multitek

MultiDigit

The Ultimate
Power Metering System

For more information on this product, please contact:
PC&S, Inc. at +1 (800) 523-9194 or +1 (973) 448-9400
www.pc-s.com

System Types / Order Codes

System Types	Order Codes
Single Phase	M842-SB1
Single Phase 3 Wire	M842-SB1-3
3 Phase 3 Wire	M842-SB4
3 Phase 4 Wire	M842-SB9

Accuracy

Volts & Amps	0.5% of reading ± 2 digits
Frequency	0.1 Hz ± 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

MULTIDIGIT

The MultiDigit is a complete 3 phase digital metering system, in a standard ANSI 4.5 " case. All functions are performed via the two front control buttons, making the MultiDigit simple to use.

Parameters Measured

* Phase to phase Voltage (V)
* Phase to neutral voltage (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 Amps
* Instantaneous Demand Active Power
* Instantaneous Demand Apparent Power
* Maximum Demand Amps
* Maximum Demand Apparent Power
* Maximum Demand Active Power
* Total Harmonic Distortion Phase Volts & Amps

Display

The display has three lines, consisting of four digit LED displays, per line. There are 24 LED enunciators, to indicate which parameter is being read. The bright red LEDs 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 the parameters being displayed. These buttons also allow programming of different CT and PT ratios, demand times, baud rates, etc.

Security Code

The MultiDigit has the facility to allow the user to program a 4 digit security code. Once the code is programmed, only authorised personnel can enter the programming mode.

Memory

CT and PT ratios, demand time periods, W.h, VAr.h and calibration data are stored in non volatile eeprom memory. In power down (power loss) conditions, this data is retained.

Applications

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

Pulsed Output

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

Communications

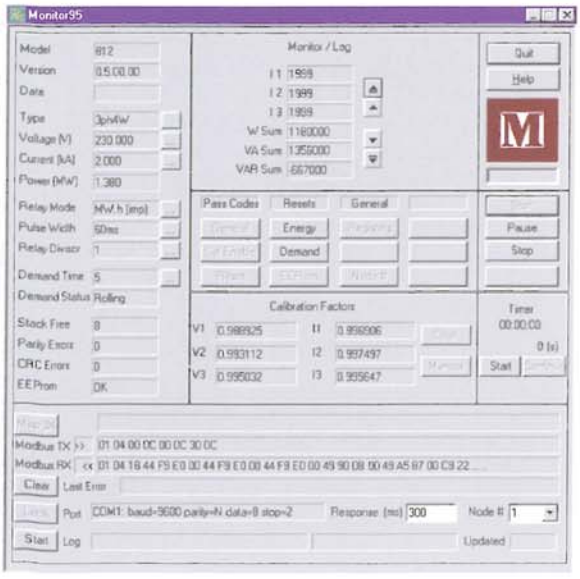
The MultiDigit has the option of providing either RS232 or RS485 communications.
The RS485 enables remote reading of up to 32 MultiDigits on a two wire bus, using the Modbus protocol.
The Modbus protocol allows the MultiDigit to be used with PC, PLC, RTU, data loggers and Scada programs.
The RS232 output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

Software

Multitek provides free set-up and monitoring software, that can be downloaded from their website: www.multitek-ltd.com

Monitor95

The Monitor95 program allows the user to set up CT & PT ratios, demand times,baud rates, node address, rest energy registers, etc, via the RS485 modbus port.
The Monitor95 displays all of the parameters, that the MultiDigit is reading.
A data logging facility is also provided.
On board help files, provide all the necessary information to use Monitor95.



General Specifications

Input

Rated Un	*57.8 to 600V (specify nominal)*
Range	*20 - 120% Un*
Burden	*0.5VA per phase*
Overload	*1.5 x Un continuous* *4x Un for 1 Second*
Rated In	*1A or 5A*
Range	*5 - 120% In*
Overload	*4 x In continuous* *50 x for 1 second*
Frequency	*45/65 Hz*

Auxiliary

AC Voltage	*110, 120, 220, 230, 277 Volts AC ± 15%* *45 to 65 Hz burden < 7VA*
DC Voltage	*12, 24, 30, 48, 110, 130, 220 Volts DC ± 15%*

