

TRANSDUCERS

TRANSDUCERS FOR AC CURRENT OR VOLTAGE

- Self-powered.
- Normal output characteristic.
- **Compact size** (Width 25mm x Height 70mm x Depth 103mm)

Complies with IEC 60688



Figure 1 – LDG6 Enclosure

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 "arithmetic mean calibrated to RMS sinusoidal" and this transducer is therefore only suitable for undistorted sine 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-voltage due to surges or accidental contact with insulation testers or mains supply.

MODE OF OPERATION

Refer to Figure 2.

The current to be measured is transformed in CT (1) and rectified in rectifier (2). The output stage (3) firstly filters and linearizes the signal and secondly compensates the output for changes in the load burden. Temperature compensation is also provided in this section.

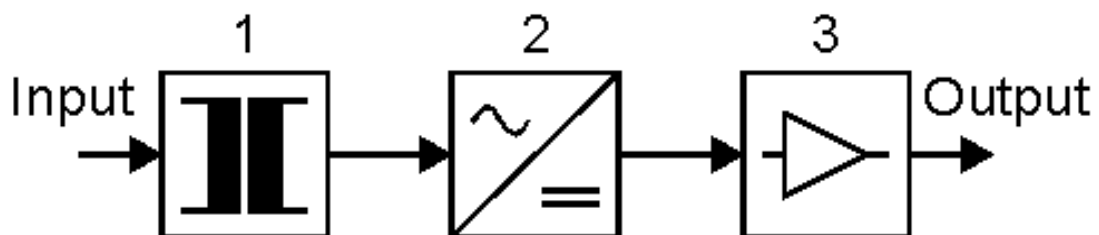


Figure 2 - Block Diagram

TECHNICAL DATA

1. Input

Input quantity:	0 - 1 A, 0 - 5 A 0 - 120 / 250 / 500 / 600V AC (other values available on request)
Frequency:	45 - 55 - 65 Hz
Consumption burden:	CA4 - 3VA at rated input VA4 - 5VA at rated input
Overload in terms of rated input:	CA4, VA4 - 1.2x indefinitely CA4 - 40x 0.5 seconds VA4 - 1,5x 10 seconds

2. Output

Characteristic:	A
Output quantity:	Impressed current signal (voltage signal on request)
Standard values:	1mA, 5mA, 10mA, 20mA
Maximum load:	10k Ohm, 2k Ohm, 1k Ohm, 750 Ohm.
Maximum output voltage:	32V DC
Maximum output current:	1.25x rated (typical) 2.0x rated (maximum)
Ripple:	0.5% standard
Response time:	210ms standard

3. Accuracy

Error limit at rated conditions:	±1.0% of range at 23°C and 45-55 Hz sinusoidal wave, form factor 1.11
Linearity error:	0.1%
Long term drift:	0.25%
Temperature shift:	400ppm/°C

4. Protection

Impulse tests between isolated sets of terminals:	5kV (0.5J 1.2/50 wave) IEC standard
Voltage withstand rating between sets of terminals:	4kV 50Hz AC for 1 minute
Power voltage across output:	220V 50Hz indefinitely
Surge across output terminals:	5kV 25J 1kV 4J
Personal hazard:	Enclosure IP40 Terminals IP20 Double insulated, no lethal potentials exposed with top cover removed.

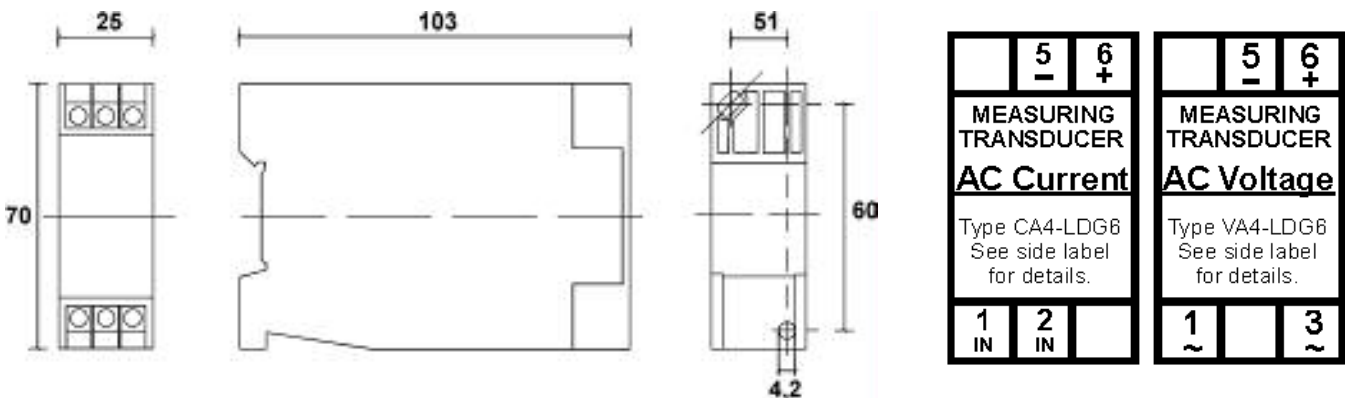
5. Physical constraints

Working temperature:	-25 to 13 to 33 to 55°C
Storage temperature:	-55 to 75°C (above dewpoint)
Relative humidity:	80%
Variation due to external magnetic field (worst case):	0.05% at 400A/m 50Hz
Position:	Surface mounting in any position indoors.

6. Enclosure

Type LDG6:	
Material:	ABS
Terminals:	Plated. Rating 20A. Cable cross section to maximum 4mm ² .
Mounting:	DIN rail type 35/15 or chassis.

Dimension and Connection Diagrams



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