

GTP of 3 Ph DLMS Energy Meter			
S.No	Description	Units	Requirement of GED
1	Type of meter		Three phase four wire, static watt-hour direct connected type energy meter without application of any multiplication constant. It consisting of measuring elements(s), time of use of register(s), display.
2	Accuracy Class of the meter		1
3	Ib & Imax	A	Ib-20, Imax-100
4	Operating Voltage for meter	V	240V ± 1%
5	Operating Frequency	Hz	50
6	Power Consumption and Burden		Voltage circuit: Maximum 1.5 W and 10 VA Current Circuit :Maximum 1VA
7	Starting Current	mA	40
8	Short time over current	A	3000A for 0.01sec
9	Influence of heating		Temperature rise at any point of the external surface of the meter shall not exceed by more than 20K with an ambient temperature at 500 C
10	Rated impulse withstand voltage	KV	6
11	AC withstand Voltage for 1 min	KV	4
12	Insulation resistance	M ohm	a) 5 b) 50
	a) Between frame &Current, voltage circuits connected together:		
	b) Between each current (or voltage circuit) & each and every other circuit.		
13	Mechanical requirement		As per clause 12.3 of IS 13779.
14	Resistance to heat and fire		The terminal block and Meter case shall ensure safety against The spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per IS
15	Degree of protection		IP 51 as per IS 12063
16	Resistance against climatic influence (as per IS 13779)		As per clause 12.6 of IS 13779.
17	Electromagnetic Compatibility (EMC)		As per CBIP Technical report no 325 (latest amendment)
18	Accuracy requirements (As per IS 13779)		As per clause 11 of IS 13779.
19	Power factor range		Zero lag to Zero lead. & meter shall be programed at default 'lag only configuration i.e. Lead to be treated as unity for kVA & KVAh calculations'
20	Energy measurement		Fundamental energy +Energy due to Harmonics
21	Connection Diagram for system on terminal cover		The connection diagram for the system shall be provided on terminal cover.
22	Self diagnostic feature		The meter shall have logging with date and time in memory for un satisfactory / non-functioning of (a) Real Time Clock (b) RTC battery (c) Non Volatile Memory
23	Initial start up of meter		meter shall be fully functional within 5 sec after reference voltage is applied to the meter terminals
24	Terminal block	mm	(a) 9.5mm ( minimum )

	a) Depth of the Terminal holes		(b) 25 mm (minimum) (c) 10 mm (minimum)
	b) Internal diameter of terminal holes		
	c) Clearance between adjacent terminals		
25	Communication capabilities		should DLMS compliance for communication with the meter at optical port and RJ11 port.
26	Immunity against abnormal Magnetic influence,		Meter shall record accurate energy in case of any external influencing signals in line with IS 13779:1999 Cl.11.2 and variation in limits of error (upto 100% I <sub>max</sub> ) shall be as per the table 17 of IS 13779
27	Immunity against HV ESD		Meter shall be immune up to 50 kV and shall record accurate energy as per IS- 13779:1999
28	DC Immunity as defined		Continuous DC magnetic induction: >0.67 milli Tesla ± 5%(Value of the magneto motive force to be applied shall be generally >17500 ATs, Should be immune up to 0.67 Tesla) after log will record.
29	Abnormal and tamper events and logging with snapshot in all conditions		Yes
30	Grade/Name of material for		
	a) Meter base		(a) Meter base shall be opaque with polycarbonate LEXAN 500R or equivalent on prior approval from the GED.
	b) Meter cover		(b) Meter cover shall be transparent with polycarbonate LEXAN 143Rf943A or equivalent on prior approval from the GED.
	c) Terminal block		(c) Terminal block should be in single mould with meter body base. (Not separate)
	d) Terminal cover		(d) Terminal cover shall be short type and shall be transparent with polycarbonate LEXAN 143Rf943A or equivalent on prior approval from the GED.
31	Tamper counters		The meter should not have any other event logging or any logic other than desired in specs. All other logics not mentioned in specs should be removed or disabled in meter firmware.
32	Recording forward energy in all conditions.		Yes
33	Meter sealing		Yes
34	Non Volatile memory (Retention period)		10 Years.
35	Measuring elements used in the meter		kWh kVAh
36	Power supply to circuit in case of supply failure		In case of power failure, reading data shall be to downloaded with the help of battery
37	Display of measured values		The meter shall be capable of recording load profile of 45 days 30 min IP for kWh, Voltage, and phase / neutral Current (whichever higher) for ON days/time

38	LCD display ( Type and viewing angle)		The LCD display shall have a wide viewing angle of 120 degree. When the meter is not energized the electronic display need not be visible. The display shall not be affected by electrical, magnetic disturbances and ESD. The back lit must be green in color while in normal registration modes. Phase Indication should be Green. Display Size 10mm x 5mm
39	Pulse rate	Imp/kWh, Imp/kVAr h	3200
40	Name plate marking	Yes/No	Yes
41	Routine test certificates	Yes/No	Yes
42	Acceptance test certificates	Yes/No	Yes
43	Type test certificates	Yes/No	Yes
44	Guarantee certificates	Yes/No	Yes
45	Output device(LEDs) As per CI.5.9	Yes/No	Yes
46	Terminal Screw dia.		Internal diameter of the terminal holes shall be minimum 9.5 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
47	Ultrasonic welding of cover and base		Yes