

## MULTIFUNCTION METERS

### DESCRIPTION

The MULTIDIN range of multifunction panel meters feature 96 x 96mm sizes complete with backlit LCD or LED screen. The range is easy to use and features user-programmable CT & VT ratios.

### APPLICATION

The MULTIDIN range is a cost effective replacement for traditional panel meters and is suitable for low, medium and high voltage control panels, gensets, building management systems, power management and more.



## RANGE

STANDARD FUNCTIONS:	M804 LCD screen	M801 LCD screen	M802 LCD screen	M812 LED screen
Phase Voltage (V)	✓	✓	✓	✓
Phase Current (I)	✓	✓	✓	✓
Frequency (Hz)	✓	✓	✓	✓
Active Power (W)		✓	✓	✓
Active Energy (kWh)	✓		✓	✓
Reactive Power (VAR)			✓	✓
Apparent Power (VA)		✓	✓	✓
Reactive Energy (VARh)			✓	✓
Power Factor (PF)			✓	✓
Average Amp Demand			✓	✓
Average Watt Demand			✓	✓
Average VA Demand			✓	✓
Maximum Amp Demand			✓	✓
Maximum Watt Demand			✓	✓
Maximum VA Demand			✓	✓
Total Harmonic Distortion Phase (V)				✓
Total Harmonic Distortion Phase (A)				✓

## PROGRAMMABLE FUNCTIONS

All models feature the following user-programmable functions:

- Current Transformer Ratio
- Voltage Transformer Ratio
- Baud Rate
- Custom Screen (LCD versions only)
- Parity
- Stops
- RS485 address, 1-247
- Security code access for programming

## OPTIONS

- RS485 Modbus protocol
- RS232 ASCII
- Pulse output
- Input voltage 57-500V
- DC auxiliary voltage
- Neutral current measurement

## ORDERING INFORMATION

Please specify the following information on your order:

- Part number.
- System: MD1 (for LCD) or LD1 (for LED) - 1 phase  
MD4 (for LCD) or LD4 (for LED) - 3 phase 3 wire unbalanced load  
MD9 (for LCD) or LD9 (for LED) - 3 phase 4 wire unbalanced load
- Input voltage
- Auxiliary voltage
- Frequency
- Options

Order example:

PART	SYSTEM	INPUT VOLTAGE	INPUT CURRENT	AUX	OPTIONS	FREQUENCY
M804	MD9	230/400V	5A	230V	RS485	50Hz

# MULTIFUNCTION METERS

# HOBUT

## SPECIFICATIONS

### ACCURACY

Volts/Amps: 0.5% of reading  
 Frequency: 0.1 Hz  
 Active Power: 1% of reading  
 Apparent Power: 1% of reading  
 Power Factor: 2% of range  
 Energy: IEC 1036 Class 1  
 Total Harmonic Distortion  $\pm$  1% of range

### INPUT

Rated Un: 57.8 to 600V  
 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 5A  
 Range: 20-120% In for M804/M801  
 10-120% In for M802  
 Burden: 0.5VA per phase  
 Overload: 4 x In continuous  
 50 x In for 1 second  
 Frequency: 45/65Hz

### OUTPUT RELAY

Wh or VAh: SPNO rated 50V  
 Pulse output: 150mA 5W ac/dc  
 Pulse rate: Automatically set  
 Pulse duration: Programmable from 20msec - 200msec

### INSULATION

Test Voltage: 3kV RMS 50Hz for 1 minute between case, input, aux.  
 1kV between case, input, aux, relay output & RS485 output.  
 Impulse test: EMC 5kV transient complies with IEC801 / EN55020 HF  
 Surge withstand: IEC801/EN55020 Ansi C37.90A  
 Interference: EHF 2.5kV 1Mhz complying to IEC255-4  
 Protection class II: Complying to IEC348 / BS4753 / DIN57411 / VDE

### STANDARDS

General: IEC688, BSEN60688, BS4889, IEC359  
 EMC: BSEN50081/2, BSEN50082/2  
 Safety: IEC 1010, BSEN601010

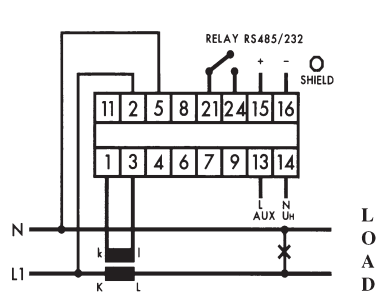
### ENVIRONMENT

Working temp: 0-50°C  
 Function temp: -5-60°C  
 Storage temp: -10-65°C  
 Temp coefficient: 0.01% per °C  
 Relative humidity: 0-95% non condensing  
 Shock: 10G in 3 planes

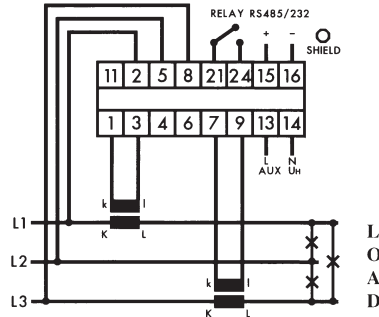
### MATERIAL

Black polycarbonate case to UL94V0  
 Weight : 0.7kg

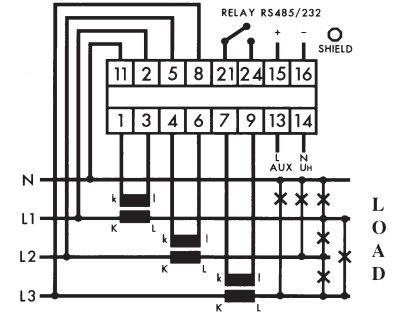
## CONNECTION DIAGRAMS



Single Phase

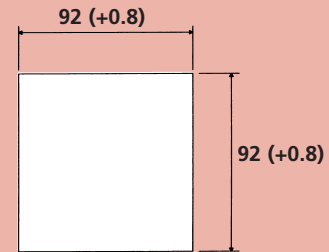
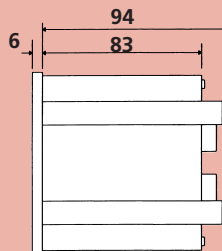
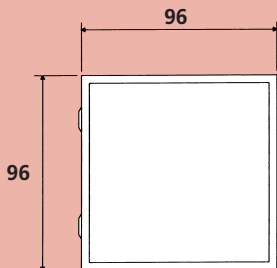


3 phase 3 wire unbalanced load



3 phase 4 wire unbalanced load

## Dimensions (mm)



Panel cut-out

Our policy is one of continuous development and therefore specifications may change without notice.

## HOWARD BUTLER LTD

CROWN WORKS, LINCOLN ROAD  
 WALSALL WS1 2EB ENGLAND

Tel: 01922 640003 Fax: 01922 723626  
 International Tel: +44 1922 640003 E-mail: sales@hobut.co.uk  
 Web: www.hobut.co.uk