BEDC ELECTRICITY PLC

TECHNICAL SPECIFICATIONS FOR SINGLE AND THREE PHASE PREPAYMENT METERS

TECHNICAL SPECIFICATIONS AND STANDARDS

1.1 PREPAYMENT METERING SYSTEM

All Prepayment Metering Installations shall be of the split type and conform to the details below.

1.1. SPLIT TYPE SINGLE &THREE PHASE ELECTRICITY PREPAYMENT METER

Nominal Voltage	1Ø-230V,1-ph,2-wire system, 3Ø- 230/415, 3-ph, 4-wire system for use in balanced and unbalanced load conditions.
Operating Voltage	-40% to +10% Nominal Voltage
Current Rating	5(60)A,3 X5(100)A
Frequency	50 ±2%Hz
Accuracy Class	1
Encryption Algorithm	Standard Transfer Specification (STS)
Operating Temp.	Up to 60^0C
Storage Temp.	Up to 70^0C
Relative Humidity	96% at 45^0C non- condensing
Maximum KWH credit stored	99,999.9 KWh(1Ø),999,999.9KWh(3Ø)
Credit transfer number	20 Digits encryption
Protection	High resistance to short circuit
Impulse withstand voltage	Preferably greater than 6 KV
Insulation withstand voltage	2 KV per minute
Name plate	a) Indelible Meter serial number shall not be more than twelve (11 & 13) digits and legibly printed b) Size of the digit of the Meter serial number shall be a minimum of 5mm x 3mm. c) Bar code shall be printed below the Meter serial number d) Manufacturer's name and Trade mark. e) Place of manufacture. f) Year of manufacture. g) Reference Voltage, Current and frequency. h) Class index. i) Meter Constant. j) Owner/Utility's Identity.

Front panel Indication/Display	Include but not limited to the following: Three level credit LED display Green-when energy stored is full Yellow-when remaining credit will last for 3- days. The red flashes when the remaining energy will last for 11/2 days. Blue-Consumption rate indicator. LCD credit status display. Credit transfer number accept/reject Tamper.
Special Mode Display for Engineering/Management	Display up to 3 parameters according to programming to be specified: a) Normal display –LCD i. Duplicate copy of token inserted ii. Credit Dispensing Unit identification number and KWh(or voucher serial number) inserted. iii. Electricity Dispenser (ED) full of units. iv. No power ON ED v. No credit on ED vi. Credit rejects or accepts. vii. Remaining Credit. viii. Instantaneous Power ix. Total KWh used in the past 24 hrs. x. Total KWh used in the past 30 days. xi. Total KWh used since the ED was installed. b) Display only available with valid codes. c) Display only available within chosen programming or engineering mode. For the purpose of these specifications, items b) and c) above are treated as one. These shall be accessible only to utility staff.

	a. Over current trip level. b. Green-Yellow Light emitting diode (LED) display change over level in KWh (high). c. Yellow-Red LED display change over level in KWh (low). d. Test on LED for tripping function. e. Display of LED number. f. Electronics faulty. g. Power failure counter (Number of times power supply failed or disconnected)-400 cycles and back to Zero. h. Enabling of disabled LED caused by tampering. i. Number of days/hours into the current 30 days when there was power and total KWh used during the period.
EMC Compliance	Relevant section of IEC 61036.
Burden	Preferably less than 2 VA per phase.
Terminals	Extended cover type. Hole diameter shall be a minimum of 9mm.
Casing/Cover Material	Fire retardant-bakelite or polycarbonate
Sealing	Provision must be adequate to prevent tampering.
Power Factor Range	-1 to +1
Data Storage	Non-Volatile EPROM
Switching	Latching contactor.
EMC Susceptibility	According to IEC 61036, 61268. Not adversely affected by external magnetic fields.
Life Span	Minimum 10 years
Warranty	5 years Warranty
Communication	4G modem with fall back capability to 2G

The meter shall decrement units for consumption in accordance with, and to the level of accuracy specified in the active tariff.

- The display unit or the consumer interface (which will be in the apartment) while the Energy Measuring and Control Unit (EMCU) shall be installed remotely from the apartment (or consumer).

- Mounting shall be either on an electric pole or high surface wall (EMCU only).

1.2. D I N R A I L TYPE PREPAYMENT SINGLE PHASE DISPENSER

The technical specifications for split type single phase Electricity prepayment meter shall apply.

A box must consist of only one Dinrail meter.

Dinrail meter must consist a 4G modem for communication.