.e. shall be logged in the memory of the meter with date and time stamp of occurrence and restoration along with instantaneous electrical parameter (voltage, current (phase and neutral), energy, PF, frequency etc)	Offered meter have event logging as per IS: 15959. We can define compartment size and events in the compartment. Events within a compartment will be logged in FIFO basis. However, in case meter record tamper, it will log snap shot on confirmation of event i.e. either occurrence or restoration. Snap shot will be Voltage, Line current, Neutral current & Active & apparent energy . However frequency will be not available in snapshot. It is kindly requested to accept the same.	Noted
124	Technical specification for static Single phase WC meter / Clause No.6.0.5 /Page no. 24	Clause No. 6.0.5 Meter shall store cumulative count and cumulative durations all the tamper event which have logged by meter from the date of energization till life of meter.	Cumulative tamper count is available but cumulative tamper durations are not available. Same is as per previous supplies; it is kindly requested to accept the same.	Noted
125	Technical specification for static Single phase WC meter / Clause No.6.0.5 /Page no. 25	Clause No. 6.0.5 The cover open tamper detection should be through heavy duty, sturdy micro switch such that it should not operate on vibration or impact during handling or testing.	Offered meter has light sensor based cover open detection such that it would not operate on vibration or impact during handling or testing	Noted
126	Technical specification for static Single phase WC meter / Clause No.6.0.5 /Page no. 25	Table for Events:	-Offered meter have event logging as per IS: 15959. We can define compartment size and events in the compartment. Events within a compartment will be logged in FIFO basis. -Offered meter will be immune under influence of spark up to 35KV. However the meter immune up to certain high level of spark. "Abnormal interference" event with date and time stamp will indicate ESD tampering -For jammer compliance please refer our reply against sr.no. 22. Meter with compliance to CBIP 325 for influence of magnetic induction shall also be acceptable. Meter would be immune and within permissible accuracy limits as per CBIP 325 and if meter gets affected it will log magnetic event with date and time and start recording at I Max. -Persistence and restoration time of Magnet event shall be approx. 20-30 sec only. To avoid tampering thro timer circuits. In single wire event meter will record energy at Vref X actual current X UPF, When Load current is greater than 10% of Ib. a) Load current should be greater than 10% of Ib, Display will be in off state & meter will continuously record energy at Vref X I actual X UPF. b) Meter will have shunt in both Phase and Neutral i.e. is no Third CT is available for Voltage reference c) Meter will logged single wire event, and metering will be on Deficiency model( Vref x (Summation of both current x	Noted
127	Technical specification for static Single phase WC meter / Clause No.7 /Page no. 27	Clause 7.0 General constructions 1.Measurement/ computing chips 2. memory chips 3. Display modulus 4.Optical port 6. Electronic components 7. battery 8. micro controller & RTC	1.Freescale or any reputed make 2. ROHM, Onsemi, Melexis or any reputed make 3. Tianma, or any reputed make. 4. Everlight or any reputed make. 6. Vishay, NXP, Yageo, Rohm,AVX etc or any reputed make 7. Tekcell, Mitsubishi, panasonic XENO Energy, EVE & any reputed make. 8. Mitsubishi,Tekcell, NXP or any reputed make	Noted
128	Technical specification for static Single phase WC meter / Clause No.7 /Page no. 28	Clause 7.0 General constructions Battery: Guaranteed life of 15 years	Operating life of battery would be 5 years.	specification to be complied
129	Technical specification for static Single phase WC meter / Clause No.8 /Page no. 28	Clause 8.0 Meter Body Meter body shall be made of unbreakable, high grade, fire retardant reinforced insulating material (protective Class II)with FVo Fire Retardant, self extinguishing, UV stabilize, recyclable and Anti oxidation properties. The minimum thickness of the meter enclosure shall be 2mm.Meter base shall be opaque with polycarbonate LEXAN 500R or equivalent on prior approval from the Purchaser. Meter cover shall be transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the Purchaser. Meter cover & base shall be provided with continuous and seamless Ultrasonic/chemical welding such that it is not opened without breaking the enclosure. Front cover & base shall be such that it is not possible to cut & open the meter without certainly damaging the meter body and by no means shall an attempt to reassemble would not leave physical evidence. The meter body shall be sealed in such a way that opening of meter base and cover is possible only after breaking the seal(s). Unidirectional screws to be used on meter covers where ever required. However single case meter body would be highly preferred. i.e. meter top cover and base shall be of single mould, thus nullifying the possibility of opening of meter	Meter will have single case enclosure. The meter case and ETBC will be FV2 Compliant & Meter terminal will be FVO compliant however it is not reinforced. Offered meter have opaque meter case & terminal block with thickness 2 ± 0.2 mm However material will be: Meter case: LEXAN 143A / 943 or Equivalent Terminal Block: LEXAN 500R/equivalent Meter will have single case enclosure design i.e. integrate base & cover with break to open features . Hence, welding & sealing is not applicable Same should be acceptable. For single case enclosure design screw are not required, it is kindly requested to accept the same	specification to be complied
130	Technical specification for static Single phase WC meter / Clause No.9 /Page no. 28	Clause No. 9.0 Terminal block and terminal cover shall be of a material which complies with the requirements of IS11731 (part 1) method FH1.	Terminal block and terminal cover will be of a material which complies with IS13779	Noted
131	Technical specification for static Single phase WC meter / Clause No.9 /Page no. 28	Clause No. 9.0 Terminals shall be preferably of MS cage clamp type as per IS: 15707or of flat end screw with at least 9 mm dia of screw for better contact area.	For better grip of conductors barrel type design will be provided and terminals will be made up of Brass for better conductivity. Connecting terminal: Brass Terminal Screws: Zn plated MS M6 with slotted head type terminal Screw will provided same as previous supply. It is kindly requested to accept the same.	Noted
132	Technical specification for static Single phase WC meter / Clause No.9 /Page no. 28	Clause No. 9.0 Depth of the terminal holes shall be of 25 mm. Terminal screws shall be of Zinc plated MS bottle type.	Depth of the terminal holes will be of approx. 21 mm. Terminal screws will be of Zinc plated MS type. Kindly accept the same.	Noted



