

Technology of Measurement...
defined

CT-2 Series Digital Energy Meters

- CT-2M - Counter Type Display
- CT-2E & CT-2EA - LCD Type Display



- Counter Type Display
- LCD Type Display

HPL brings you a wide range of AC Energy Meters
for LT application



METERING



Three Phase kWh Panel Meters - Counter Display



CT-2M
For LT Application
Counter Display

Specifications

- Digital measurement.
- CT Operated energy meter.
- 3 Ph 4 wire LT Application.
- Flush mounting compact design (96x96mm).
- Potential free pulse output for external energy totalization.

Accuracy

- Accuracy class 1.0.
- Accuracy maintained even under wide voltage fluctuation, from -40% to +20% of Reference Voltage.
- Accurate reading even under rapid current fluctuation.
- Accurate reading for balance as well as unbalance loads.

Anti Tamper Features

- Meter records correct energy with same accuracy under reverse current connection of one or all phases.
- Phase available indication provided.
- Meter Works on neutral removal.
- Meter works on removal of any one or two phases.

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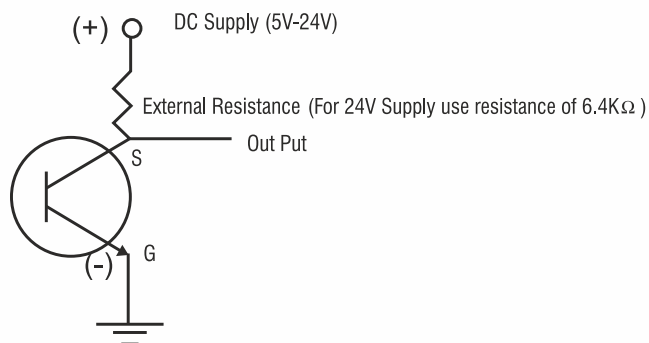




Technical Information of Panel Meters

CT-2M Meter	
Functions	Measures Energy accurately even under adverse supply for 3 phase 4 wire network.
Range	(1) -/5A (2) For direct reading with external CTs 50/5A 60/5A 75/5A 100/5A 125/5A 150/5A 200/5A 250/5A 300/5A 400/5A 500/5A 600/5A 800/5A
Conformity to Standards	IS 13779
Other Features	<ul style="list-style-type: none"> Instantaneous start. No separate Auxiliary supply is required. Low power consumption less than 1 watt /Phase. Saving of more than 30% over conventional meters. Direct reading CT operated meter Potential free pulse output for energy No frequent adjustments required. No mechanical wear & tear.

Pulse Output Wiring Diagram



Note:

- 1) Our Pulse Output is Open Collector Type.
- 2) External Resistance is to be used between DC Supply point & 'S' of our pulse output.
- 3) For 24V DC use an external resistance of 6.4K Ω .
- 4) This external resistance value will vary depending upon the external voltage (5-24V) being given by the user.

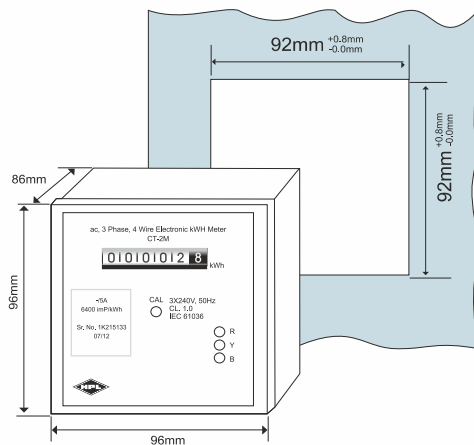
Technical Specification of CT-2M

CT-2M Meter	
Operating Voltage	240V, -40% to +20% Phase to Neutral
Frequency Range	50Hz \pm 5%
Display	5 + 1 digits for -/5A meter 6 digit for direct reading meter
Current Rating	-/5A
Operating Temp	-10°C. to 60°C.
Dimensions	96 x 96 x 86mm (L x W x H) (with connectors)
Accuracy	Class 1.0
LEDs	Four LEDs provided on front window for following indications. - Meter Calibration - Phase indication available for each phase. (3 Nos.)

