



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.

System Types

*Single Phase
Single Phase 3 Wire
3 Phase 3 Wire
3 Phase 4 Wire*

Order Codes

*M842-SB1
M842-SB1-3
M842-SB4
M842-SB9*

Accuracy

*Volts & Amps 0.5% of reading \pm 2 digits
Frequency 0.1 Hz \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 2% of range
Energy IEC 1036 class 1
THD \pm 1% of range*

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

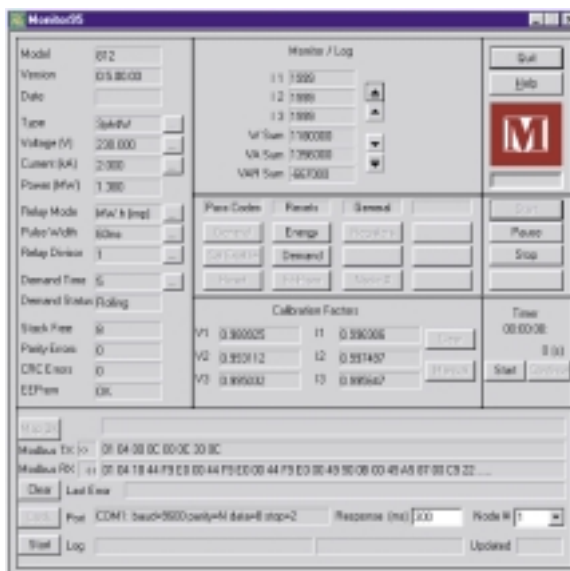
Monitor95

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 10 - 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 $\pm 15\%$
45 to 65 Hz, burden < 7VA
DC Voltage 12, 24, 30, 48, 110, 130, 220
Volts DC $\pm 15\%$

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 IEC801 / EN55020

Withstand 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 EN61326-1

Immunity EN61326-2

Safety EN61010-1

Display

Digits 3 lines 9999

Size 14.2mm 7 segment

Options

Pulsed Output W.h, VA.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

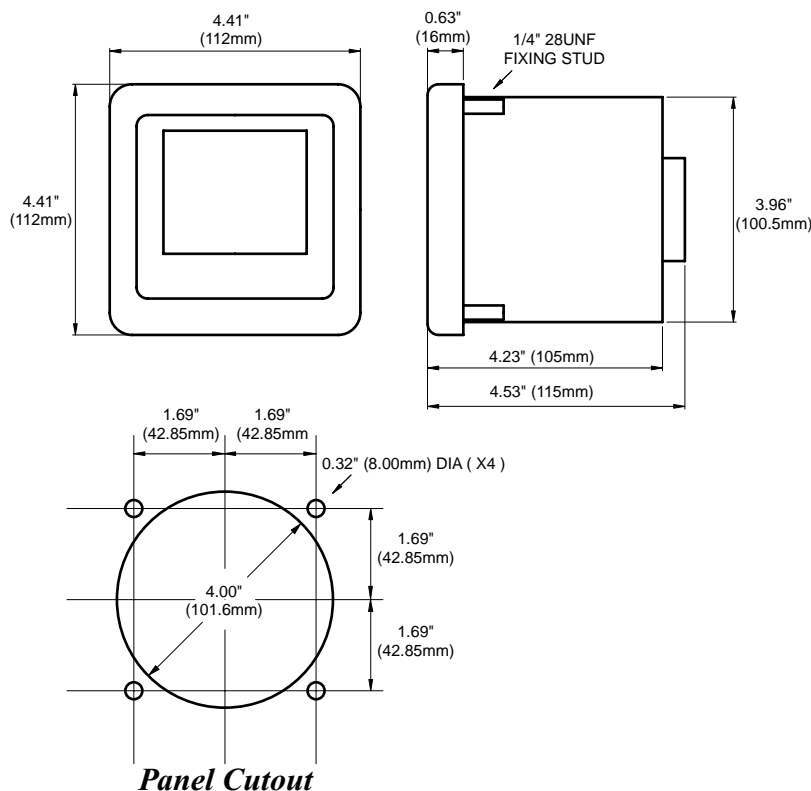
Enclosure

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

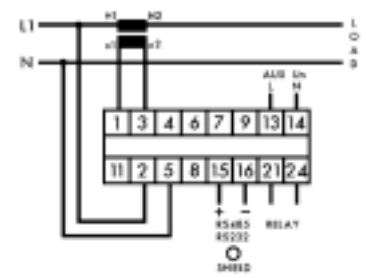
UL, C-UL, CSA

Case Dimensions

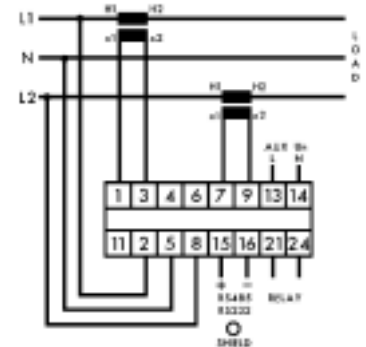


Power Measurement Specialists 1-800-523-9194
 MAIN / USA : 149 Main Street, Stanhope
 New Jersey 07874
 Tel: (973) 448-9400 Fax: (973) 448-1674
 Web Site: www.pc-s.com Email: sales@pc-s.com

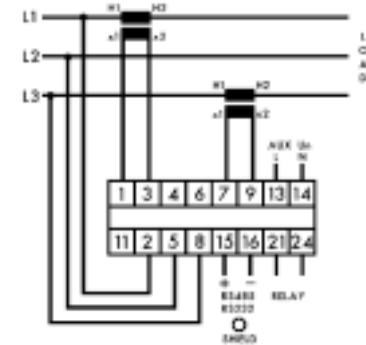
Connection Diagrams



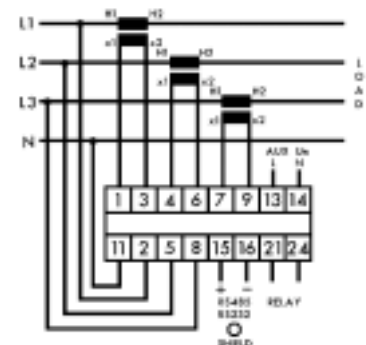
SINGLE PHASE



SINGLE PHASE 3 WIRE



**3 PHASE 3 WIRE
UNBALANCED LOAD**



**3 PHASE 4 WIRE
UNBALANCED LOAD**

CANADA: 213 Jespersen Avenue, Spruce Grove,
 Alberta T7X2J1
 Tel: (877) 962-0557 Fax: (780) 962-0557