133	Technical specification for static Single phase WC meter / Clause No.9 /Page no. 29	Clause No. 9.0 Terminal cover shall be of short type and shall be transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the Purchaser. Appropriate space shall be available for incoming /out going cables without damaging/stressing terminal cover (terminal cover design shall be as per the Purchaser approval). After sealing the cover, terminals shall not be accessible without breaking the seals. Terminal Cover with 4 U cuts to enable smooth insertion of cable in the terminals.	Due to compact size of the meter, offered meter will have single U cut on ETBC Suitable to meets the requirement of IS 13779. Dimension of U cut will be 50mm X 18mm. Terminal cover will be transparent with polycarbonate LEXAN 143A/943 or equivalent material. Terminal cover will be extended type & ETBC to Terminal bottom will be approx 40mm.	specification to be complied
134	Technical specification for static Single phase WC meter / Clause No.9 /Page no. 29	Clause 9.0 Sealing of meter One no polycarbonate seal and two nos hologram seals shall be provided by the bidder. All the seals shall be fixed on meter body by the bidder at his works before dispatch.	We have provision of 1 PC Body seal and 1 Hologram seal, it is kindly requested to accept the same.	Noted
135	Technical specification for static Single phase WC meter / Clause No.10 /Page no. 29	The meter shall be capable of measuring Cumulative Energy (KWh), Kvarh Lag, Kvarh Lead, Kvah and MD (KW, KVA)with time of day (TOD) registers having 2 zones (no. of zones & time slot shall be programmable by CMRI with adequate security level).	Meter have provision for measuring Cumulative Energy (KWh) and Kvah only. However meter does not have provision to measure Kvarh Lag, Kvarh Lead energy . Kindly accept the same.	specification to be complied
136	Technical specification for static Single phase WC meter / Clause No.11 /Page no. 29	Clause no. 9.0 MD Integration: MD shall be recorded & displayed with Minimum three digits before decimal & minimum two digits after decimal points.	Offered meter is required for 10-60A current rating. Hence MD registration with lesser digits can also suffice the requirement. MD (2+3) digits. Kindly accept the same.	Noted
137	Technical specification for static Single phase WC meter / Clause No.12 /Page no. 30	Clause no. 12.0 Parameters in BCS All these parameters shall be downloaded locally or remotely. All the parameters shall be recorded in its NVM(Non Volatile Memory). NVM shall have minimum retention time of 10 Years. Below mention current, history billing data and at least 25 tamper event for each tamper shall be available in NVM.	For remote external modem will required, however, we understand modem is not in our scope. -Offered meter have event logging as per IS: 15959. We can define compartment size and events in the compartment. Events within a compartment will be logged in FIFO basis.	Noted
138	Technical specification for static Single phase WC meter / Clause No.12 /Page no. 30	Clause no. 12.0 Parameters in BCS Billing Information Current + 12 Month History of Energy (KWH, KVAH, KVARH Lag, KVARH Lead,) Current + 12 Month History Consumption (KWH, KVAH, KVARH Lag, KVARH Lead) Current + 12 Month History of Demand (KW,KVA, KVAR Lag, KVAR Lead) Along with date and time stamp  TOD wise billing Information Current + 12 Month History of Energy (KWH, KVAH, KVARH Lag, KVARH Lead) Current + 12 Month History of Consumption (KWH, KVAH, KVAR Lag, KVAR Lead) Current + 12 Month History of Demand (KW, KVA, KVAR Lag, KVAR Lead) along with date and time stamp	However meter does not have provision to measure KVarh Lag, KVarh Lead energy and same is not available at BCS. Kindly accept the same.	specification to be complied
139	Technical specification for static Single phase WC meter / Clause No.12 /Page no. 30	Clause No. 12.2 Load survey: Following parameters for at least 90 days: Phase voltage, phase current, neutral current, PF , kWh, KW,KVAH, KVA	Offered meter will have load survey with Phase voltage, greater element current, kWh, KW, KVAH, KVA . However calculated average power factor will be provided at BCS. Same should be acceptable	specification to be complied
140	Technical specification for static Single phase WC meter / Clause No.12 /Page no. 30	Clause No. 12.2 MID Night Energy: Meter shall be capable of recording daily Midnight Energy(KWH, KVAH, KVARH Lag, KVARH Lead) and Demand(KW,KVA) 00:00 to 24:00 Hrs for 90 power ON days.	However meter does not have provision to measure KVarh Lag, KVarh Lead energy  Kindly accept the same.	specification to be complied
141	Technical specification for static Single phase WC meter / Clause No.12 /Page no. 30	Clause No. 12.3 Meter shall be capable for following instantaneous parameters in memory and should be available in BCS.  Meter date & time MRI/PC date & time Dump date & time	Following parameters will be available:-  Meter date & time (dd / mm / yyyy HH MM SS) & Meter reading date & time (dd /mm / yyyy HH MM SS) will be available	Noted
142	Technical specification for static Single phase WC meter / Clause No.12 /Page no. 31	Clause No.12.4 General information Manufacture date (MM/YYYY) TOD Profile Meter Display Sequence	Manufacturing Year will be available & TOD profile showing timing and season, display sequence are not available. Only TOD profile will be available in TOD data at BCS end	Noted

143	Technical specification for static Single phase WC meter / Clause No.13 /Page no. 31	<p>Clause 13.0 Display units The display unit shall be Pin type built in liquid crystal display. The LCD shall be STN construction suitable for maximum temp. Withstand 65 degrees. The LCD display shall be of STN type and viewing angle of 120 degree.</p> <p>The backlight must be green in color for reading in sunlight.</p> <p>The KWh register shall have minimum 6 digits and size of the digits shall be minimum 10mmx6mm. Cumulative energy (KWh) shall be displayed without decimal in auto scroll mode. (However decimal shall be available in push button mode for high resolution display(minimum 4digits after decimal) for testing). Separate mode for high resolution display to be provided with scroll lock facility. Persistence time for each parameter shall be 10 second.</p>	<p>It is requested to accept HTN type display with viewing angle of minimum 60 degree. backlit would be of white color For displaying multiple quantities on single display dimensions of every display will be equal. 6 digit display with digit size of 8.5x3.4mm. However the legibility of the display should be such that the digits are clearly visible at a distance of 1.5 meter from the front of the meter request you to please accept the same High resolution display for energy will be in WH &amp; VAH and in (5+1) digits. Meter have scroll lock facility to lock the desired parameter. Kindly accept the same.</p>	Noted
144	Technical specification for static Single phase WC meter / Clause No.13 /Page no. 32	<p>Clause No. 13.0 2. Meter Sl. No.</p>	<p>Serial nos. will be in two separate displays because of LCD digit constraint</p> <p>The meter will have manufacturer specific 10 alpha-numeric digit serial no. So it will be display under two display parameters. In first display last 6 digit &amp; second display first 4 digits (higher order) will display. Same should be acceptable</p>	Noted
145	Technical specification for static Single phase WC meter / Clause No.14 /Page no. 32	<p>Clause No. 14.0 Power ON indication- LED or Icon on LCD Display</p>	<p>The backlight LCD will not glow in absence of mains.</p>	Noted
