

multitek



MultiPower

Multifunction power meter
M850-LCD

MultiPower

The M850-LCD series MultiPower LCD display is a complete 3 phase digital universal metering system in a standard 96 x 96 mm DIN case. It can be used on any voltage system with a wide range of inputs. The auxiliary supply is a universal supply for both AC & DC volts. The one unit covers the majority of application without any modification required, which makes M850-LCD ideal for stocking.

The M850-LCD has a unique LCD display which has customer selectable back lighting with user selectable options of Green Blue or White.

Parameters Measured

- * Phase Voltage (V)
- * Phase to Neutral (V)
- * Phase Current (I)
- * Frequency (Hz)
- * Active Power (W)
- * Reactive Power (Var)
- * Apparent Power (VA)
- * Active Energy (W.h)
- * Reactive Energy (Var.h)
- * Power Factor (P.F.)
- * Instantaneous Demand Amp
- * Instantaneous Demand Active Power
- * Instantaneous Demand Apparent Power
- * Maximum Demand Amps
- * Maximum Demand Active Power
- * Maximum Demand Apparent Power
- * Neutral Current
- * THD Voltage Option
- * THD Current Option

Accuracy

Volts & Amps	0.5% of reading \pm 2 digits
Frequency	0.1Hz \pm 1 digit
Active Power	1% of reading \pm 2 digits
Reactive Power	1% of reading \pm 2 digits
Apparent Power	1 % of reading \pm 2 digits
Power Factor	1% of range
Energy	IEC 1036 class 1

System Types

The M880-LCD can be used on the following measuring systems without any changes apart from wiring configuration.

Single Phase,

Single Phase 3 wire

3 Phase 3 Wire Balanced Load

3 Phase 4 Wire Balanced Load

3 Phase 3 Wire Unbalanced Load

3 Phase 4 Wire Unbalanced Load

Controls & Programming

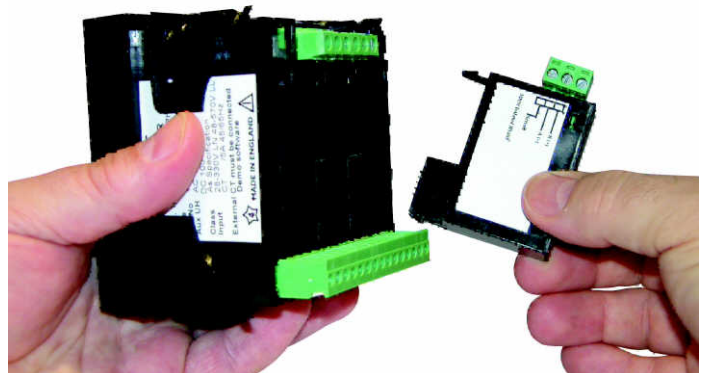
The four front control buttons are used for scrolling up or down through the parameters being measured and displayed. These buttons also allow programming of different Current and Voltage transformer ratios, Demand times, Baud rates etc.

Display

The unique 3 colour option LCD FSTN display is designed to be read in a variety of conditions over wide viewing angle, and distance. There are 3 colours options of the back lighting available Blue, Green or White which are user selectable through the front control buttons.

Plug in options

Both the RS485 option and pulsed output options are versatile plug in units that can be purchased with the MultiPower meter or can be retrofitted when required



Communications

The MultiPower has the plug in option of RS485 communications. The RS485 enables remote reading of up to 32 MultiPowers on a 2 wire bus using the Modbus protocol.

The Modbus protocol allows the MultiPower to be used with PC, PLC, RTU, Data loggers and Scada programs.

Pulsed Output

An option of a plug in pulsed output via a relay is offered. The pulsed output can be assigned to W.h, and VAr.h

Memory

Current ratios, demand time periods and calibration data is stored in non volatile eeprom memory. In power down (power loss) conditions this data is retained.

