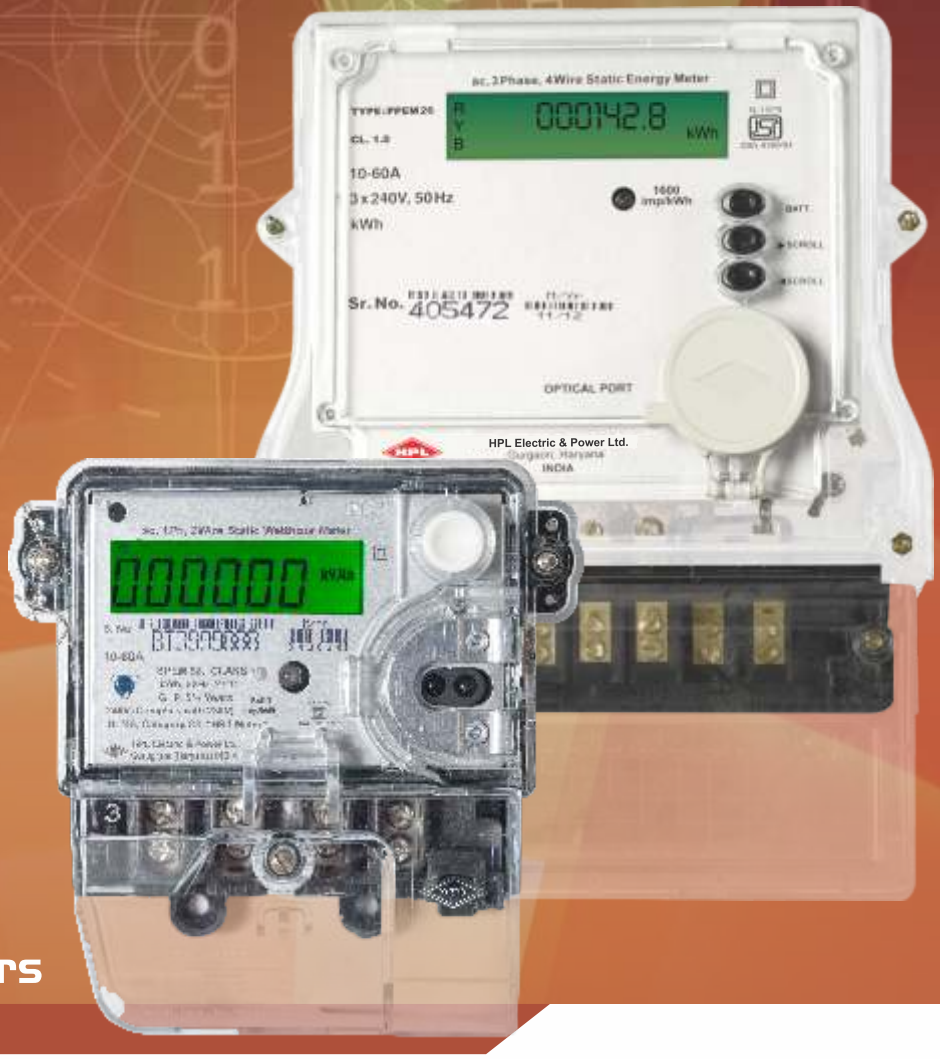
Technology of Measurement... defined

Electronic Energy Meters

Single Source & Dual Source



- Energy Meters
- Multifunction Meters

HPL offers wide Range of Multifunction Meters for Residential & Commercial applications

HPL

METERING

Electronic Energy Meter Single Source

Single Phase

Model:

Single Phase Electronic Energy Meter
with LCD Type Display
Available in class 1accuracy as per IS:13779

Ratings Available:

5-30A, 10-60A
Other Ratings are available on request

Special Features

- Instantaneous Start.
- Low power consumption less than 1 wt. saving of more than 30% over conventional meters.
- Meter records correct energy with same accuracy under reverse current connection.
- LCD/LED's indication for current reversal tampering and phase availability.
- Optional : Optical port/RS232 communication for LCD Meter.
- AN ISO-9001 : 2008 Company.
- Meter with optical port are suitable for AMR application.