146	Technical specification for static Single phase WC meter / Clause No.15 /Page no. 33	<p>Clause 15.0 Name plate and marking The base color of Name plate shall be white indelibly and distinctly marked with all essential particulars as per relevant standards along with the following.</p> <p>"Property of TPCODL" Purchase order no. &amp; date Guarantee period Firmware version for meter</p>	<p>Rating plate information's will be laser printed on meter case as per IS: 13779. Due to small size there is constraint in rating plate information.</p> <p>For customer specific information, there are two lines available. In each line max. 25 character including space can be provided. It will be same as previous supply of Tata power.</p>	Specification to be complied
147	Technical specification for static Single phase WC meter / Clause No.16 /Page no. 33	<p>Clause 16.2 Acceptance test</p>	<p>Acceptance test will be performed as per IS 13779.</p>	Noted
148	Technical specification for static Single phase WC meter / Clause No.16 /Page no. 34	<p>Clause 16.4 Special Test: The bidder shall ensure that API is compatible with TPC's CFW i. The bidder shall demonstrate the communication capability of the meter through communication modes as defined in the specification before conducting acceptance tests. The bidder shall ensure that API (Application protocol interface) is compatible with TPC.</p>	<p>Offered meter comply as per IS: 15959. Open protocol Same as per previous supply</p>	Noted
149	Technical specification for static Single phase WC meter / Clause No.16 /Page no. 34	<p>iii. DC immunity test (injection both on phase and neutral terminal) with latest edition</p>	<p>Can you please provide clarification about testing method and standard adopted.</p>	specification to be complied
150	Technical specification for static Single phase WC meter / Clause No.16 /Page no. 34	<p>Clause 16.4 Special Test: ii. Overload test at 120% of Imax for accuracy under different abnormal condition as per per annexure I.</p>	<p>Overload test can be performed at 120% of Imax however accuracy will be complying with IS 13779</p>	Noted
151	Technical specification for static Single phase WC meter / Clause No.17 /Page no. 34	<p>Clause 17.0 Type test certificates: From CPRI/ERDA/UL or equivalent reputed laboratory as per relevant standards within 5 years.</p>	<p>Type test report for voltage rating 240V should be acceptable. We have Type test report for Material identification for CIPET, kindly accept the same.</p>	Noted
152	Technical specification for static Single phase WC meter / Clause No.19 /Page no. 34	<p>Clause 19.0 19 INSPECTION AFTER RECEIPT AT STORE:  The successful bidder shall submit two extra boxes (unpaid) per lot delivered, with serial nos. in continuation to the lot (lot size shall be 15,000 numbers or as defined in the order) to the Purchaser for further testing and confirmation in line with the specifications and the material shall be liable for rejection</p>	<p>Please clarify the requirement of two extra boxes</p>	specification to be complied
153	Technical specification for static Single phase WC meter / Clause No.20 /Page no. 35	<p>Clause No. 20 Guarantee Bidder shall be further be responsible for free replacement at site for another period of Three years from the end of the guarantee period for any latent defects if noticed and reported by the TPCODL</p>	<p>Offered meters will be guaranteed for a period for 5.5 years from the date of supply. No additional</p>	Noted

154	Technical specification for static Single phase WC meter/Scope / Clause No.12 /Page no. 35	Clause no. 21 PACKING Bidder shall ensure that all material covered under this specification shall be prepared for rail/road transport (local equipment) and be packed in such a manner as to protect it from damage in transit. The material used for packing shall be environmentally friendly. Packing and transportation shall be as per IS 15707:206 clauses 9.1 and 9.2. Routine test report of the individual meter shall be kept inside each card board carton of the meter. Serial numbers of meters need to be mentioned in the form of barcodes on external surface of meter packing box.	Standard Packing will be provided as per previous supply for Tata power.	Noted
155	Technical specification for static Single phase WC meter / Clause No.23 /Page no. 35	Clause No. 23 Quality Control Prior to final testing and calibration, sample meters shall be subjected to aging test (i.e. meters will be kept in ovens for 24 hours at 55 Deg. C temperature and atmospheric humidity under real-life condition at its full load current. After 24 hours meter should work satisfactorily.	This test is not performs at our works.	Specification to be complied
156	Technical specification for static Single phase WC meter / Clause No.26 /Page no. 36	Clause no. 26.0 Spares, accessories & tools 1. Bidder to be provides free of cost 02 nos of jig for retrieving data from memory of the meter with every new design of the meter. Jig should be such that NVM can be push fit on this jig & data can be retrieving from this NVM.	No JIG will be provided. If required data can be retrieved at our works.	specification to be complied
157	Technical specification for static Single phase WC meter / Clause No.GTP /Page no. 39	S3. RJ 11 Pin configuration as per TPC	Meter have additional RS232 port in form of Micro USB. Same should be acceptable.	noted
158		As per Clause No 4.03 & 4.04, Ib= 10A; Imax= 60 Amps Vref = 230 V ± 1 % While we not have DLMS certification with 230V. We have certification with 240V.	Meter Voltage rating will be 240V (Complies to 230V).	Noted
159		As per Clause No 4.23, Self Diagnostic feature : The meter shall have logging with date and time in memory for un satisfactory / nonfunctioning of: (i) Real Time Clock (ii) RTC battery (iii) Non Volatile Memory	Primary battery status will be provided in place of RTC battery.	specification to be complied.
160		As per Clause no 4.27 & Clause no 9.0 forth para, Depth of the terminal holes : 25 mm	Depth of terminal hole will be 17.5 mm.	Noted
161		As per Clause no 4.29 Display The back lit must be of bright colour for proper visibility of meter reading and As per Clause no 13 Display units 1st para. last line, The back lit must be green in color while in normal registration modes.	Caluse No. 4.29 and Clause 13 disply units are contradictory for the colour of backlite.  We will provide the back lite in green colour.	Noted
162		As per Clause no 4.35 Meter Dimension in MM Is not more than 170L*140W*100H	Meter Dimension in mm- 148L*104W*55H	Specification to be complied
163		As per Clause No 4.31, No display Meter design in such a way, meter data retrieved if meter found no display.	Meter data can retrieve in case of no power condition on battery mode.	Specification to be complied
164		The complete data shall be downloaded within 2 minutes. Meter Optical port base of meter to be magnetic type.	Complete data will be download in approximate 8 minutes.	Specification to be complied
165		The bidder should provide DLMS compliance for Communication with the meter at Optical / RJ11 (RJ11 is optional). Optical Communication port shall be available for communication along with additional RJ11 port with specific pin configuration of utility along with sealing arrangement to communicate with GSM/GPRS/RF modems.	Kindly clarify that RJ 11 Optinal or additional requirement.	RJ11 port is optional requirement.
