èbrit
Digital Panel Meters

- Ammeter
- Frequency Meter
- Voltmeter
- Kilo Watt Meter
- Power Factor Meter
- 3 Phase Power Meter

HPL brings to you a wide range of digital panel meters which measure the basic electrical parameters using state-of-the-art technology.
**Unique Features**

- Accuracy Maintained throughout the range
- Universal auxiliary supply: 80 to 300V AC/DC
- Push button based site programming of CT/PT ratio
- Network selections for star (3 phase 4 wire) and delta (3 phase 3 wire)
- Coloured indication for R, Y & B phases
- Bright 4 Digit 14mm LED display
- Auto scroll facility & scroll lock facility (for 3 Phase meter)
- Auto adjustable decimal point
- Same model for A & kA
- Same model for V & kV
- Push buttons for phase selection in 3 phase meters
- Password protected programming
- In Power meter kW, kVA, kVAR on a same meter - Site selectable

**Applications**

- Electrical Panels - Industrial HT & LT panels
- Motor Control Centres, Distribution Control Relay Panels
- Air Conditioning and Refrigeration Panels
- Genset Panels
- Generation, Transmission and Distribution Panels
- Test Benches and Laboratory Equipment
- Uninterrupted Power Supply
- Special OEM Applications

**Ammeter**

**Technical Specification**

- Available in Single Phase Two Wire & Three Phase Four Wire
- CT Primary: Programable upto 9999A (in steps of 5A & 1A)
- CT Secondary: 5/1A (Selectable)
- Auxiliary Burden: <2.5VA at 230V
- Voltage & Current Circuit burden: <0.5VA
- Resolution (Direct Measurement): 0.001A
- Measurement Range (Direct Measurement): 0 - 7A AC
- Class: 1.0, 0.5

**Features**

- Push button based site programming of CT ratio
- Bright 4 digit 14mm LED display
- Colour indication for R, Y & B phases
- Universal Auxiliary Supply: 80 to 300V AC/DC
- Same model for A & kA
- Auto scroll facility & scroll lock facility (For 3 Phase meter)
- LED indication for Kilo

**Ammeter Wiring Diagram**

1. Display
2. Phase Indications
3. Scroll Key
4. Enter Key
5. Kilo / Mega Indication
Frequency Meter

Technical Specification

- Suitable For - Single Phase Two wire
- Measurement Range : 40.00-99.99Hz,
- Auxiliary Burden: <2.5VA at 230V
- Voltage & Current Circuit burden : <0.5VA
- Resolution : 0.01Hz
- Class : 0.2

Features

- Bright 4 Digit 14mm LED Display
- Universal Auxiliary Supply -80 to 300V AC/DC.

Wiring Diagram of Single Phase & Three Phase Volt Meter & Frequency Meter

Voltmeter

Technical Specification

- Available in Single Phase Two Wire & Three Phase Four Wire
- PT Primary: 110V, 1.1kV, 6.6kV, 11kV, 33kV, 66kV, 132kV, 220kV & 440kV (Selectable)
- PT Secondary : 110V (Fixed)
- Auxiliary Burden: <2.5VA at 230V
- Voltage & Current Circuit burden : <0.5VA
- Resolution (Direct Measurement): 0.1V
- Measurement Range (Direct Measurement) : 0-750V AC
- Class : 1.0,0.5

Features

- Push button based site programming of PT ratio
- Network selection for star (3 Phase 4 Wire) and delta (3 Phase 3 wire)
- Bright 4 digit 14mm LED Display
- Colour indication for R, Y & B phase
- Universal Auxiliary Supply -80 to 300V AC/DC
- Same model for V & kV.
- Auto scroll facility & scroll lock facility (For 3 Phase Meter)

Note:
- Diagram 1 consider for single phase Volt Meter & Frequency Meter
- Diagram 2 consider only for Three phase Volt Meter.
Kilo Watt Meter

**Technical Specification**
- Suitable For - Single Phase Two wire
- CT Primary : Programmable upto 9999A (in steps of 5A & 1A)
- CT Secondary: 5/1A (Selectable)
- PT Primary: 110V, 1.1kV, 6.6kV, 11kV, 33kV, 66kV, 132kV, 220kV & 440kV (Selectable)
- PT Secondary: 110V (Fixed)
- Resolution (Direct Measurement) : 0.001kW
- Measurement Range(Direct Measurement): 0-3,000kW
- Auxiliary Burden: <2.5VA at 230V
- Voltage & Current Circuit burden : <0.5VA
- Class: 1.0, 0.5

**Features**
- Push button based site programming of CT & PT Ratio
- Bright 4 digit 14mm LED Display
- Universal Auxiliary Supply -80 to 300V AC/DC
- Same model for kW & MW
- LED indication for Mega

Power Factor Meter

**Technical Specification**
- Available in Single Phase Two Wire & Three Phase Four Wire
- Measurement Range - Zero Lag -Unity- Zero Lead
- Auxiliary Burden: <2.5VA at 230V
- Voltage & Current Circuit burden : <0.5VA
- Accuracy : ±0.01%
- Resolution : 0.01 (For Single phase PF Meter)
  0.001 (For Three phase PF Meter)