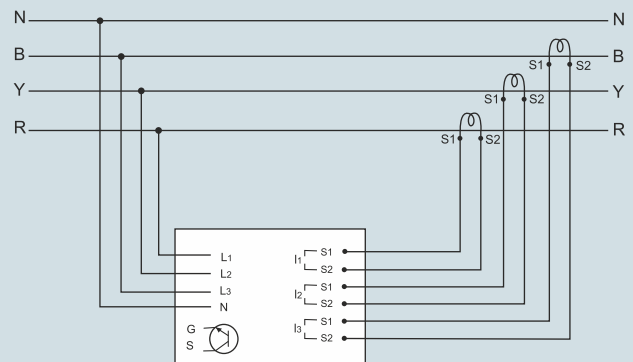
Panel Cutout Details

The panel Meter is installed on the cabinet's front panel and shall be secured firmly with cabinet using 4 transparent Clips

Use 0.5mm² to 2.5mm² Cable for Voltage terminal & 3mm² to 6mm² cable for Current terminals



CT-2M - Wiring Diagram





Three Phase kWh Panel Meters - LCD Display



CT-2E
3 Phase Panel Meter
LCD Display



CT-2EA
3 Phase Panel Meter
LCD Display

Technical Features

Functions

Measures Energy accurately even under adverse supply conditions.

Range

LT 3 Phase 4Wire suitable for:

- (1) -/5A CT Secondary
- (2) For direct reading with external CTs of 5A Secondary. The primary is selectable from 5A to 6000A in steps of 5A

Conformity to Standards

IS 13779 / IEC - 61036

Specifications

- Digital measurement
- CT Operated energy meter
- 3 Ph 4 wire LT Application
- Flush mounting compact design (96x96mm)
- Potential free pulse output for external energy totalization.
- Conforms to IS-13779 / IEC-61036

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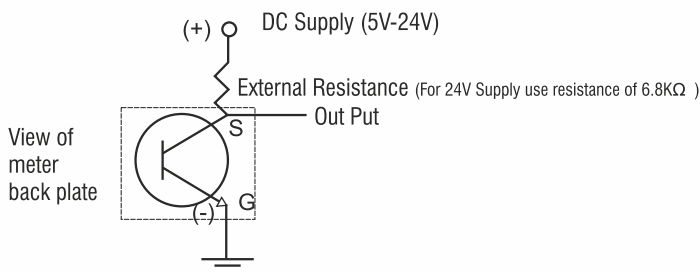
Other Features

- LCD type display.
- Low power consumption less than 1 watt per phase. Saving of more than 30% over conventional meters.
- Direct reading CT operated meter.
- Potential free pulse output for energy.
- Finger touch-proof terminals for CT & Voltage connections.
- RS 485 MODBUS available to connect up to 32 Nos. CT-2EA on one communication port over a cable distance of 1000 meters on a network. Totally 255 devices can be connected on a MODBUS network.

Technical Specification of CT-2E & CT-2EA Meter

Operating Voltage	240V, -40% to + 20% Phase to Neutral
Frequency Range	50 Hz \pm 5%
Display	6 digit for -/5A meter and 6+1 digit for direct measurement with a digit after decimal point
Operating Temp.	-10°C. to 55°C
Dimensions	96mm x 96mm x 86mm (L x W x H) (with connectors)
Power Consumption	Less than 1 watt / phase
Programming Keys	⊕ For Selection ⊖ For Confirmation
Pulse Output	Potential free contact
Pulse Duration	100m sec (Minimum)
Pulse Weight	1 Pulse = 1 kWh for direct reading = 100 wh for -/5A meter

Connection Diagram for Pulse output



Note:

- 1) Our Pulse Output is Open Collector Type.
- 2) External Resistance is to be used between DC Supply point & point 'S' of our pulse output.
- 3) For 24V DC use an external resistance of 6.8K Ω .
- 4) This external resistance value will vary depending upon the external voltage (5-24V) being given by the user.

Accuracy

- Accuracy class 1.0
- Accuracy maintained even under wide voltage fluctuation from -40% to +20% of Reference Voltage
- Accurate reading even under rapid current fluctuation.
- Accurate reading for balance as well as unbalance loads.

Anti Tamper Features

1. Records energy accurately under the following.

Tamper conditions:

- a) One or Two phases are removed. OR
- b) Neutral is Removed. OR
- c) Reverse current condition.

2. Indication on LCD in case of CT reverse connections.





Front View of CT-2E

1. kWh Display
2. CT Reverse Indication
3. Calibration LED : 15000 imp/kWh for -/5A
4. "D" key used for increment the value while setting password & CT Ratio
5. "↵" to confirm the entered value & to move the digit right to left



Applications of CT-2 Series Meters

- Air Conditioning and Refrigeration Panels.
- Industrial Application.
- Electrical Panels - Industrial HT & LT Panels.
- Motor Control Centers, Distribution Control & Relay Panels.
- Equipment Monitoring.
- Transmission and Distribution Panels.
- In control panel to control different electrical loads.
- Genset, Solar and UPS applications.
- Test Benches and laboratory equipment.
- Special OEM application.