166		Communication of the meter at optical port should be as per IS15959 (Part-2):2016 Bidder must provide necessary support if required for integration of his meters with AMR/Ami systems of the utility whenever required.	Communication of the meter at optical port will be as per IS15959 (Part-1),	Noted
167		As per Clause 5.0, Bidder should also provide software for changing firmware of meters in mass without any additional cost.	No provision for firmware change.	Noted
168		As per Clause No. 5.0, The meter shall have facilities for data transfer locally through CMRI (Using optical portGSM/GPRS/RF modems).	CMRI device is not in our scope, so we are not considering the clause. DOS Based Software will be supplied.	Specification to be complied
169		As per Clause No 6.0.2, Electrostatic Discharge (ESD): Meter shall be immune up to 50 kV and shall record accurate energy as per IS-13779:1999/CBIP-325. Meter shall log the event into memory and BCS as 'ESD' with date & time stamp for any ESD greater than 50 kV with snap shot.	Meter will log ESD tamper, while any ESD signal/spark effect the meter.	Specification to be complied
170		As per Clause No. 6.0.2, The shielding around the meter shall be such that it does not get affected by high voltage and high energy or low energy impulse when comes in contact with meter from any side.	No shielding provision.	Noted
171		As per Clause No. 6.0.2, The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves.	Meter will be immune up to some level, beyond that meter will log ESD tamper. However meter may not be immune or log any tamper for microwaves application.	Noted

172		As per Clause No. 6.0.3 Neutral Disturbance,  The meter shall log in the memory as 'NEUTRAL DISTURBANCE' with date and time stamp and show 'ND' for Frequency variation below 47 Hz and above 53 Hz with time delay of 2 min and for Pulsating DC and Chopped AC of any value with time delay of 2 min. ....NEUTRAL DISTURBANCE' with date & time stamp after time delay of 2 min(occurrences and restoration time)  As per Table1, Persistence time for Neutral Disturbance is 1 minute.	Clause No. 6.0.3 and tamble of the tampera are contradictory for the persistence time of the ND Tamper.  We will provide persistence time of the ND Tamper 1 Minute.	<b>Noted</b>
173		As per Clause No. 6.0.5 Abnormal and Tamper conditions:  All the tamper events i.e. shall be logged in the memory of the meter with date and time stamp of occurrence and restoration along with instantaneous electrical parameter (Voltage, Current (phase and neutral), energy, pf , frequency etc )	Tampers snapshot, parameters will be Logged in the memory of the meter with date and time stamp of occurrence and restoration along with instantaneous electrical parameter (Voltage, Current (phase and neutral), energy, pf )	<b>noted</b>
174		As per Clause No. 6.0.5  Meter shall store cumulative count and cumulative durations all the tamper event which have logged by meter from the date of energization till life of meter.	As per IS15959, Cumulative tamper count for individual tampers not available. Individual tamper duration will available at BCS end.	<b>specification to be complied.</b>
175		As per Clause No. 6.0.5  The cover open tamper detection should be through heavy duty, sturdy micro switch such that it should not Operate on vibration or impact during handling or testing.	We will provide carbon pad type switch for Top cover tamper detection. However, we will ensure that meter will not log any false tamper due to vibration or transportation.	<b>specification to be complied</b>
176		As per Table1, Tamper Counts are defined for each and individual tamper.	We will provide compartment/ Block method for tamper counts.	<b>Specification to be complied</b>
177		As per Table1, Persistence time for magnet is 2 minute.	Persistence time of 2 minute for magnet occurrence and restoration is very high. We suggest persistence time for occurrence & restoration of magnet as 10 sec.	<b>Noted</b>
178		As per Table1, 5 Nos tampers (Stay Put type) of Meter Top Cover Open (TC Open)	Comply in Non Rollover events, 5 occurrence event will be provided, Next tamper of top cover open will be logged after top cover reassembly and power up meter. Tamper restore event will not be logged.	<b>Specification to be complied</b>
179		As per Table 1, Condition no. 38 of Annexure I (Timer test): The timer operation duration on/off time for 30 seconds with constant current for 30 min. This tamper required as Neutral miss (Single Wire)	Meter will log Neutral disturbance tamper for timer tampers.	<b>Specification to be complied</b>
180		As per Table 1, Current mismatch tamper threshold is as below: For Occurance : $In - I_p \geq 20\%$ of $I_b$ AND $In > I_p$ For Restore : $In - I_p < 20\%$ of $I_b$	We will provide Current mismatch tamper logic as below : For Occurance: $In - I_p \geq 20\%$ of active current AND $In > I_p$ and active power is greater than 20 watt. For Restoration: $In - I_p < 20\%$ of Active current and active power is greater than 20 watt.	<b>Specification to be complied</b>
181		As per Table 1, Microwave Tamper logging required with below threshold: micro waves > 10 mT	Microwave Tamper will not be available in meter. (There will be physical evidence on meter body/LCD or any other part of meter for use of microwave. Logging is not available).	<b>Noted</b>
182		As per Table1, Temperature Rise tamper required with 25 events (Stay Put type) with occurrence & restore thresholds. This tamper is to be restore with specified threshold and persistence time.	High Temperature event will be provided in Other related tamper block. Tamper recording will be on block/compartment method and rollover of compartment will be on FIFO basis.	<b>Specification to be complied</b>
183		As per Table 1, EL tamper threshold is as below: For Occurance : The difference between phase and neutral current > 6.25 % of $I_b$ For Restore : the difference between phase and neutral current < 6.25% of $I_b$	We will provide EL tamper logic as below : For Occurance: Current Unbalance between phase & neutral by more than 6.25% and active power is greater than 20 watt. For Restoration: No Current Unbalance or less than 6.25% and active power is greater than 20 watt.	<b>Specification to be complied</b>
184		7.0 Components.	As per Component make List of Specification some component make approval required. Major components are as below: Measurement Chip : Renesas Memory Chips : Onsemi,ST Display Module : Tianma, Yeboo Electronic Component : Lelon, Incap, Epcos, CTR, PEC, Diodetek, murata, panasonic etc Battery : Panasonic, Mitsubishi Microcontroller & RTC: Renesas Temperature Sensor : Renesas, Texas Instruments.	<b>Noted</b>
185		As per Clause No. 9.0, The terminal block shall be of opaque with polycarbonate LEXANS00R or equivalent (complying to above requirement) on prior approval from the Purchaser	We will provide PBT with 30% Glass filled material for T block.	<b>Specification to be complied</b>
186		The manner of fixing the conductors to the terminals shall ensure adequate and durable contact such that there is no risk of loosening or undue heating. Terminals shall be preferably of MS cage clamp type as per IS: 15707 or of flat end screw with at least 9 mm dia of screw for better contact area.	We will provide fixed type Terminal Block and Brass terminal With M6 x 6.5mm Dia minus head Screw.	<b>Noted</b>
187		Internal diameter of the terminal holes shall be minimum 8.5 mm; minimum clearance between adjacent terminals shall be 10 mm. Depth of the terminal holes shall be of 25 mm. Terminal screws shall be of Zinc plated MS bottle type.	We will provide 8.5mm Internal diameter With 17.5mm Depth of the terminal holes	<b>Noted</b>