Design

- A sic based digital technology ensures superior & drift free long term performance and reliability.
- Tamper proof design.
- No frequent adjustments required.
- Immune to effects of external magnetic field as per IS:13779.

Three Phase

Model:

Three Phase Electronic Energy Meter
with LCD Type Display
Available in class 1accuracy as per IS:13779

Ratings Available:

10-60A, -/5A* CT Operated

Accuracy

- Accuracy irrespective of mounting position.
- Accuracy maintained even under wide voltage fluctuation from -40% to +20% of Vref.
- Accurate reading even under rapid current fluctuation.
- Accurate for balance as well as unbalance loads.

Anti Tamper Features

- Anti Tamper Features
- Meter Records correct energy with same accuracy under reverse current connection.
- For Indication please refer the technical specification.
- Phase available indication provided.
- Meter works accurately under earth load condition.

Technical Specification of Electronic Energy Meter Single Phase & Three Phase

Type	Electronic Energy Meter Single Phase	Electronic Energy Meter Three Phase
Reference Voltage	240V	3 x 240V
Reference Frequency	50Hz	50Hz
Starting Current	0.4% of basic current for direct connected meters and 0.2% of basic current for CT operated meters	0.4% of basic current for direct connected meters and 0.2% of basic current for CT operated meters
Operating temp.	-10°C to 60°C	-10°C to 60°C
Enclosure	Polycarbonate	Polycarbonate
Overload Capacity	400% and 600% of basic current for direct reading	400% and 600% of basic current for direct reading
Power Consumption	Less than1.0 watt	Less than1.0 watt

Versions Available

Type	Electronic Energy Meter Single Phase	Electronic Energy Meter Three Phase
Rating LCD	Direct Connected: 5/30A, 10/60A	Direct connected: 10/60A CT Operated: -/5A
Dimensions LCD	112mmx166mmx68mm	247mmx187mmx98mm
Indications LCD	LED's provided on front window for following indications: • Meter Calibration LCD icons indication for the following: • Reverse indication • Earth tamper indication • Phase available Indication	LED's provided on front window for following indications: • Meter Calibration LCD icons indication for the following: • Reverse indication • Phase available indication

Special Features

- Made of UV stabilized transparent polycarbonate/Flame retardant high grade engineering plastic.
- Unique arrangement for pilfer proof interlocking with hinge type boxes.
- Suitable for indoor and outdoor applications.
- Complying to IS:14772 and tested at CIPET.
- Sealable optical port provision on the cover of the meter box.
- Sealable push buttons provided on the box cover.
- Latest state of the art Inhouse tool room to design meter boxes for special application.
- Large capacity in house moulding for quick and bulk supplies.

Meter Box for Single Phase & Three Phase Meters

Meter Cupboard with Hinge type locking arrangement moulded in Transparent Engineering Plastic

Three Phase LT - CT
Trivector Meter

Ratings Available

-/5A* CT Operated

* Direct Reading Meters available on request

Salient Features

- Accuracy Class 0.5 as per IS 14697:99.
- Suitable for DT Metering & Optical communication port.
- Logging and display of tamper data.
- TOD, Load survey, tamper information downloadable to CMRI through optical port.
- Display in absence of power supply.
- Suitable for AMR.

Other Features

- Power ON / OFF events
- Programmable TOD time zones
- Data downloading through optical port / hard wired RS232 port
- 60 Days load survey with 30 minutes integration period for the following parameters:
  - a. Active Energy (kWh)
  - b. Apparent Energy (kVAh)
  - c. Reactive Energy lag (kVArh)
  - d. Average Voltage Per Phase
  - e. Average Current Per Phase

Energy Register

- Active / Apparent Energy
- Reactive Energy (Lag kVArh)
- Reactive Energy (Lead kVArh)

Display Parameters

Measures & Displays the following parameters :

- Cumulative Energy kWh
- TOD zone wise Cumulative kWh
- Current month kVA MD
- TOD zone wise previous month billing kVA MD
- Cumulative kVAh Reading
- Average Power Factor
- Total Number of Tamper Counts
- Phase wise instantaneous Phase to Neutral Voltage
- Instantaneous Line Current
- Total Instantaneous Power (kW / kVAr / kVA)
- Instantaneous Power Factor
- TOD Zone wise Cumulative kVAh Reading
- Cumulative R kVAh Lag
- Cumulative R kVAh Lead
- High resolution kWh
- Numbers of MD Reset
- Cumulative Export Active Energy kWh

Anti-Tamper Features

Meter is capable of detecting & recording the following tamper events. Tamper event shall be recorded with following snapshots of occurrence & restoration, tamper type, date, time, Instantaneous voltage, current, PF, cumulative kWh & kVAh. Meter records 280 tamper events on FIFO basis for following tampers available with communication.

