multitek

MULTILED

The MultiLed is a complete 3 phase digital metering system in a standard 96 x 96 mm DIN case. All functions are performed via the two front control buttons making the MultiLed simple to use.

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
* Total Harmonic Distortion Phase Volts & Amps

Accuracy

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

Display

The display has three lines consisting of four digit LED displays per line. There are 24 LED annunciators to indicate which parameter is being read. The bright red LED's can be clearly read from a distance and over a wide viewing angle.

Controls & Programming

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

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.

Communications

The MultiLed has the option of providing either RS232 or RS485 communications. The RS485 enables remote reading of up to 32 MultiLeds on a 2 wire bus using the Modbus protocol.
The Modbus protocol allows the MultiLed to be used with PC, PLC, RTU, Data loggers and Scada programs.
The RS232 output is 2 wire one way communication and does not have a protocol. The data is ASCII data string i.e. Continuous data. With either RS232 or RS485 the following are programmable. Baud rates: 19200, 9600, 4800, 2400. Parity: Odd, Even or No parity. Stops : 1 or 2 (RS232 only) Address 1 to 247. (RS485 only).

Pulsed Output

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

Applications

Applications include management systems, distribution feeders, switchgear, control panels, generating sets, UPS systems, process control co-generation systems, power management and control.

System Types	Order Codes
Single Phase	M812-LD1
Single Phase 3 wire	M812-LD1-3
3 Phase 3 wire	M812-LD4
3 Phase 4 wire	M812-LD9

General Specifications

INPUT	
Rated Un	*57.8 to 600V specify nominal voltage*
Range	*20-120% Un*
Burden	*0.5VA per phase*
Overload	*1.5 x Un continuous*
	4 x Un for 1 second
Rated In	*1 or 5 amp*
Range	*10-120% In*
Burden	*0.5VA per phase*
Overload	*4 x In continuous. 50 x In for 1 sec*
Frequency	*45/65Hz*

Auxiliary

AC voltage	*115 or 230 volts AC (±15%)*
	45 to 65Hz burden < 7VA

Insulation

Test Voltage	*3 kV RMS 50 Hz for 1 min*
	Between case, input, output
	and auxiliary.
Impulse Test	

Applied Standards

General	*IEC 688 BSEN60688,*
	BS4889, IEC 359
EMC	*Emissions BSEN50081/1*
	Immunity BSEN50082/2
Safety	*IEC 1010, BSEN601010*

Display

Digits	*3 lines 9999*
Size	*14.2 mm 7 segment*

Options

Pulsed Output	*W.h or VAr.h*
RS485	*Modbus protocol*
DC Auxiliary	*12V, 24V, 30V, 48V, 110V, 125V*
	(± 15%)

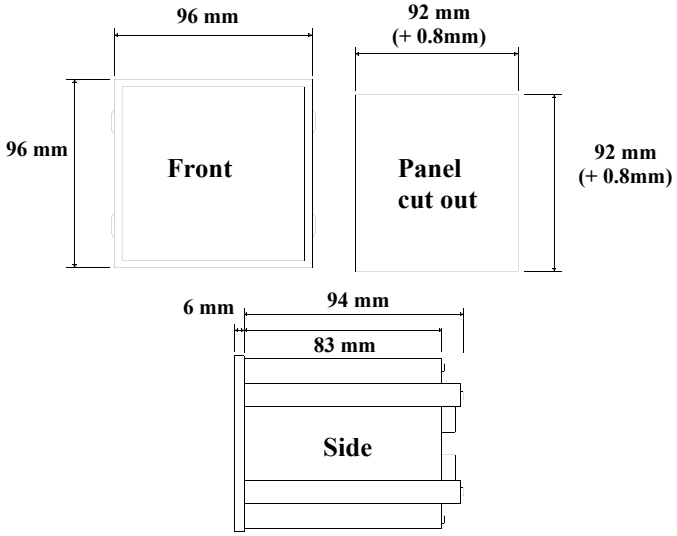
Environmental

Working Temperature	*0 to + 60 deg C*
Functional Temperature	*-5 to + 60 deg C*
Storage Temperature	*-10 to + 65 deg C*
Temperature Coefficient	*0.01% per deg C*
Relative Humidity	*0.95% non condensing*
Warm up time	*1 minute*
Shock	*20G in 2 planes*

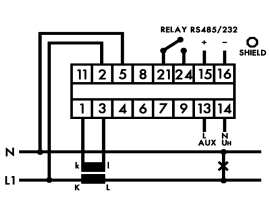
Enclosure

Standard DIN case	*DIN 96 x 96 x 98 mm*
Panel mount	*Via 4 retaining brackets.*
Panel cutout	*92 + 0.8 mm x 92 + 0.8 mm*
Material	*Black Polycarbonate complying with UL 94 VO*
Terminals	*Screws for 2 x 0.5-5mm*

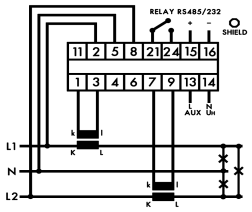
Case Dimensions



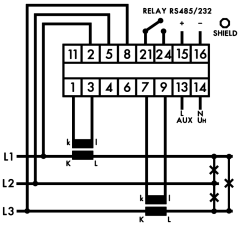
Connection Diagrams



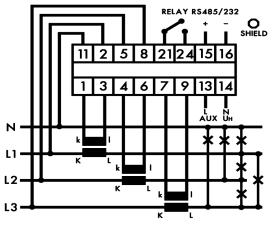
SINGLE PHASE



SINGLE PHASE 3 WIRE



3 PHASE 3 WIRE
UNBALANCED LOAD



3 PHASE 4 WIRE
UNBALANCED LOAD

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