188		10 TOD Feature: The meter shall be capable of measuring Cumulative Energy (KWh), KVarh Lag, KVarh Lead, KVAh and MD (KW, KVA) with time of day (TOD) registers having 2 zones (no. of zones & time slot shall be programmable by CMRI with adequate security level).	We will not provide KVARh lag and KVARh lead in TOD.	<b>Specification to be complied</b>
189		11 MD Integration: MD shall be recorded and displayed with minimum three digits before decimal and minimum two digits after decimal points.	MD will be provided only 2 digit before decimal and three digit after decimal, which is sufficient for single phase 10-60A meter.	<b>noted</b>
190		12 Parameters In BCS Billing Information Current+ 12 History billing Date Current + 12 Month History of Energy (KWH, KVAH, KVARH Lag, KVARH Lead,) Current + 12 Month History Consumption (KWH, KVAH, KVARH Lag, KVARH Lead) Current + 12 Month History of Demand (KW,KVA, KVAR Lag, KVAR Lead) Along with date and time stamp Current + 12 Month History of PF Current + 12 Month Power ON/Off Hours TOD wise billing information Current + 12 Month History of Energy (KWH, KVAH, KVARH Lag, KVARH Lead) Current + 12 Month History of Consumption (KWH, KVAH, KVAR Lag, KVAR Lead) Current + 12 Month History of Demand (KW, KVA, KVAR Lag, KVAR Lead) along with date and time stamp Current + 12 Month History of PF	Consumption of kWh and kVAh will be available in billing profile at BCS.  Consumption of kWh and kVAh will not be available in TOD. Current + 12 Month History of PF will not be available in TOD.  Kindly remove KVARh Lag, KVARh Lead, KVAR Lag, KVAR Lead from billing profile.	<b>Specification to be complied</b>
191		Load survey: The meter shall be capable of recording load profile of 90 days 15 min IP for ON days only for following parameters. a) Phase Voltage      b) Phase Current c) Neutral current    d) PF e) kWh                    f) kVAh g) kW                     h) kVA	The meter will be capable of recording load profile of 90 days 30 min LSIP / 45 days, 15 min LSIP. KW,KVA PF will calculate at BCS end.	<b>specification to be complied</b>
192		MID Night Energy: Meter shall be capable of recording daily Midnight Energy(KWH, KVAH, KVARH Lag, KVARH Lead) and Demand(KW,KVA) 00:00 to 24:00 Hrs for 90 power ON days.	As per IS 15959 Cum kWh, kVAh, will be provided in meter. daily MD kW, MD KVA will be calculated at BCS end.  Kindly delete KVARH Lag, KVARH Lead.	<b>specification to be complied</b>
193		Instantaneous Parameters: Meter shall be capable of recoding following Instantaneous parameter In Memory and should be available in BCS Meter Serial No Meter Type	Instantaneous Parameters will be as per IS15959. (Meter Serial no. and Meter Type will be available in name plate Profile )	<b>specification to be complied</b>
194		General Information:- Meter shall be capable for providing below mention general parameters in memory and should be available in BCS Meter serial No Meter Type Manufacture Name Manufacture date Meter Class Meter constant Meter voltage rating Meter current rating Firmware version of meter TOD profile showing timing and seasons Meter display sequence	General parameters will be as per IS15959. (Manufacturing month, Meter class, Meter Constant, Meter voltage rating will not be available) TOD profile will be available in billing parameters, not in General parameters.	<b>specification to be complied</b>
195		Transactions:- All the change in software of meter to be logged along with date and time stamp, reading and.	Transaction log will be provided with date & time as per IS15959.	<b>Noted</b>
196		As per Clause No 13 Display units, The kWh register shall have minimum 6 digits and size of the digits shall be minimum 10mmx6mm. Separate mode for high resolution display to be provided with scroll lock facility.	Size of digits will be provide with 10mm x 5mm.	<b>Noted</b>
197		15 NAME PLATE AND MARKING: Meters shall have a name plate clearly visible and effectively secured against removal. The base color of Name plate shall be white indelibly and distinctly marked with all essential particulars as per relevant standards along with the following. The Serial no. series applicable for the meters shall be provided by TPCODL	The base color of the Name plate will be blue colour.	<b>Noted</b>
198		27 Blue Tooth Meter Reading: Inbuilt facility for blue tooth based meter reading is preferable.	We would be provided optical port with either rj11 or BLE port kindly consider any two communication port.	<b>noted.</b> <b>RJ11 port is optional requirement.</b>
199		Page No. 31 Pin configuration of RJ 11 Port	We will provide Pin configuration as per design of the meter, Pin configuration design attached with pre bid points.	<b>noted</b>
<b>METER BOX</b>				
200	Cl 5.17 Page No.49	5.17 Push button arrangement (spring loaded) 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 in absence of power supply without opening the meter cover. The base of the box shall be provided with multiple arrangements so that different makes of meters may also be fitted.	We request you to kindly remove the requirement of Multiple Arrangemnts for different makes of meters because the provisions of Push Button for Different makes shallnot be possible.	<b>Noted.</b> <b>Meter specific push button arrangement to be provided in the box.</b> <b>Multiple pillars in the meter box is not required</b>
201	Cl. 13 Page No. 53	Tender Samples : Bidders are required to manufacture three sample boxes as per the TPCODL specification and submit the sample boxes along with the bid for further testing and approval of samples.	We request you to kindly accept the prototype samples along with the bid submission for evaluation because we need to prepare the new mould to meet the specification requirement.	<b>Noted</b>

202	Meter Box Technical Specification Clause No. 5.6 GENERAL CONSTRUCTIONS Page No. 48 of 108	the number of <u>pillars</u> to be provided in box as per TPCODL different type of meters.	Our submission: Sir, please <u>share the details of No. of pillars with size and position</u> so that we will take it accordingly or in case if it is not required kindly remove this clause.	Meter specific push button arrangement to be provided in the box. Multiple pillars in the meter box is not required
203	Meter Box Technical Specification Clause No. 5.7 GENERAL CONSTRUCTIONS Page No. 48 of 108	the box cover shall be fixed to the base through two nos. Metallic Hinges having <u>Minimum length 40 mm</u> with three screws. The arrangement of the hinges shall be provided on left side of the box.	Our submission: Sir, two number Hinges with <u>30mm length</u> are also suitable with this size of Meter Box, please also accept the same.	Noted
204	GENERAL CONSTRUCTIONS of Meter Box technical specification Page No. 48 of 108	for holding and sealing the box, four U-shaped latches of approx. size 25 mm shall be provided <u>on three side of box( two on right side and one each on top and bottom side).</u>	Our submission: Sir, we have to develop new tool of Meter Box (Cover and Base) as per this new requirement in Technical Specification.	Specification to be complied
205	Meter Box Technical Specification Clause No. 5.12 GENERAL CONSTRUCTIONS Page No. 48 of 108	box shall be provided with 1 No. earthing nut and bolt of size M8x35 mm on the left hand side in the base of meter box for providing earth connection.	Our submission: Sir, as the required Meter Box is made of Polycarbonate Plastic which is Insulated Material. So, therefore, please remove the requirement of Earthing arrangement and confirm your acceptance.	Specification to be complied
206	Whereas, clause No. 5.14 Page No. 49 of 108	the earthing bolt and the gland shall be connected with metallic GI plate of 1.2mm thick. This plate shall be placed inside of the box.		
