

Technology of Measurement...

defined

êbrit MULTI

Advanced Version of Digital Multifunction Panel Meters (With THD)

- Three line bright LED display

Energy Metering, Monitoring & Management System for Industrial and Commercial Application



HPL brings to you a wide range of digital panel meters which measure Trivector Energy as well as the basic electrical parameters using state-of-the-art technology.





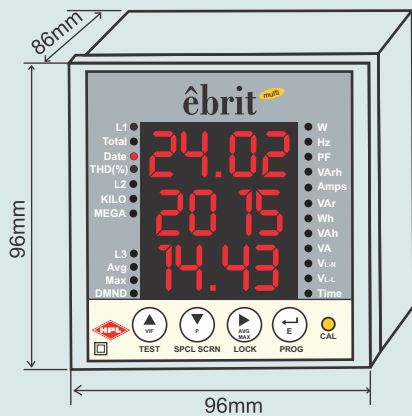
Unique Features

- Accuracy Maintained through out the range
- Wide range auxiliary supply : P-N 80-300V 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)
- Bright 3 line 14mm LED display
- Auto scroll facility & scroll lock facility
- Auto adjustable decimal point
- Password protected programming
- Test mode display

Applications

- Electrical Panels - Industrial 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

Front View

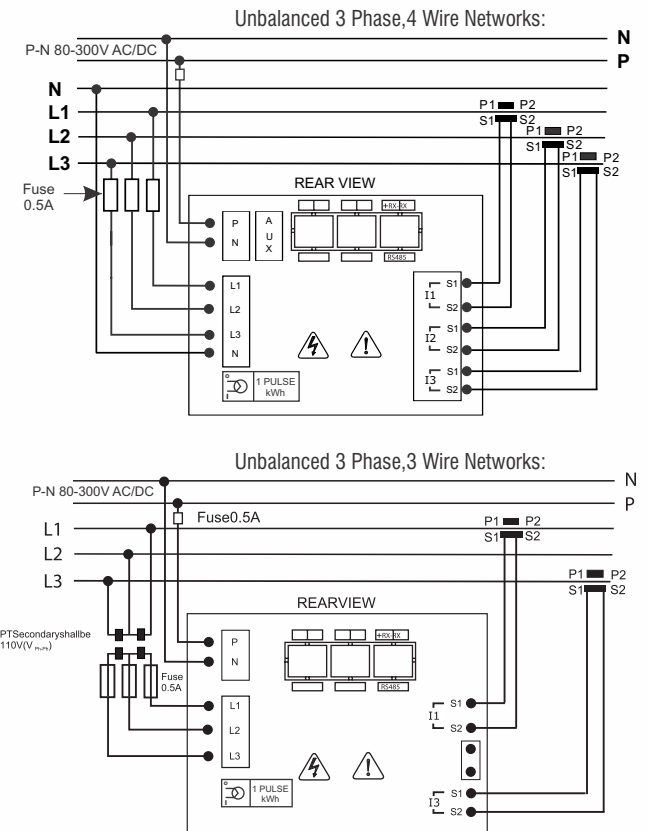


Special Features

- For ease in monitoring, Special Screens have been provided as below.

Screen 1 R Phase	Screen 2 Y Phase	Screen 3 B Phase
Active Power	Active Power	Active Power
Current	Current	Current
Voltage	Voltage	Voltage
Screen 4 R Phase	Screen 5 Y Phase	Screen 6 B Phase
Active Power	Active Power	Active Power
Reactive Power	Reactive Power	Reactive Power
Apparent Power	Apparent Power	Apparent Power
Screen 7 R Phase	Screen 8 Y Phase	Screen 9 B Phase
Power Factor	Power Factor	Power Factor
Current	Current	Current
Voltage	Voltage	Voltage

Wiring Diagram





Salient Features

- Three Line LED Display
- Optically Isolated Energy Pulse Output
- RS485 MODBUS Communication
- Provision for Special Screens display
- CT Secondary -/1A or -/5A (site selectable)
- Test mode display
- THD(%) Phase Wise Phase - Neutral Voltage (Volt)
- THD(%) Phase Wise Current (Amp)
- THD(%) Line Voltage (Volt)

Technical Specifications

ENCLOSURE

Dimensions	96mm x 96mm x 86mm
Weight	<400gms

FRONT PANEL

Display	Three Line LED Display
Digit Height	14mm
Protection Index	Ip54

INPUT CURRENT

Via Current Transformer with Primary to 2000 A configurable in	From 5A to 9999A Configurable in multiples of 5 for -/5A & from 1A multiples of 1 for -/1A
Insulated Secondary	5A / 1A (Selectable)
Current circuit burden	<0.25VA
Starting current	10mA (Secondary)
Overload without CT	7A
Overload with CT	9999A

INPUT VOLTAGE

Measurement Range	120V AC to 300V AC P - N (3f 4 wire) 60V AC to 110V AC P - P (3f 3 wire)
Via Voltage Transformer: Primary	110V/1.1kV/2.2kV/3.3kV/6.6kV 11kV / 22kV / 33kV / 66kV / 121kV / 132kV (Selectable)
Via Voltage Transformer: Secondary	110V (Fixed)
Voltage Circuit Burden	≤ 2VA

Typical Applications

- Electrical Panels - Industrial LT Panels.
- Motor Control Centres, Distribution Control and Relay Panels.
- Air Conditioning and Refrigeration Panels etc.
- Genset Panels
- Generation, Transmission and Distribution Panels
- Test Benches and Laboratory Equipment
- Uninterrupted Power Supplies
- Special OEM Application

