multitek

MULTIDIN

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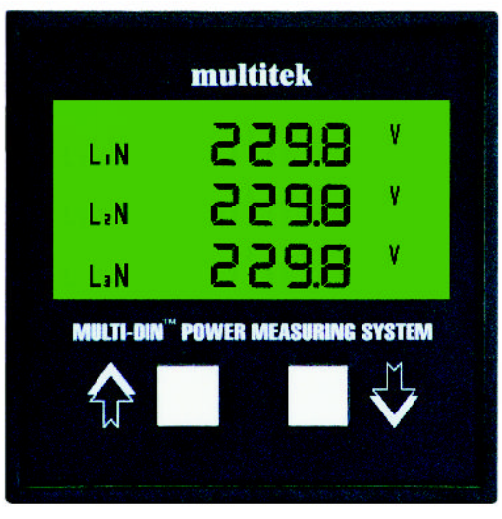
- **SAVING COST**
- **SAVING SPACE**
- **SIMPLE TO USE**
- **SIMPLE TO INSTALL**



MULTIDIN

Multitek, building on the success of their MultiDin M800, series have introduced a completely new range of Multifunction digital metering systems. Retaining the name MultiDin the new range of products are low cost, in smaller cases and offer more functions and types. This enables the user to choose the product that suits the application, space and cost requirements.
The MultiDin is a 3 phase digital metering system in a standard 96 x 96 mm DIN case with a depth of only 94 mm. All functions are performed via the two front control buttons making the MultiDin simple to use.

PARAMETERS MEASURED

The MultiDin measures and displays :
** Phase 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.)*
** Amp Demand*
** Active Power Demand (Watt Demand)*
** Apparent Power Demand (VA Demand)*
** Maximum Demand Amps*
** Maximum Demand Active Power*
** Maximum Demand Apparent Power*
**Neutral Current*

PROGRAMMABLE

The front push buttons enable the users to program their own custom display as well as entering system current and voltage values.

ACCURACY

The accuracy of the voltage and current readings is 0.5% of reading. All other parameters have an accuracy of 1% of reading making the MultiDin a highly accurate instrument.

APPLICATIONS

Applications include building management systems, distribution feeders, high, medium and low voltage switchgear, control panels, generating sets, UPS systems, process control, cogeneration systems, power management and control.

COMMUNICATIONS

The MultiDin has the option of providing either RS232 or RS485 communication.
The RS485 enables remote reading and programming of up to 32 MultiDins on a 2 wire bus using the Modbus protocol.
The Modbus protocol allows the MultiDin 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.
For either the RS232 or RS485, the following are programmable.
Baud rates : 19200, 9600, 4800, 2400.
Parity : Odd, Even or No parity.
Stops : 1 or 2.
Address 1 to 247 (RS 485 only).

PULSED OUTPUT

An option of pulsed output via a relay is offered. The pulsed output can be assigned to either Watt hour (W.h, kW.h or MW.h) or VAr hour (VAr.h, kVAr.h, MVAr.h) consumption.

MEMORY

All data including energy registers, current & voltage ratios & calibration data is stored in a non volatile e^2prom memory.

MULTIDIN M801

PARAMETERS DISPLAYED

Phase and Line Volts (V)
Phase Amps (I)
Frequency (Hz)
Active Power (W)
Apparent Power (VA)

MULTIDIN M802

PARAMETERS DISPLAYED

Phase and Line Volts (V)
Phase Amps (I)
Frequency (Hz)
Active Power (W)
Apparent Power (VA)
Reactive Power (VAr)
Power Factor (P.F.)
Active Energy (W.h)
Reactive Energy (VAr.h)
Amp Demand
Active Power Demand (Watt Demand)
Apparent Power Demand (VA Demand)
Maximum Demand Amps
Maximum Demand Active Power
Maximum Demand Apparent Power

OPTIONS

Pulsed Output	*W.h or VAr.h M802-MD* only.*
RS485	*Modbus protocol*
RS232	*ASCII*
DC Auxiliary	*12V, 24V, 30V, 48V, 110V*
Neutral Current	*M802-MD9 only*

ACCURACY

Volt & Amps	*0.5% of reading ± 2 digit*
Frequency	*0.1Hz ± 1 digit*
Active Power	*1% of reading ± 2 digit*
Reactive Power	*1% of reading ± 2 digit*
Apparent Power	*1% of reading ± 2 digit*
Power Factor	*2% of range*
Energy	*IEC 1036 Class 1*

