ACTIVE POWER

SELECTION GUIDE

M100-WA1	*Single phase*
M100-WA2	*3 phase 3 wire balanced load*
M100-WA3	*3 phase 4 wire balanced load*
M100-WA4	*3 phase 3 wire unbalanced load*
M100-WA5	*3 phase 4 wire unbalanced load*
M100-WA6	*3 phase 3 wire balanced load externally connected reverse C.T.s*
M100-WA7	*3 phase 3 wire balanced load internally reversed C.T.s*

TECHNICAL SPECIFICATION

INPUT	
Rated value In	*1 or 5 Amp C.T. connected*
	0.5-10 Amp direct connected
Rated value Un	*57.8 < 600 volt*
Power consumption	*<1 VA voltage*
	<0.2 VA current
Working range	*0-125% Un auxiliary powered*
	75-125% Un self powered
	0-150% In
Rated Frequency	*50 / 60 / 400 Hz*
Frequency influence	*0.005 % / Hz*
Overload continuous	*4 x In 1.5 x Un*
Overload for 1 sec.	*50 x In 2 x Un*
OUTPUT	
Rated value mA	*0-1/5/10/20 & 4-20mA*
Rated Value Volts	*0-5 / 10 & 1-5 V*
ADJUSTMENT	
Zero	*± 2%*
Span	*± 10%*
AUXILIARY	
A.C. Voltage	*115 / 230 / 400 V (± 25% / 45-65 Hz / < 2VA)*
D.C. Voltage	*24 / 48 / 110 V (± 20% / galvanically isolated / <3 W)*
WEIGHT & CASE SIZE	
M100-WA1,2,3,6,7	*Approx. 0.6kg. 100mm case*
M100-WA4,5	*Approx. 0.8kg. 100mm case*

TYPICAL APPLICATIONS

The M100-WA series measure active power in single, 3 phase 3 or 4 wire balanced and unbalanced systems. Using the time division multiplier circuit means that they can be used over a wide range of input waveforms. The D.C. Output signal is directly proportional to the instantaneous power being measured.

Typical applications include the measurement of power in switchboards, power stations, generating sets etc. The high isolation of 4kV as with all the M100 series, allows these watt transducers to be connected to a variety of measuring and control devices and systems, such as analogue meters, PLC, computers, data loggers, digital instruments and telemetry systems.

Both auxiliary powered and self powered versions of each type are available, it is recommended to use an auxiliary powered version if the system being measured has voltage variations in excess of ± 20%.

ORDERING INFORMATION

Product Code	*I/P In*	*Un*	*O/P*	*Range*	*Aux*	*Freq*	*Opt.*
M100-WA5	*800/5A*	*230v*	*0-20mA*	*600kW*	*230v*	*50Hz*	

OPTIONS

1. *Non standard inputs / outputs only as far as technically acceptable.*
2. *A.C. Auxiliary in range 57.7 to 450 volts*
3. *Calibration at nominal Hz 35.....450Hz*
4. *Calibration at temperature other than 23°C*

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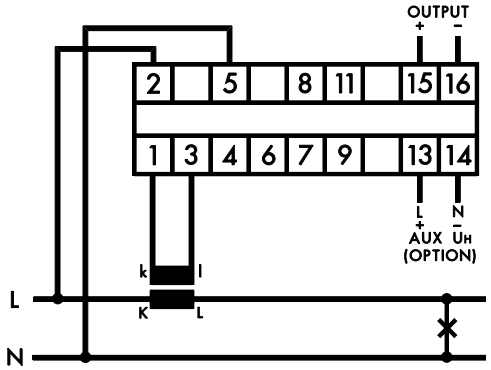
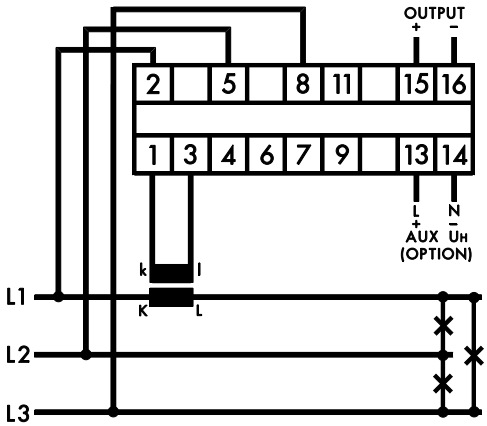
ACTIVE POWER CONNECTION DIAGRAMS