207	Meter Box Technical Specification Clause No. 5.15 GENERAL CONSTRUCTIONS Page No. 49 of 108	the glands should be of 25 mm diameter and without inclined length but should have extended threads of 15mm inside box and a gland cap should be fixed on this gland from inside. The inside gland cap shall have opening of 18mm on the side of the earthing bolt incomer side and other side gland cap (outgoing) shall have 16mm opening.	Our submission: Sir, here we don't understand the requirement of gland. Please clarify in detail or if possible kindly <u>provide some Photographs / Drawings</u> of the same for our understanding purpose	Specification to be complied
208	Meter Box Technical Specification Clause No. 5.16 GENERAL CONSTRUCTIONS Page No. 49 of 108	The The box cover and base should have <u>overlapping of more than 22mm long</u> from inside and outside (Cover design should ensure the same) Such that the cover and the base once fixed one should not force insert any sharp object or screwdriver etc.	Our submission: Sir, since the Meter Box size is small for Single Phase Meter. So, please also <u>accept the Box Cover and Base with overlapping of approx. 12mm</u> from Inside and Outside and kindly confirm your acceptance.	Noted
209	Meter Box Technical Specification Clause No. 5.17 GENERAL CONSTRUCTIONS Page No. 49 of 108	The push button arrangement (spring loaded) 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 in absence of power supply without opening the meter cover.	Our submission: Sir, the Push Button of Meter shall be operated by opening of Box Cover as Box are required with Meter Mounting of different Meter Manufacturers, which have different position of Push Buttons. So, please <u>remove the requirement of Push Button arrangement</u> and confirm your acceptance.	Meter specific push button arrangement to be provided in the box. Multiple pillars in the meter box is not required
210	Clause No. 6.0 Name plate and marking of Meter Box technical specification Page No. 49 of 108	the meter box shall be provided with durable and legible marking laser printed / embossing. The following shall be embossed / laser printed with "PO No with date", "PROPERTY OF TPCODL", "ITEM CODE NUMBER", The name plate shall be indelibly and distinctly marked with all essential particulars as per the relevant standards along with the following information : a) Manufacturer's name b) Serial number c) Month and Year of manufacturing d) PO Number & date e) Property OF TPCODL-Odisha f) Danger Sign	Our submission: Sir, we shall provide the required details with Engraved / Embossed on the Meter Box Cover and the Meter Serial number shall also be <u>Indelibly Printed / Marked</u> on the Meter Box Cover. Kindly confirm the your acceptance.	Specification to be complied
211	Meter Box Technical Specification Clause No. 8.0 <u>TYPE TEST CERTIFICATE</u> Page No. 52 of 108	The bidder shall furnish the <u>type test certificates</u> for the tests as mentioned above as per the corresponding 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 Purchaser.	Our submission: Sir, since we don't have Meter Box exactly as per your specification so the <u>Type Test Report of the same is also not available.</u> So, in the event of order placed on us we shall Box Type Test Report before commencement of Supply. Please confirm your acceptance.	Specification to be complied
212	Meter Box Technical Specification Clause No. 13.0 <u>TENDER SAMPLE</u> Page No. 53 of 108	Bidders are required to manufacture three sample boxes as per the TPCODL specification and submit the <u>sample boxes along with the bid</u> for further testing and approval of samples. These samples shall be retained till the final PO placed against tender and for successful bidder these shall be retained till final supply against order.	Our submission: Sir, presently <u>we don't have Meter Box exactly as per your dimensional requirement, so, tender sample may be waived off.</u> So, we have to develop new tool for Meter Box (Cover and Base) which will take minimum 2 to 3 Months time after your confirmation.	Specification to be complied
213	47	4) Degree of Protection IP-55	Degree of protection IP 54 will be provided. Please accept the same.	Specification to be complied
214	48	5.4) A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back & 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.	30 mm clearance will fulfill the requirement on both sides. Please accept the same	Noted
215	48	5.7) Metallic Hinges having Minimum length 40 mm with three screws.	Min hinge length of 22 mm will fulfill the requirement. Please accept the same	Noted
216	48	5.8- For holding and sealing the box, four U-shaped latches of approx. size 25 mm shall be provided on three side of box( two on right side and one each on top and bottom side).	2 U shaped latch will be provided on right side. Please accept	Specification to be complied
217	48	5.10. The box shall be provided with four mounting (fixing) holes of 8 mm size.	6 mm of hole size will be provided. Please accept	Noted

218	48	5.11) , 5.16) Suitable overlapping (20 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.	6mm overlapping will be provided. Please accept the same	Suitable overlapping (12 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.
219	49	6) Name plate and Marking	Serial number, Month and Year of manufacturing will be inject printing	Specification to be complied
220	49	5.14 The earthing bolt and the gland shall be connected with metallic GI plate of 1.2mm thick. This plate shall be placed inside of the box.	Since box will be polycarbonate so no metallic plate and earthing arrangement is necessary. Earthing arrangement and metallic plate will not be provided. Please accept.	Specification to be complied
221	Meter Box 5.6	The number of pillers to be provided in box as per TPCODL different type of meters. If there is any change in existing meter design or new meter introduced, bidder shall provide meter mounting pillar accordingly in meter box with modification in their mould without any extra cost.	Meter Box design will be suitable for mounting of Linkwell meter. The requirement may be deleted.	Noted
222	Meter Box 5.11	Suitable overlapping (20 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.	Kindly accept with overlapping of minimum of 12mm.	Noted
223	Meter Box 5.12 5.14	Box shall be provided with 1 no. earthing nut and bolt of size M8x35 mm on the left hand side in the base of meter box for providing earth connection. The earth terminal shall be identified by means of the sign, marked in a legible manner on or adjacent the terminal  The earthing bolt and the gland shall be connected with metallic GI plate of 1.2mm thick. This plate shall be placed inside of the box	As the design is polycarbonate box and hence earthing nut and bolt will not be provided. Kindly delete the requirement.  On polycarbonate metallic plate cannot be fixed because of difference material properties. Kindly delete the requirement.	Specification to be complied
224	Meter Box 5.4	The meter shall be mounted with the help of MS plate such that it is centrally placed in the box and there shall be clearance of 25 mm between the meter and top of the box. A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back & 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.	We have provision of push button and meter reading during power on and power off without opening of top cover of meter box in 30mm clearance shall be maintained on both sides, between meter and box without MS plate. Hence the same may be accepted.	Noted. Meter specific push button arrangement to be provided in the box. Multiple pillars in the meter box is not required
225	Meter Box 6.0	Name Plate and marking : The meter box shall be provided with durable and legible marking laser printed / embossing. The following shall be embossed / laser printed with "PO No with date", "PROPERTY OF TPCODL", "ITEM CODE NUMBER"	Kindly clarify the ITEM CODE NUMBER details	Shall be provided in the event of order.