A. Missing potential
B. Current reversal
C. Current circuit short
D. CT Bypass
E. Magnetic Tamper
F. Potential imbalance
G. Current Unbalance

Communication Parameters

Following parameters can be obtained through optical port / RS 232 port.

A. Load Survey for last 60 days.
B. Last 6 months billing data.
C. Instantaneous parameters at the time of meter reading.
D. TOD / Tamper Data

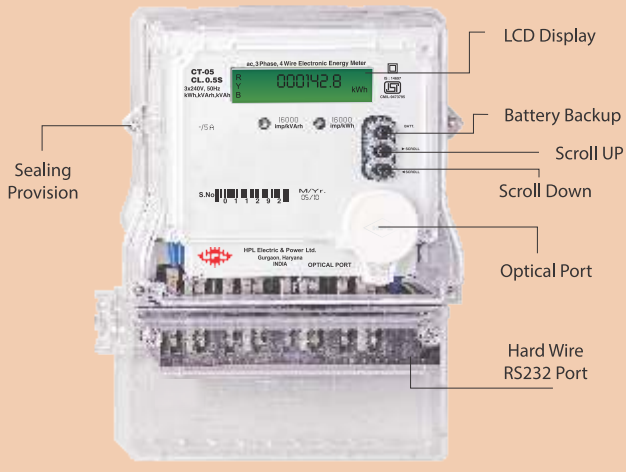
Maximum Demand and MD Integration period

The demand is monitored during each demand interval set with 30mins integration and the maximum of these demand is stored as maximum demand along with date and time.

Technical Specifications

Type	AC, 3 Phase 4 Wire
Reference Voltage	3 x 240 V
Current Rating	-/5A CT Operated
Reference Frequency	50 Hz, ±5%
Starting Current	0.1% of basic current
Display	Backlit LCD display Large digit size 10mm x 5 mm
Enclosure	Engineering plastic
Class	CL 0.5
Application Standard	IS 14697 : 99
Dimensions	247mm x 187mm x 98mm

Meter Details



Maximum Demand Reset

Maximum demand shall reset automatically at the last day of the month at 24:00hrs. whenever MD is reset, MD reset count is increased.

Three Phase Dual Source

Trivector Meter

Mains / Generator Selection Through 240V AC

Ratings Available

10-60A,-/5A CT Operated

Salient Features

- Ratings available: 10-60A in Class 1.0 as per IS 13779 & -/5A CT Operated in Class 0.5s as per IS14697.
- Tri-vector Meter which records energy of both Utility & DG Source.
- BIS Marked Meter suitable for Tariff Billing.
- Energy recording at less than 0.2% of basic current.
- Mains/Generator selection through 240V AC sensing signal.
- Indication for current reversal & phase availability on the LCD itself.
- Separate LED to indicate the source in use.
- Load survey & Tamper logging available.
- Supports upto 8 tariff billing slabs for time of day use.
- Optical /RS232 Port communication on DLMS as per IS5959 for AMR & RS485 port on MODBUS open protocol for BMS / EMS application.