M100-WA1



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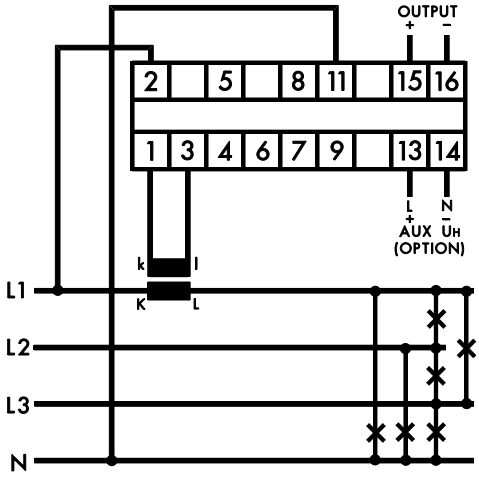

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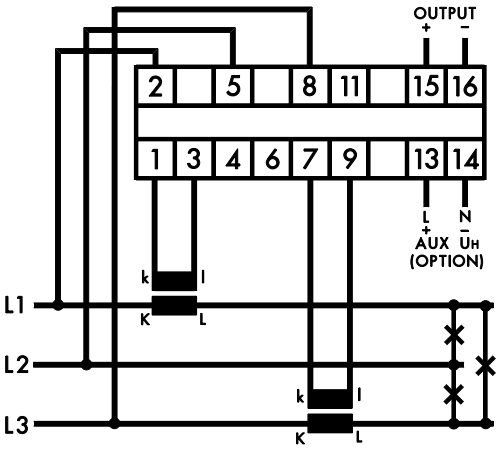

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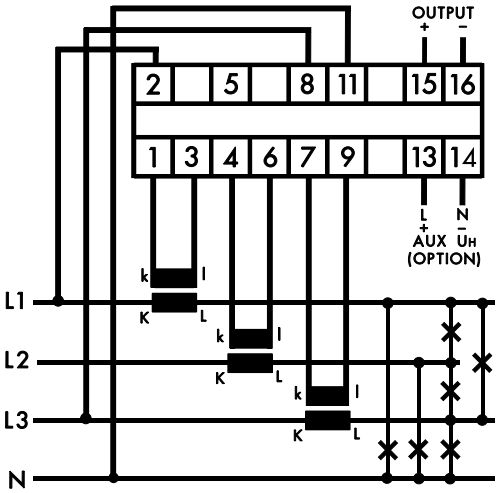

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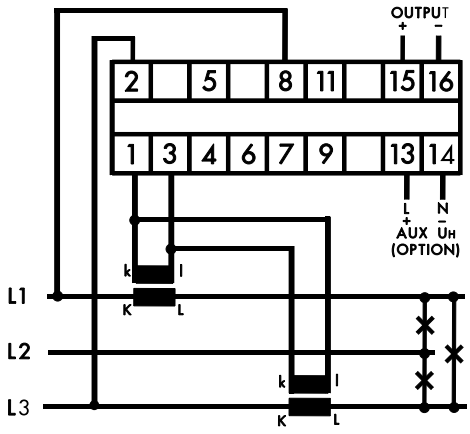
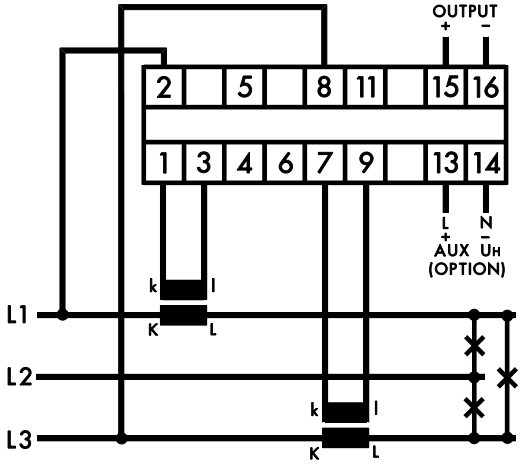