226	Meter Box 7.1	Type Test : 6. Resistance to Abnormal heat and fire/ Glow wire Test (IS : 14772-2000) : Parts of insulating materials which might be exposed to thermal stresses due to electric effects shall not be affected by abnormal heat and by fire. The compliance shall be checked by means of the glow wire test performed at 960 deg C, according to IS 11000(Part 2/sec 1) with no flame and glowing.	Kindly accept the type test report with 650 deg C as per IS14772 with latest amendment of meter enclosure.	Specification to be complied
227	Meter Box 5.7	The box cover shall be fixed to the base through two nos. Metallic Hinges having Minimum length 40 mm with three screws.	Metallic Hinges of 30 mm with two screws will be provided as per our design kindly accept	Noted
228	Meter Box 5.10	The box shall be provided with four mounting (fixing) holes of 8 mm size. The screws and gitties of 6mm size with around 50mm length to be provided for mounting of box in each box in packed in a separate pack	Screw of 8x25.4 are provided with meter box for mounting will be provided as per the design kindly accept	Specification to be complied
229	Box - 4.0.2	Degree of ingress protection : IP 55	Request to accept meter boxes confirming to IP 54.	specification to be complied
230	Box - 4.0.3, 5	Flammability requirement : FV0 & high grade material	Box material will confirm to FV2. Kindly accept.	Specification to be complied
231	Box - 5.3	The box shall be provided with meter mounting arrangement along with MS plate on top for mounting the meter from different manufacturers, having different mounting dimensions . . . . . The detail drawing of the mounting arrangement of all the meters shall be provided to successful bidders by the TPCODL.	Our boxes are designed to mount our meters only. Mounting arrangement for other meters cannot be provided.	Noted
232	Box - 5.17	The base of the box shall be provided with multiple arrangements so that different makes of meters may also be fitted.		Noted
233	Box - 5.13	The box size should be such that it should accommodate the meter having top opening hinged terminal cover	Terminal Cover of our meter is side hinged and the Box offered is suitable for our meter. Suitability of our Box is not guaranteed for top opening terminal cover for any other make of meter.	Noted
234	Box GTP - 17	The box size is suitable for single phase meter having top opening hinged terminal cover		Noted
235	Box - 5.6	Box - 5.17	Our boxes are designed to mount our meters only. Mounting arrangement for other meters cannot be provided.	Noted
236	Box - 5.4	The meter shall be mounted with the help of MS plate such that it is centrally placed in the box and there shall be clearance of 25 mm between the meter and top of the box. A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back & 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.	Box will have Clearances as below: 30mm between meter & top of the box, 30 mm shall be maintained on both sides. Minimum clearance of 10mm at the back & 15mm on the front will be maintained. Clearance of 40mm between terminal cover to the box will be provided. Kindly accept.	Noted
237	Box - 5.7	The box cover shall be fixed to the base through two nos. Metallic Hinges having Minimum length 40 mm with three screws. The arrangement of the hinges shall be provided on left side of the box.	Self integrated plastic hinges will be provided instead of metallic hinges.	Specification to be complied

238	Box - 5.8, GTP-10(p)	For holding and sealing the box, four U-shaped latches of approx. size 25 mm shall be provided on three side of box (two on right side and one each on top and bottom side).	One U-clamp will be provided on the right side of the Box.	Specification to be complied
239	Box - 5.12	Box shall be provided with 1 no. earthing nut and bolt of size M8x35 mm on the left hand side in the base of meter box for providing earth connection. The earth terminal shall be identified by means of the sign, marked in a legible manner on or adjacent the terminal.	Box being of Polycarbonate (insulated) material, Earthing Bolt is not required.	Specification to be complied
240	Box - 5.14	The earthing bolt and the gland shall be connected with metallic GI plate of 1.2mm thick. This plate shall be placed inside of the box.		Specification to be complied
241	Box GTP - 10	t) Number and size of earthing M8 bolt with 35mm length u) Location of earthing bolt on Sides v) Earthing sign with green background on GI sheet to be provided near earth bolt		Specification to be complied
242	Box - 5.15	The glands should be of 25 mm diameter and without inclined length but should have extended threads of 15mm inside box and a gland cap should be fixed on this gland from inside. The inside gland cap shall have opening of 18mm on the side of the earthing bolt incomer side and other side gland cap (outgoing) shall have 16mm opening.	Standard Plastic glands as per our presently approved Box and previously supplied Box, can be provided. Kindly accept.	Specification to be complied
243	Box - 5.16	The box cover and base should have overlapping of more than 22mm long from inside and outside (Cover design should ensure the same) Such that the cover and the base once fixed one should not force insert any sharp object or screwdriver etc.	Box will have overlap of 8 mm between top & bottom covers which is sufficient to avoid insertion of any sharp object. Kindly accept.	Suitable overlapping (12 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.
244	Box - 5.18	Two nos. of holes of adequate size capable of accommodating service cable shall be provided at two sides of the box for cable incoming & outgoing. It shall not be possible to access the meter terminals from outside of the meter box. Suitable arrangement to be provided.	Two nos. hole with glands for incoming and outgoing cables are provided at the bottom side of the box. Request you to accept.	Specification to be complied
245	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.1/Page no. 46	1 SCOPE This specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packing, forwarding, supply and unloading at store/site and performance of single phase polycarbonate meter box (Hinge Type) with all accessories for trouble free and efficient operation.	Meter box will be push to fit type. Kindly accept the same.	Noted. However additional 10% meter boxes shall be provided without any additional cost.