Technology of Measurement...
defined

Display Parameters

Measures & Displays the following parameters :

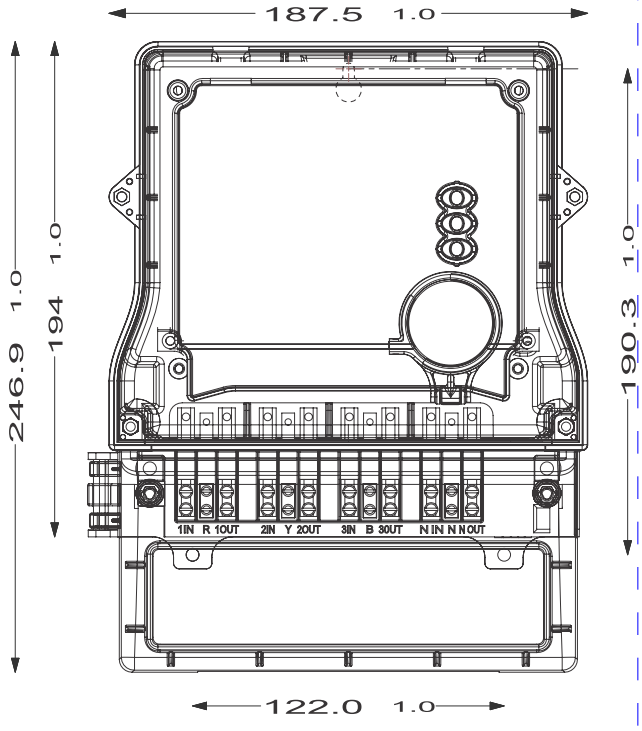
- Mains/DG Total Cumulative Energy KWh, KVAh, KVArh Lag & Lead.
- TOD wise KWh &KVAh for Mains.
- Real Date & Time.
- Mains/DG maximum demand in KVA & TOD wise demand in KVA for Mains.
- Current Month Avg. PF Mains.
- Phase wise & Total PF.
- Instantaneous voltage, current phase wise.
- Last billing maximum demand in KVA for Mains/DG & TOD wise demand in KVA for Mains.
- High resolution for KWh for Mains/DG & Mains KVAh.
- Cumulative power ON hrs for Mains/DG.
- Last MD Reset Date & Time & Slave Address.

Anti-Tamper Features

Display :

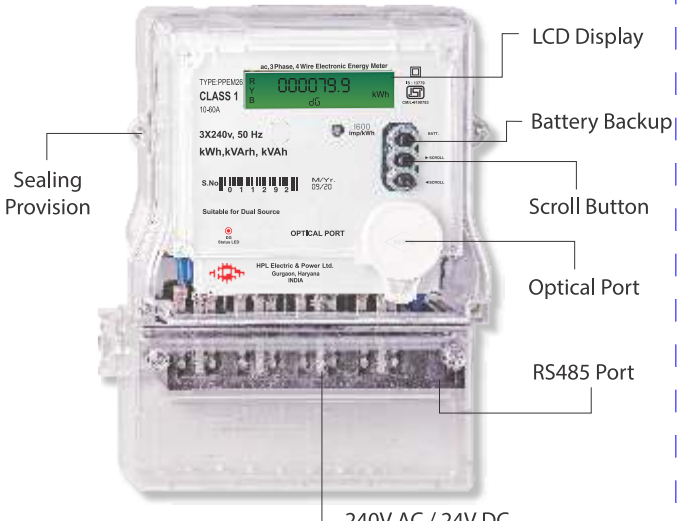
- Present source of supply indication
- Phase available indication
- CT Reversal indication for respective phase
- Present Tamper Occurrence & Restoration
- Last Tamper Occurrence & Restoration
- More than 200 nos. Tamper events recording on FIFO basis for the following tampers.
  - Missing potential
  - Magnetic Tamper
  - Current imbalance
  - Current Reversal
  - Potential Imbalance
  - CT Bypass & CT Open
  - Phase Missing

Dimension Drawing



Meter Details

Ref. Temperature 27°C
Suitable for Dual Source Metering



HEPL/EEM/02-25

HPL Electric & Power Ltd
Corp. Office: 76-B, Phase-IV, Sector-57, HSIIDC Industrial Estate, Kundli-131028, Sonipat, Haryana INDIA.
Tel.: +91-130-350 3958, 350 3437
Registered Office: 1/20, Asaf Ali Road, New Delhi-110 002, INDIA.
E-mail: hpl@hplindia.com

Follow us :
Customer Care No.: 18004190198
E-mail: customercare@hplindia.com
For online Complaint Registration:
https://www.hplindia.com/register-complaint.php
www.hplindia.com