General Specification

INPUT

Rated Un 28V to 330V L.N. 48V to 570V L.L.
Overload 800V continuous
Burden 0.5VA
Rated In 5 A 0.5 to 6 Amp via C.T.
 (option) 1 A 0.1A to 1.2 Amp via CT
Overload 10In for 1 sec
Burden 0.5VA per phase
Frequency 45/65Hz
Input working range :
Voltage & Current 1.7% to 100%

Auxiliary Voltage

100 to 440V AC 100 to 420V DC
 45 to 65Hz, burden < 10VA

Insulation

Installation category III (480 VAC ph/ph)
Degree of pollution 2
Rated impulse withstand voltage IEC 60947-1-V imp: 4kV
Meters Front Class II
Electrical security IEC 61010-1

Electromagnetic compatibility

Immunity to :
 electrostatic discharges: IEC 61000-4-2-Level III
 radiated radio-Hz fields: IEC 61000-4-3-Level III
 electrical fast transient/brusts: IEC 61000-4-4-Level III
 impulse waves: IEC 61000-4-5-Level III
 conducted disturbances: IEC 61000-4-6-Level III
 voltage dips & short interruptions: IEC 61000-4-11
Emissions to:
 Conducted and radiated CISPR11-Class A

Approvals

UL File No . 337752-1

Display

Custom LCD
Backlight Blue Green or White
Update time 1 second

Response Time

Display Less than 50mS
RS 485 Modbus Less than 10mS

Options

1. Plug in RS485 Modbus module
 Baud Rates 38400, 19200, 9600, 4800, 2400
 Parity Odd, even, No Parity
 Address 1 to 247
2. Plug in Pulsed Output Relay module
 W.h or VAr.h
3. Low voltage dc auxiliary (19V-69V)
4. 1 Amp input
5. THD option

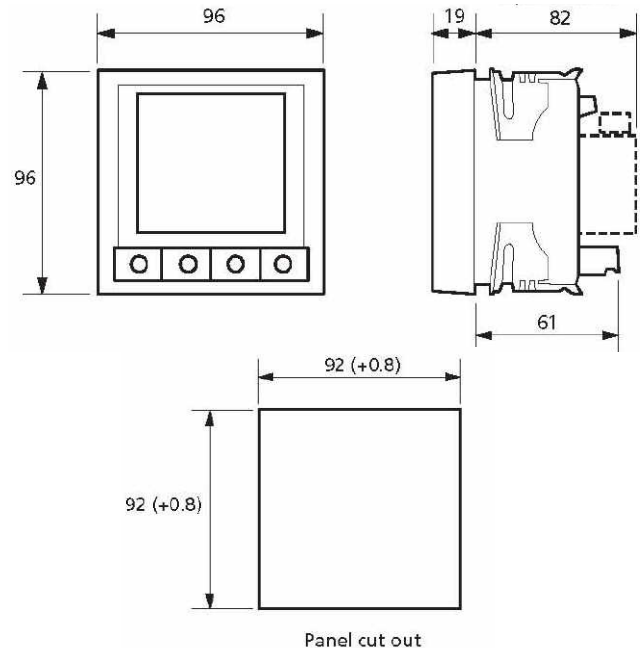
Environmental

Working Temperature -20 to +70 deg C
Storage Temperature -30 to +80 deg C
Relative Humidity 0-95% non condensing
Shock 30G in 2 planes

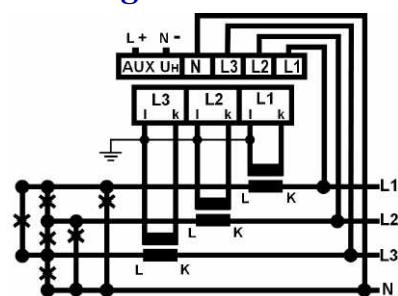
Enclosure

Standard DIN case DIN 96x96x
Panel mount Via 4 retaining brackets
Panel cutout 92 + 0.8 mm x 92 + 0.8 mm
Material Black Polycarbonate
Terminals Current 6mm²
 All others 2.5mm²
IP rating front IP52 / Nema
IP rating case IP30 / Nema
Weight 0.25kg / 0.66lb

Case Dimensions



Connection Diagrams



	Voltage				Current		
	L1	L2	L3	N	L1	L2	L3
1ph	✓	✗	✗	✗	✓	✗	✗
1ph 3W	✓	✓	✗	✓	✓	✓	✗
3ph 3W	✓	✓	✓	✗	✓	✗	✓
3ph 4W	✓	✓	✓	✓	✓	✓	✓
3ph 3W BAL	✓	✓	✓	✗	✓	✗	✗
3ph 4W BAL	✓	✗	✗	✓	✓	✗	✗

Unused Voltage terminals are internally connected
 Secondary of CTs must be connected to earth

multitek®

*Multitek Ltd. Lancaster Way, Earls Colne Business Park, Earls Colne, Colchester, Essex. CO6 2NS. England. Tel. (01787) 223228 Fax. (01787) 223607
E-MAIL: Sales@multitek-ltd.com WEB SITE: www.multitek-ltd.com*