Insulation

Test Voltage	*3kV RMS @ 60Hz for 1 min between case, input, output and auxiliary.*
Impulse Test	*EMC 5kV transient complying with IEC 801 EN55020HF*
Surge Withstand	*IEC801 / EN55020 ANSI C37.90A*
Interference	*EHF 2.5kV 1MHz complying with IEC255-4, DIN57411, VDE*
Protection	*Class 2, complying with IEC348, DIN57411, VDE*

Applied Standards

General	*IEC688, BSEN60688, BS 4889, IEC359*
EMC	
Emissions	*BSEN50082/1*
Immunity	*BSEN50082/2*
Safety	*IEC1010, BSEN601010*

Display

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

Options

Pulsed Output	*W.h,VAr.h,VAh or A.h*
RS485	*Modbus protocol*
RS 232	*ASCII*

Environmental

Working Temperature	-20 to + 70 deg C
Storage Temperature	-40 to + 85 deg C
Temperature Coefficient	0.01% per deg C
Relative Humidity	0-95% non condensing
Warmup Time	1 minute
Shock	30G in 2 planes

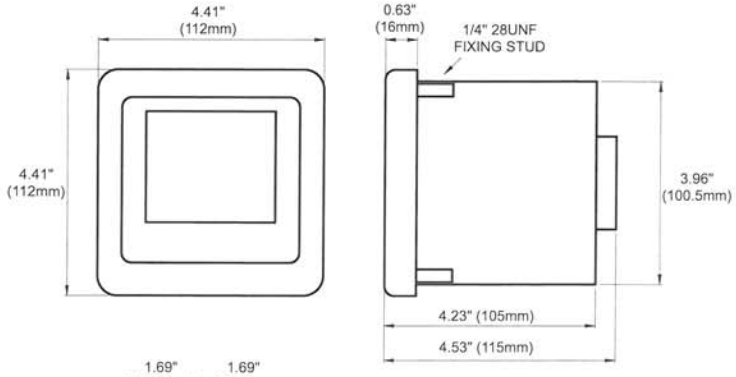
Enclosure

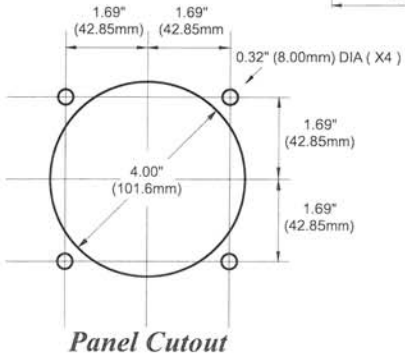
Standard	ANSI 4.5"
Mounting Terminals	Via 4 1/4"-28 Screws
Panel Cutout	4.0" Diameter
Material	Polycarbonate complying with UL 94 VO
Terminals	Screws for 2 x # 14 AWG
IP Rating	NEMA 4 / IP54
Weight	1.6lb

Approvals

UL, C-UL, CSA

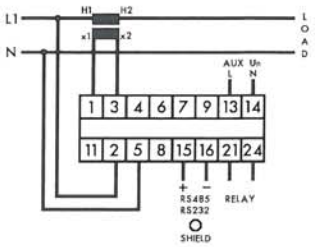
Case Dimensions



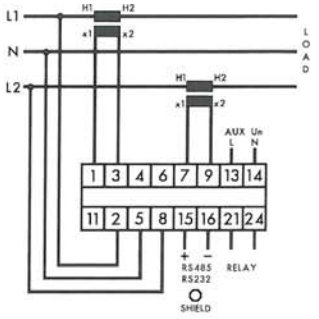


Panel Cutout

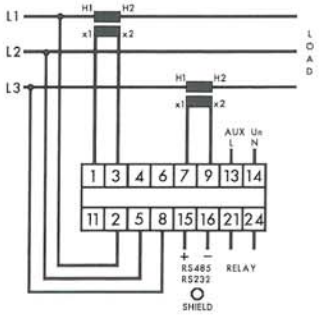
Connection Diagrams



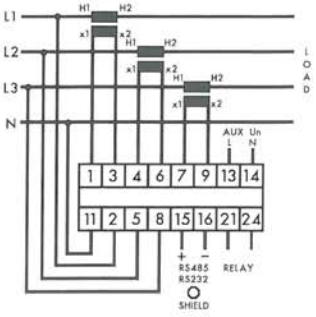
SINGLE PHASE



SINGLE PHASE 3 WIRE



3 PHASE 3 WIRE
UNBALANCED LOAD



3 PHASE 4 WIRE
UNBALANCED LOAD

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