**Features**
- Lag/Lead indication on the display
- Bright 4 Digit 14mm LED display.
- Universal Auxiliary Supply -80 to 300V AC/DC.
Three Phase
POWER METER

Technical Specifications

DISPLAY
Display
14mm Seven segment LED Display
Display Range
0000 to 9999
Decimal
Auto adjust depending on CT ratio

ACCURACY
Class 1.0
± 1.0% of measured value
Class 0.5
± 0.5% of measured value

PROGRAMMING
CT Primary
5 to 6550A for CT secondary 5A
1 to 6550A for CT secondary 1A
CT Secondary
5 / 1A (Selectable)

MECHANICAL
Dimensions
96mm x 96mm x 86mm
Weight
< 320g
Protection Index
IP54 (front panel)
Panel Cutout
92mm x 92mm

UNIT OF MEASUREMENT
Active Power
kW
Reactive Power
kVar
Apparent Power
kVA

DEFAULT FACTORY SETTING
CT Primary
5A
CT Secondary
5A
Power Selection
Active

ELECTRICAL SPECIFICATION
Auxiliary Power Supply
80-300V AC/DC, 50 Hz
Auxiliary Burden
<2.5 VA at 230V (Rated Voltage)
Voltage Circuit Burden
<0.5 VA
Current Circuit Burden
<0.5 VA
Input Voltage
0-450V AC per phase
Input Current
0-7.5A per phase
MEASURING RANGE (For CT Ratio = 1)

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Phase wise power</td>
<td>0.000 - 3.300</td>
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<tr>
<td>Total Power</td>
<td>0.000 - 9.900</td>
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Total Active power is the absolute sum of all three phase active powers
Total Apparent power is the absolute sum of all three phase apparent powers
Total Reactive power is the algebraic sum of all three phase reactive powers

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<th>Resolution</th>
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<td>0.001 Unit</td>
<td>for CT Ratio 1</td>
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<tr>
<td>0.01 Unit</td>
<td>for CT Ratio 1 &amp; 10</td>
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<tr>
<td>0.1 Unit</td>
<td>for CT Ratio 10 &amp; 100</td>
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<tr>
<td>1 Unit</td>
<td>for CT Ratio &gt; 100</td>
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ENVIRONMENTAL

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<tr>
<td>Operational temperature</td>
<td>0 to 60°C</td>
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<tr>
<td>Storage temperature</td>
<td>-20 to 70°C</td>
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<tr>
<td>Relative humidity</td>
<td>0 to 95%</td>
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<td>IEC 61010 - 1</td>
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<td>IEC 61326 - 1</td>
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Wiring Diagram of Power Meter

Front View of Power Meter
Ordering Information

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<tr>
<th>Model</th>
<th>Description</th>
<th>CAT. Code</th>
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<tr>
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<td>Single Phase Ammeter</td>
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<tr>
<td>ébrit A3</td>
<td>Three Phase Ammeter</td>
<td>NPAMEBRITA3*</td>
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<tr>
<td>ébrit V1</td>
<td>Single Phase Volt Meter</td>
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<td>Three Phase Volt Meter</td>
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<td>ébrit PM</td>
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Note:
- * Code relate to Class accuracy
- 1 Stands for CL 1.0 accuracy
- 2 Stands for CL 0.5 accuracy
- 3 Stands for CL 0.2 accuracy

Display Parameters

Single Phase Meters
Single Phase Voltmeter / Ammeter / Frequency Meter / PF Meter / Kilo Watt Meter will show the respective parameter on the screen.

Three Phase Meters

Volmeter
- Star Connection
  - R Phase to Neutral Voltage
  - Y Phase to Neutral Voltage
  - B Phase to Neutral Voltage
  - R-Y Phase to Phase Voltage
  - Y-B Phase to Phase Voltage
  - R-B Phase to Phase Voltage
- Delta Connection
  - R-Y Phase to Phase Voltage
  - Y-B Phase to Phase Voltage
  - R-B Phase to Phase Voltage

Three Phase Ammeter
- R Phase Current
- Y Phase Current
- B Phase Current

Three Phase PF Meter
- R Phase PF
- Y Phase PF
- B Phase PF
- System PF

Three Phase Power Meter
- Parameter Display for Active & Apparent Power
  - R Phase Power
  - Y Phase Power
  - B Phase Power
  - Total Power
- Parameter Display for Reactive Power
  - R Phase Power Sign
  - Y Phase Power Sign
  - B Phase Power Sign
  - Total Power Sign
  - Total Power

Meter Cutout Details

- The Panel Meter is to be firmly secured using the 4 transparent fixing clips.
- Use 0.5 mm² to 2.5 mm² Cable for Voltage terminals.
- Use 3 mm² to 6 mm² Cable for Current terminals.

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* This document is not a contract. • As part of our continuous improvement processes the specifications are subject to change without prior notice