Front View of CT-2M

1. kWh Counter Display
2. Phase Indication LED's
3. Calibration LED : 15000 imp/kWh for -/5A



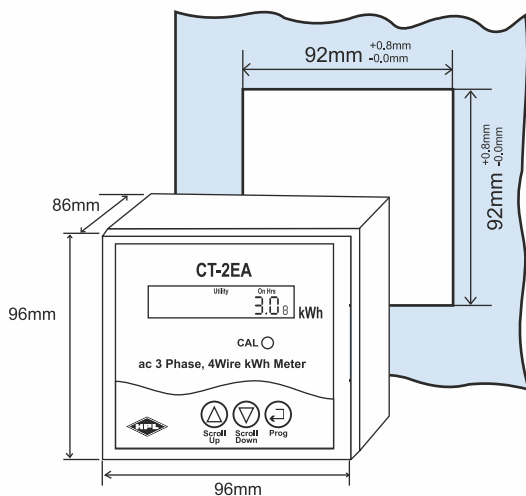
Ordering Information

Model	Description	CAT. Code
CT-2M	-/5A, LT-CT Operated or Direct Reading with Range 50/5A to 800/5A, Class 1.0	PAMCT2M005
CT-2E	-/5A, LT-CT Operated Programmable upto 6000A Primary Current, Class 1.0	PAMCT2E0005
CT-2EA	-/5A, LT-CT Operated Programmable upto 6000A Primary Current with RS485, Class 1.0	NPAMCT2EA005

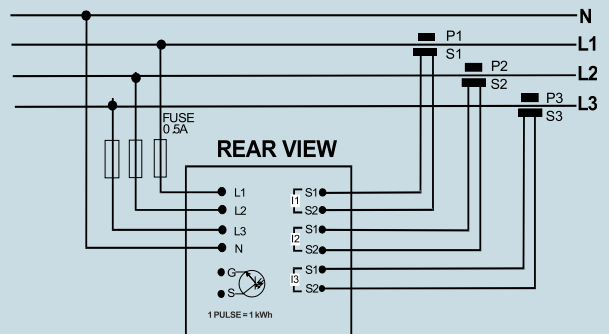
Panel Cutout Details

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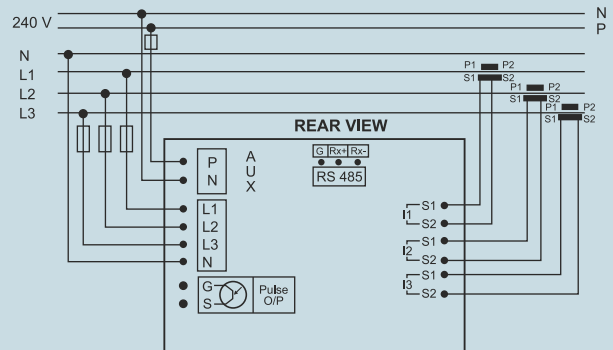


Wiring Diagram for CT-2E

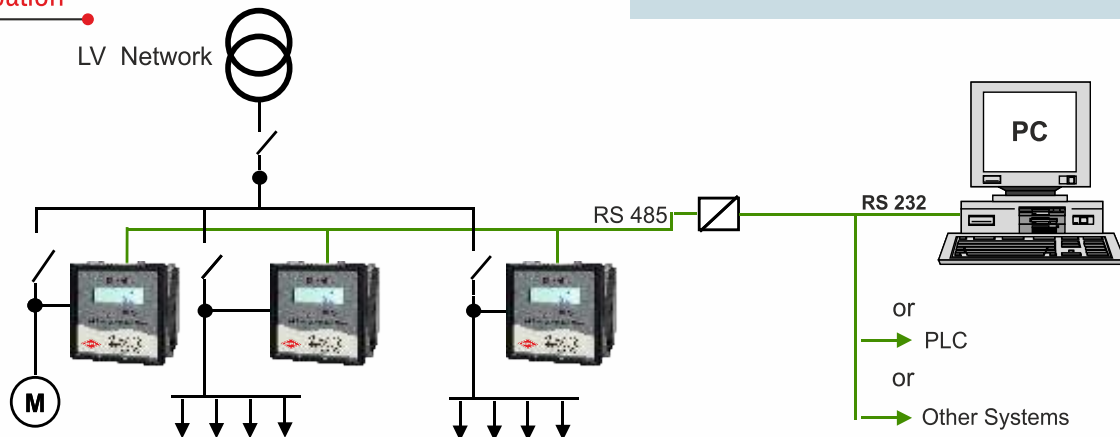


S, G = PULSE OUTPUT

Wiring Diagram for CT-2EA



Communication



HEPL/CT-2 Series/01-18



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