AUXILIARY

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

SYSTEMS

Single phase
3 phase 3 wire unbalanced load
3 phase 4 wire unbalanced load

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	*20-120% In for M801-MD**
	*10-120% In for M802-MD**
Burden	*0.5VA per phase*
Overload	*4 x In continuous. 50 x In for 1sec*
Frequency	*45/65Hz*

OUTPUT RELAY

W.h or VAr.h	*SPNO. Rated 50V*
Pulsed output.	*150mA 5W ac/dc*
Pulse rate	*Automatically set*
Pulse duration	*Programmable in steps of 20 msec from 20 msec to 200 msec*

INSULATION

Test Voltage :	*3 kV RMS 50 Hz for 1 min between case, input, aux. 1kV between case, input, aux, relay output & RS485 output.*
Impulse Test :	*EMC 5kV transient comply with IEC 801 / EN 55020 HF*
Surge withstand:	*IEC 801 / EN55020 ANSI C37.90A*
Interference:	*EHF 2.5 kV 1MHz complying with IEC 255-4*
Protection ClassII:	*Complying with IEC348 / BS4753 / DIN 57411 / VDE*

APPLIED STANDARDS

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

APPROVALS

UL, C-UL, CSA

DISPLAY

The display is a backlit custom LCD, STN (super twist neumatic) giving a high contrast display over a wide viewing angle.

ENVIRONMENTAL

Working Temperature	*0 to +50 deg C*
Function 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 min.*
Shock	*10G in 3 planes*

ENCLOSURE

Standard DIN case	*96 x 96 x 98mm*
Panel mount	*Via 4 retaining brackets.*
Cutout	*92 + 0.8mm x 92 + 0.8mm*
Material	*Black Polycarbonate complying with UL 94 VO*
Terminals	*Screws for 2 x 0.5-5mm*
Weight	*0.7kg / 1.6lb*

CASE DIMENSIONS

FRONT

96 mm

96 mm

SIDE

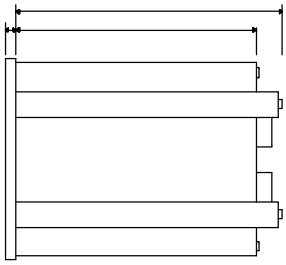
6 mm

92 mm
(+ 0.8 mm)

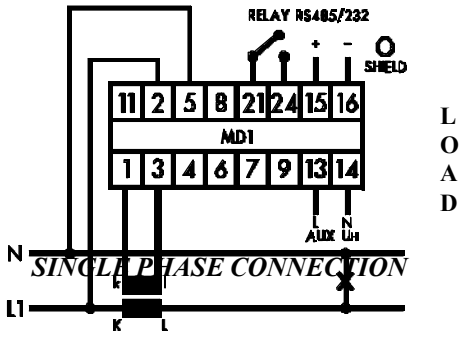
92 mm
(+ 0.8 mm)

94 mm

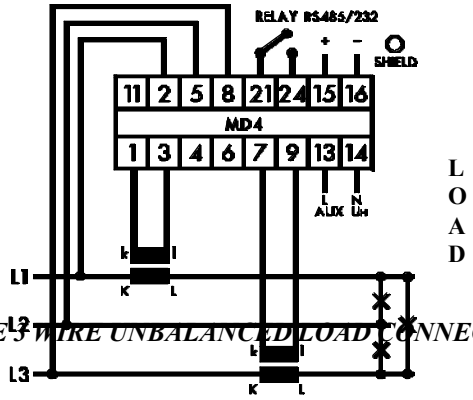
83 mm



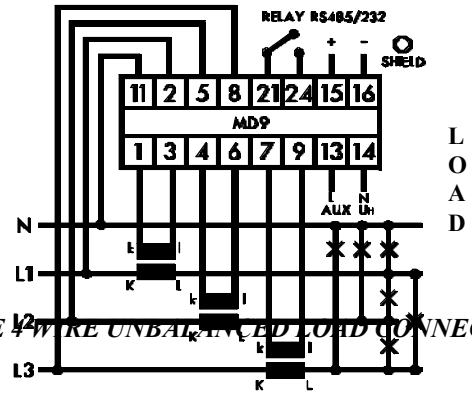
CONNECTIONS



SINGLE PHASE CONNECTION



3 PHASE 3 WIRE UNBALANCED LOAD CONNECTION



3 PHASE 4 WIRE UNBALANCED LOAD CONNECTION

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