

# TRANSDUCERS

## TRANSDUCER FOR AC CURRENT (*True RMS*)

- Normal output characteristic
- Live zero output

Complies with IEC60688

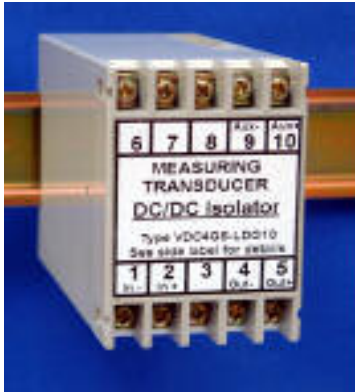


Figure 1 – LDG10 Housing

The transducer converts an AC current into a load independent DC current or voltage signal which may be used to drive a number of remotely installed instruments.

The measuring principle is "true RMS" and this transducer is therefore suitable for distorted and undistorted AC wave measurements.

The normal response time is suitable for indicating instruments and recorders. A lower ripple - slower response version for data loggers can be supplied.

The output is protected against over-voltages due to surges or accidental contact with insulation testers or the mains supply.

## MODE OF OPERATION

Refer to Figure 2.

The current to be measured is transformed in CT (1) and converted to DC in the RMS/DC converter(3). The auxiliary supply is transformed in VT (2), rectified and smoothed in (4) and is used to power the convertor (3), output amplifier (5) and to provide the offset voltage for the live zero version. The output amplifier (5) provides either a load independent current (with maximum burden) or a load independent voltage (with minimum burden) signal.

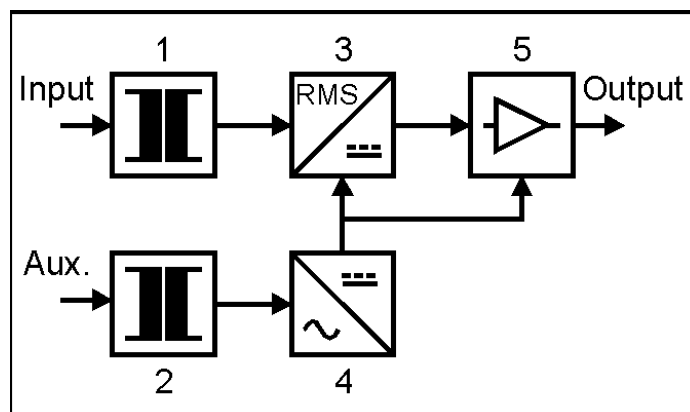
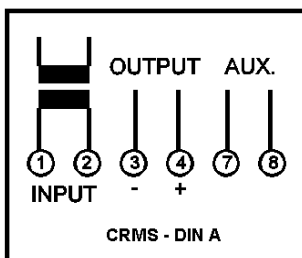
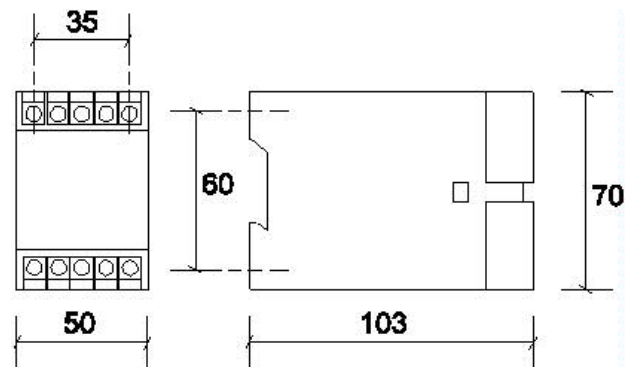
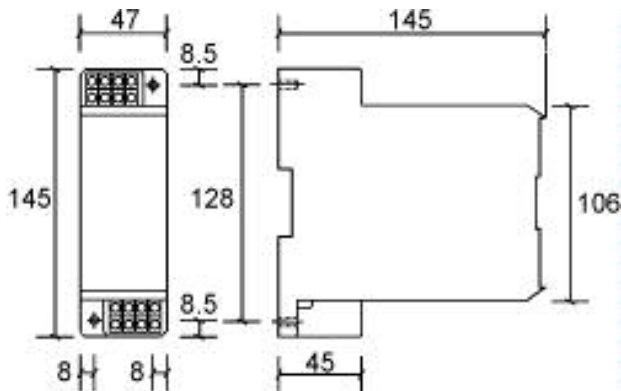


Figure 2 - Block Diagram

## TECHNICAL DATA

<b>1. Input</b>			
Input quantity:	0 - 1 A, 0 - 5 A (other values available on request)	<b>5. Protection</b>	Impulse tests between isolated sets of terminals: 5kV (0.5J 1.2/50 wave) IEC standard
Frequency:	45 - 55 - 65 Hz	Voltage withstand rating between sets of terminals:	4kV 50Hz AC for 1 minute
Consumption burden:	0.3VA at rated input	Power voltage across output:	220V 50Hz indefinitely
Overload in terms of rated input:	1.2x indefinitely 40x 0.5 seconds	Surge across output terminals:	5kV 25J 1kV 4J
		Personal hazard:	Enclosure IP40 Terminals IP20 Double insulated, no lethal potentials exposed with top cover removed.
<b>2. Output</b>			
Characteristic:	A or C or D	<b>6. Physical constraints</b>	Working temperature: -25 to 13 to 33 to 55 C
Output quantity:	Impressed current signal (voltage signal on request)	Storage temperature:	-55 to 75 C (above dewpoint)
Standard values:	1mA, 5mA, 20mA	Relative humidity:	80%
Maximum load:	5k Ohm, 2.5k Ohm, 750 Ohm.	Variation due to external magnetic field (worst case):	0.05% at 400A/m 50Hz
Maximum output voltage:	32V DC	Position:	Surface mounting in any position indoors.
Maximum output current:	1.25x rated (typical) 2.0x rated (maximum)		
Ripple:	0.5% standard		
Response time:	210ms standard		
<b>3. Auxiliary power supply</b>			
Voltage:	110 or 220V 50Hz ±20% (other values and DC on request)	<b>7. Enclosure</b>	Type LDG10
Burden:	<3.5VA at rated output	Terminals:	ABS
		Mounting:	Screw type with wire protection. Plated. Rated 20A. 1x4mm <sup>2</sup> cable. DIN rail type 46277 or Chassis
<b>4. Accuracy</b>			
Error limit at rated conditions:	±0.5% of range at 23 C and 45-55 Hz sinusoidal wave, form factor 1.11	Type DIN A:	ABS
Linearity error:	0.05%	Terminals:	Double screw cage. Plated. Rated 10A. 2x2.5mm <sup>2</sup> or 1x6mm <sup>2</sup> cable. DIN rail type 35/15 or chassis
Long term drift:	0.25%	Mounting:	
Temperature shift:	400ppm/ C		
Variation with auxiliary supply:	0.05% for ±20% variation		

### Dimension and connection diagrams



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