PC&S Panel Components & Systems

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SPECIAL AC CURRENT

SELECTION GUIDE

M100-AX1	*1 ph. aux. powered ave. sensing RMS calibrated*
M100-AX3	*3 ph. aux powered ave. sensing RMS calibrated*
M100-AAS	*3 ph. summation self powered*
M100-ALS	*3 ph. summation auxiliary powered*

TYPICAL APPLICATIONS

The M100-AX1 and AX3 are essentially the same as the M100-AA1 and AA3, but they have auxiliaries which allows the working range to be 0-125% rather than 10-125%. Used where the average sensing of current is required from 0-125% of the nominal current.
The M100-AAS and M100-ALS are A.C. Current summation transducers. Both can have up to 3 inputs of either 1, 5 or 10 amps. These inputs are summed by the transducer and one D.C. Output is provided, which is proportional to the sum of the inputs.
The M100-AAS is self powered with a range of 10-125% , the M100-ALS is auxiliary powered and provides a 4-20mA output with a working range of 0-125%.
Typical application is to measure the total current in a 3 phase system and display it via one meter. For example, if a 3 phase system has 3 current transformers 2500/5 then a moving coil meter could be connected to a M100-AAS scaled 0-7500. Note the C.T.s must all have the same ratio or the output from the transducer will not be the sum of the total current in the system.

TECHNICAL SPECIFICATION

INPUT	
Rated value In	*1 or 5 Amp C.T. connected*
	0.5-10 Amp direct connected
Power consumption	*<0.2 VA (AX1, AX3 ALS)*
	<1 VA (AAS)
Working range	*0-125% In (AX1, AX3, ALS)*
	10-125% In (AAS)
Rated Frequency	*50 / 60 / 400 Hz*
Frequency influence	*0.005 % / Hz*
Overload continuous	*4 x In*
Overload for 1 sec.	*50 x In*
OUTPUT	
Rated value mA	*0-1/5/10/20mA (AX1,AX3,AAS)*
Rated value mA	*4-20mA (ALS)*
Rated Value Volts	*Not available on (AAS)*
Rated Value Volts	*1-5 V (ALS)*
Rated Value Volts	*0-5 / 10V (AX1,AX3)*
ADJUSTMENT	
Zero	*No adjustment (AX1, AX3, AAS)*
Zero	*± 2% (ALS)*
Span	*± 10% (AX1, AX3, ALS)*
AUXILIARY	
A.C. Voltage	*115 / 230 / 400 V (± 25% /*
	45-65 Hz / < 2VA)
D.C. Voltage	*24 / 48 / 110 V (± 20%*
	galvanically isolated / <3W)
	Note M100-AAS is self powered
WEIGHT & CASE SIZE	
M100-AX1	*Approx. 0.4 kg. 55mm case*
M100-AAS	*Approx. 0.6 kg. 100mm case*
M100-ALS,AX3	*Approx. 0.7 kg. 100mm case*

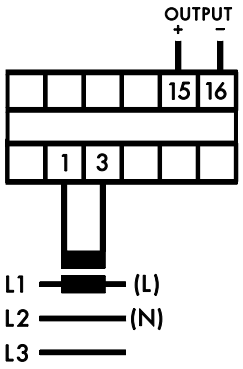
ORDERING INFORMATION

Product Code	*Input In*	*Output*	*Aux*	*Freq.*	*Options*
M100-ALS	*3 x 5A*	*0-20mA*	*115V*	*50Hz*	*Cal. 40°C*

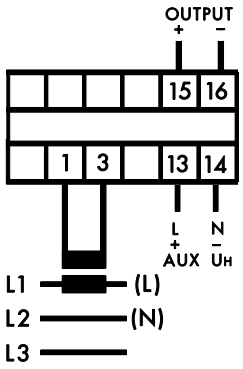
OPTIONS

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*

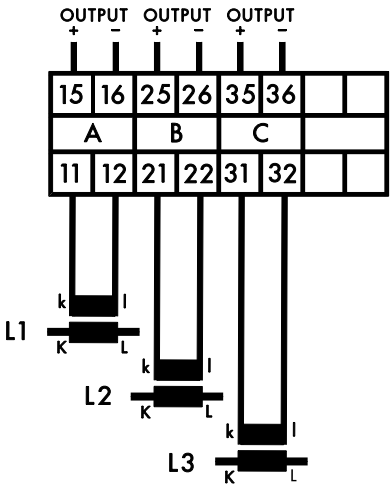
AC CURRENT CONNECTION DIAGRAMS



M100-AA1



M100-AL1 / AX1 / AR1



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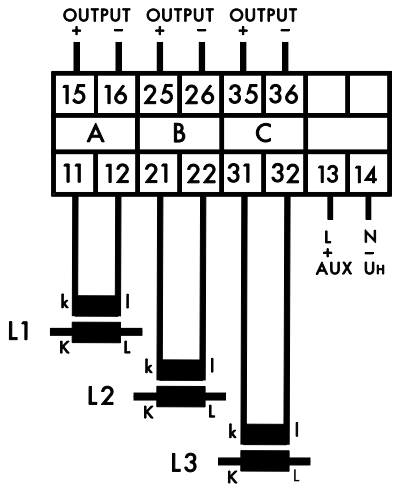
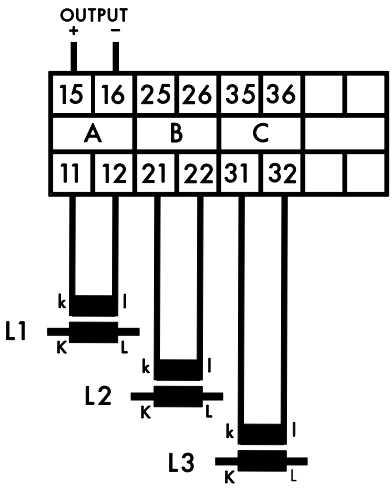
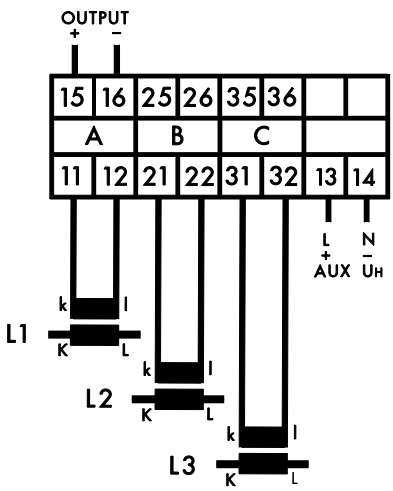


M100-AL3 / AX3



M100-AAS



M100-ALS

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 (Unless otherwise stated)	*1mA*	*<15 kOhm*
	5mA	*<3 kOhm*
	10mA	*<1.5 kOhm*
	20mA	*< 0.75kOhm*
	4-20mA	*< 0.75kOhm*
Load resistance volts (M100-VA1,VA3 only)	*1, 5 & 10 volts >1 kOhm*	
	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