246	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 47	5 Material a) Base : a) Polycarbonate equivalent to Lexan 943 A/ Makrolon 6457 transparent (no colour) b) Cover : b) Polycarbonate equivalent to Lexan 943 A/ Makrolon 6457 with clear transparent (no color)  6 Thickness of box 2 mm (minimum)  5.0 GENERAL CONSTRUCTIONS  The material for base and cover shall be Lexan 943 A/ Makrolon 6457 or equivalent with 2 mm thickness.	Box will made of LEXAN 500R/equivalent 6 Thickness of box 2 mm ±0.2mm Kindly accept the same.	Specification to be complied
247	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 47	5.3-The box shall be provided with meter mounting arrangement along with MS plate on top for mounting the meter from different manufacturers, having different mounting dimensions. The top plate shall be fixed on the base taking care of the alignment with the fixing holes provided in the base. The detail drawing of the mounting arrangement of all the meters shall be provided to successful bidders by the TPCODL. A generalized arrangement (Base of the box) for fixing of different makes of meter to be provided. Detailed Dimensional Drawing shall be provided with the Bid.	Monting arrangement will be not provided with meter box. Kindly accept the same.	Noted
248	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 48	5.4- The meter shall be mounted with the help of MS plate such that it is centrally placed in the box and there shall be clearance of 25 mm between the meter and top of the box.  A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back & 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.	Meter have clearance as below: Both sides, Front , Back and top side: 10 mm terminal cover to the box : approx 70 mm	noted
249	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 48	5.5- The design of the meter box shall be such as to easy facilitate easy wiring and access to meter terminals. Nylon gland of internal diameter of around 25 mm shall be provided for I/C and O/G cables of size armoured 2Cx16. The holes for I/C and O/G cables shall be provided in left and right side of meter box at around 30-35mm from bottom corner.	Cable gland of approx 20 mm size will be provided at the bottom of the box.	Specification to be complied
250	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 48	5.6- The number of pillars to be provided in box as per TPCODL different type of meters. If there is any change in existing meter design or new meter introduced, bidder shall provide meter mounting pillar accordingly in meter box with modification in their mould without any extra cost.	Meter box will be specific to Secure make and model.	Noted



251	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 48	5.7- The box cover shall be fixed to the base through two nos. Metallic Hinges having Minimum length 40 mm with three screws. The arrangement of the hinges shall be provided on left side of the box. The screws shall not be fixed from outside so that it cannot be visible from outside to avoid any manipulation. The overlapping on hinges should be such that it metallic portion should not be accessible from outside when closed, to achieve this the cover lapping to be provided. The box cover shall be open able by more than 120 degrees. All metallic parts should be well protected against corrosion. 5.8- For holding and sealing the box, four U-shaped latches of approx. size 25 mm shall be provided on three side of box( two on right side and one each on top and bottom side).The latch shall be GI with minimum thickness of 1.2 mm. The latch shall be provided along with suitable clamp assembly in base as well as cover, such that these are fully covered by the latch after closing. The clamp along with the latch shall be provided with a sealing hole such as to provide a sealing arrangement in the assembly and alignment of holes should be perfect so that seal wire may be easily install.	Meter box will be push to fit type. Kindly accept the same.	<b>Noted.</b> However additional 10% meter boxes shall be provided without any additional cost.
252	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 48	5.10. The box shall be provided with four mounting (fixing) holes of 8 mm size. The screws and gitties of 6mm size with around 50mm length to be provided for mounting of box in each box in packed in a separate pack.	Meter box have 3 fixing holes. Mounting screw will be provided separately (not with individual meter)	<b>Noted</b>
253	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 48	5.11- Suitable overlapping (20 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.	Overlapping is sufficient enough to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.	<b>Suitable overlapping (12 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.</b>
254	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 49	5.14 The earthing bolt and the gland shall be connected with metallic GI plate of 1.2mm thick. This plate shall be placed inside of the box.	GI plate will be not provided.	<b>Specification to be complied</b>
255	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 49	6.0 NAME PLATE AND MARKING The meter box shall be provided with durable and legible marking laser printed / embossing. The following shall be embossed / laser printed with "PO No with date", "PROPERTY OF TPCODL", "ITEM CODE NUMBER", The name plate shall be indelibly and distinctly marked with all essential particulars as per the relevant standards along with the following information : a) Manufacturer's name b) Serial number c) Month and Year of manufacturing d) PO Number & date e) Property OF TPCODL-Odisha f) Danger Sign	Only Manufacturer name and danger will be marked on meter box cover.	<b>Specification to be complied</b>
256	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 50	3 Resistance to ageing, humid conditions, Ingress of solid objects and to harmful ingress of water (IS : 14772-2000)	Meter Box is complying with IP54 kindly accept the same.	<b>specification to be complied</b>
257	TECHNICAL SPECIFICATION FOR POLYCARBONATE METER BOX (HINGE TYPE) / Clause No.5/Page no. 50	12 UV Light Exposure (UL-746C)	Test certificate for UV Light Exposure (UL-746C) is not available however Meter box is complying with IS14772 kindly accept the same.	<b>Specification to be complied</b>
258		As per Clause No. 4.0 (2) and 5.2 page no. 33, Degree of ingress protection - IP55	Degree of ingress protection - IP54 Comply	<b>specification to be complied</b>
259		As per Clause No. 5.3, The box shall be provided with meter mounting arrangement along with MS plate on top for mounting the meter from different manufacturers, having different mounting dimensions.	Mounting Pillars will provided for Meter fixing instead of MS Plate, Only Genus Meter mounting arrangement available	<b>Noted</b>
260		As per Clause No. 5.4, A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. A minimum clearance of 10mm at the back & 15mm on the front shall be maintained. A minimum clearance of 50mm shall be provided from the terminal cover to the box to be provided.	30MM clearances available from both sode & top side instead of 50mm. 15mm from front & 10mm from back. 75mm from T block.	<b>Noted</b>
261		As per Clause No. 5.5, Nylon gland required	Engineering Plastic gland will provide	<b>Noted</b>
262		As per Clause No. 5.6, The number of pillars to be provided in box as per TPCODL's different type of meters.	Pillars is suitable only for Genus Meter	<b>Noted</b>
263		As per Clause No. 6.0, The meter box shall be provided with durable and legible name plate, Meter Sl.No. to be printed on the meter name plate	Information should be laser printing instead of name plate	<b>Noted</b>
264		As per Clause No. 5.12, Box shall be provided with 1 no. earthing nut and bolt of size M8x35 mm on the left hand side in the base of meter box for providing earth connection.	Box shall be provided with 1 no. earthing nut and bolt of size M6x25 mm on the Right hand side in the base of meter box for providing earth connection.	<b>Specification to be complied</b>
265		As per Clause No. 5.8, For holding and sealing the box, four U-shaped latches of approx. size 25 mm shall be provided on three side of box ( two on right side and one each on top and bottom side).The latch shall be GI with minimum thickness of 1.2 mm.	Meter box have 2 Nos U-shaped latches With size 25mm, Thickness Minimum 1 mm on the right side of Meter box.	<b>Specification to be complied</b>

266		As per Clause No. 5.10, The box shall be provided with four mounting (fixing) holes of 8 mm size. The screws and gitties of 6mm size with around 50mm length to be provided for mounting of box in each box in packed in a separate pack.	Meter box have 2 Nos. Key Hole on the top side and 2 Nos. 6mm dia Circular on the bottom side.	<b>Noted</b>
267		As per Clause No. 5.7, The box cover shall be fixed to the base through two nos. Metallic Hinges having Minimum length 40 mm with three screws. The arrangement of the hinges shall be provided on left side of the box.	Meter box have 2 Nos. Metallic Hinges having Minimum 24mm length with two screws on left side of the box.	<b>Noted</b>