AUXILIARY SUPPLY

Supply Value	P-N 80-300V AC/DC
Burden	≤ 2.5VA

Accuracy

Class	0.5, 1.0
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PULSE OUTPUT

Duration	100ms
Width	1pulse=1kWh

DISPLAY RESOLUTION

Voltage Display	1 decimal digit
Current Display	3 decimal digit

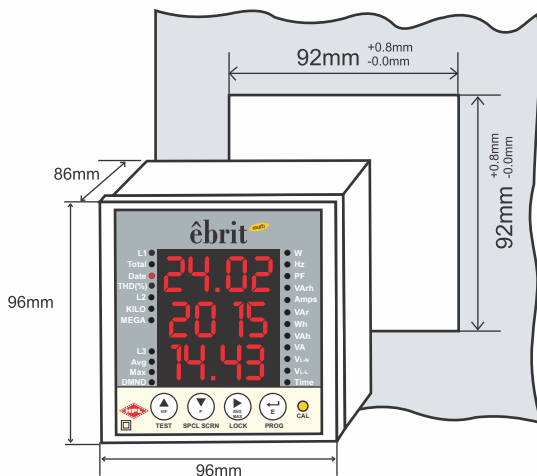


Ordering Information

Model	Description	CAT.Code
èbrit MF11	Three phase èbrit MF Basic	PAMEBRITMF11
èbrit MF21	Three phase èbrit MF with RS 485	PAMEBRITMF21
èbrit MF15	Three phase èbrit, class-0.5	PAMEBRITMF15
èbrit MF25	Three phase èbrit, class-0.5 with RS 485	PAMEBRITMF25
èbrit MF31	Three phase èbrit, class-1.0 with THD & RS 485	PAMEBRITMF31
èbrit MF35	Three phase èbrit, class-0.5 with THD & RS 485	PAMEBRITMF35

Meter Cutout Details

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



- Programmable CT & PT Ratio.
- Programmable average integration and MD integration time.

Display Parameters

No.	DISPLAY PARAMETERS	EBRIT MULTI		EBRIT MULTI WITH THD	
		3P 4W	3P 3W	3P 4W	3P 3W
AUTO SCROLL MODE					
1	Inst. Phase Wise Phase - Neutral Voltage (Volt)	✓		✓	
2	Inst. Phase Wise current (Amp)	✓	✓	✓	✓
3	Inst. Line Voltage (Volt)		✓		✓
4	Frequency (HZ)	✓	✓	✓	✓
PUSH BUTTON (▲) VIF MODE					
1	Inst. Phase Wise Phase - Neutral Voltage (Volt)	✓			
2	Inst. Phase Wise current (Amp)	✓	✓	✓	✓
3	Inst. Line Voltage (Volt)	✓	✓	✓	✓
4	THD(%) Phase Wise Phase - Neutral Voltage (Volt)			✓	
5	THD(%) Phase Wise Current (Amp)			✓	✓
6	THD(%) Line Voltage (Volt)				✓
7	Frequency (HZ)	✓		✓	✓
8	Real Date & Time	✓	✓	✓	✓
PUSH BUTTON (▲) TEST MODE					
1	LED Segment Check	✓	✓	✓	✓
2	CT Ratio	✓	✓	✓	✓
3	PT Ratio	✓	✓	✓	✓
4	RTC Status	✓	✓	✓	✓
5	EEPROM Status	✓	✓	✓	✓
PUSH BUTTON (▼) P MODE					
1	Inst. Phase Wise Active Power (kw)	✓		✓	
2	Inst. Phase Wise Apparent Power (kVA)	✓		✓	
3	Inst. Phase Wise Reactive Power (kVAR)	✓		✓	
4	Total Active, Apparent & Reactive Power	✓	✓	✓	✓
5	Inst. Phase Wise Power Factor (PF)	✓		✓	
6	System Power Factor (PF)	✓	✓	✓	✓
7	Active Power Maximum Demand (kW)	✓	✓	✓	✓
8	Active Power Maximum Demand Date & Time	✓	✓	✓	✓
9	Apparent Power Maximum Demand (kVA)	✓	✓	✓	✓
10	Apparent Power Maximum Demand Date & Time	✓	✓	✓	✓
PUSH BUTTON (▼) SPCL SCR MODE					
1	R Phase - kW, Current, Voltage	✓		✓	
2	Y Phase - kW, Current, Voltage	✓		✓	
3	B Phase - kW, Current, Voltage	✓		✓	
4	R Phase - Power Factor, Current, Voltage	✓		✓	
5	Y Phase - Power Factor, Current, Voltage	✓		✓	
6	B Phase - Power Factor, Current, Voltage	✓		✓	
7	R Phase - kW, kVA, kVA	✓		✓	
8	Y Phase - kW, kVA, kvA	✓		✓	
9	B Phase - kW, kVA, kVA	✓		✓	
PUSH BUTTON (▶) AVG MAX MODE					
1	Phase Wise Average Voltage (Volt)	✓		✓	
2	Phase Wise Average Current (Amps)	✓		✓	
3	Avg. Active, Apparent & Reactive Power	✓	✓	✓	✓
4	Phase Wise Maximum Voltage (Volt)	✓		✓	
5	Phase Wise Maximum Current (Amps)	✓		✓	
6	Max. Active, Apparent & Reactive Power	✓	✓	✓	✓
PUSH BUTTON (↕) E MODE					
1	Active Energy (kWh)	✓	✓	✓	✓
2	Apparent Energy (kVAh)	✓	✓	✓	✓
3	Reactive Energy (kVArh) Lag	✓	✓	✓	✓
4	Reactive Energy (kVArh) Lead	✓	✓	✓	✓



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