M100-WA6



M100-WA7

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GENERAL SPECIFICATIONS

ENVIRONMENTAL

Working temperature	*0 to +60 deg C*
Functional temperature	*-25 to +70 deg C*
Storage temperature	*-55 to +85 deg C*
Temperature coefficient	*0.02% per deg C (100 ppm / °C)*
Relative humidity	*95% non condensing*
Class of climate	*HSE complying with DIN 40040 -3 complying with VDE/VDI 3540*

INSULATION

Test voltage	*4kV RMS 50Hz 1min. between Input / Case / Auxiliary / Output*
Impulse test	*EMC 5kV transient complying with IEC 801 / EN55020*
HF interference test	*EHF 2.5kV 1MHz complying with IEC 255-4*
Protection class	*II complying with IEC 348 BS 4753 / DIN 57411 / VDE 0411*

APPLIED STANDARDS

General	*IEC 688 / BS 6253 / VDE/ VDI 2192*
Safety	*BS EN61010 DIN 57411 / VDE 0411 ANSI C37*
Surge withstand	*IEC 801 / EN 55020 ANSI C37-90a*
Radio screening	*RFI degree N complies with VDE 0875*
EMC	*Emissions EN50081-2 Immunity EN50082-1*

ACCURACY

Class	*±0.2 % complying with IEC 688*
Calibration temperature	*23°C*
Temperature coefficient	*0.01% / °C (100 ppm / °C)*
Stability	*0.05 % per annum non cumulative*
Warm up time	*<15 min*

OUTPUT

Rated value	*See individual product pages*	
Load resistance mA	*1mA*	*<15 kOhm*
(Unless otherwise	*5mA*	*<3 kOhm*
stated)	*10mA*	*<1.5 kOhm*
	20mA	*< 0.75kOhm*
	4-20mA	*< 0.75kOhm*
Load resistance volts	*1, 5 & 10 volts >1 kOhm*	
(M100-VA1,VA3 only)	*1, 5 & 10 volts > 50kOhm*	
Load influence	*<0.1 %*	
Ripple	*<0.5% peak-peak at full load*	
Response time	*<200 msec for 0-99 % at full load*	
Overload	*<2 x rated value at full load*	
No load voltage	*<27 V*	

ENCLOSURE

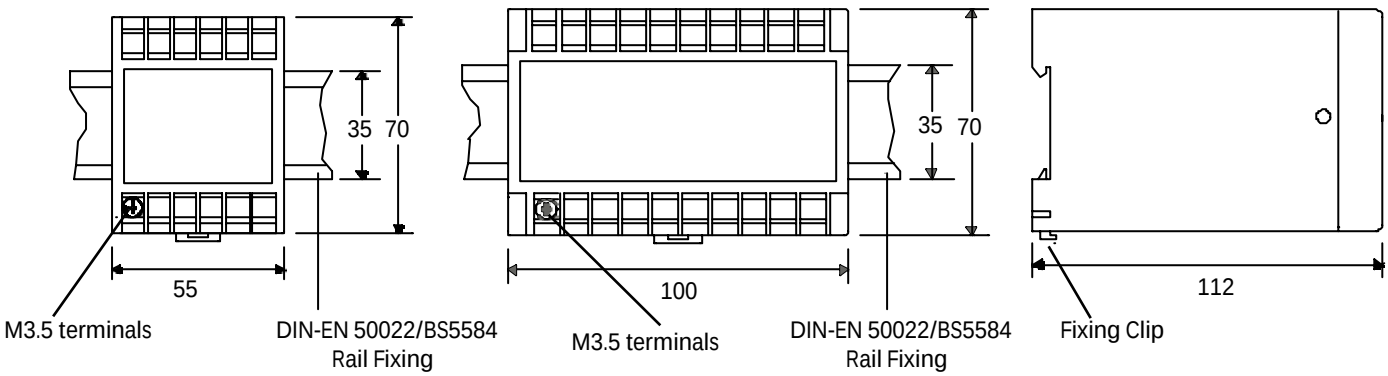
Fixing	*Snap on to DIN rail 35 x 7.5 mm complies with DIN-EN 50022 BS 5584*
Mounting	*Any position*
Enclosure Code	*Case IP 50 / terminals IP 30 Complies with IEC 529 BS 5490 DIN 40050*

APPROVALS

cU.L. Approval	*File No E157034*

CASE DIMENSIONS

All Dimensions in mm



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