

TRANSDUCERS

TRANSDUCERS FOR AC CURRENT OR VOLTAGE

- Selectable 110V or 220V AC auxiliary supply.
- 0 – 20mA or 4 – 20mA output.
- **Compact size** (Width 25mm x Height 70mm x Depth 103mm)

Complies with IEC 60688



Figure 1 – LDG6 Enclosure

The transducer converts an AC current or voltage into a load independent DC current 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-voltages due to surges or accidental contact with insulation testers.

Internal jumpers allow selecting either 110V or 220V AC auxiliary supply.

MODE OF OPERATION

Refer to Figure 2.

The current to be measured is transformed in CT (1) and converted in the active rectifier(3). The auxiliary supply is transformed in PT (2), rectified and smoothed in (4) and is used to power the rectifier (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.

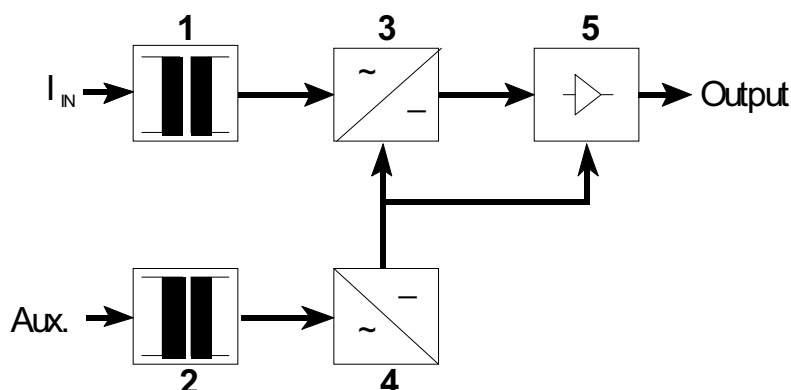


Figure 2 - Block Diagram

TECHNICAL DATA

1. Input

Input quantity: 0 - 1 / 5 A
 0 - 120 / 250 / 500 / 600V. Other values on request.

Frequency: 45 - 55 - 65 Hz

Consumption burden: <0.3VA at rated input

Overload in terms of rated input: 1.2x indefinitely
 Current: 20x 1 second
 Voltage: 2x 1 second

2. Output

Characteristic: A or C or D

Output quantity: Impressed current signal

Standard value: 0 - 20mA or 4 - 20mA

Maximum load: <750 Ohm.

Maximum output current: 1.25x rated (typical)
 2.0x rated (maximum)

Ripple: <1% standard

Response time: <500ms standard

3. Auxiliary power supply

110V or 220V AC 50 Hz.

4. Accuracy

Error limit at rated conditions: $\pm 0.5\%$ of range at 23°C and 45-55 Hz sinusoidal wave, form factor 1.11

Linearity error: <0.25%

Long term drift: <0.25%

Temperature shift: 400ppm/°C

Variation with auxiliary supply: <0.5% for $\pm 20\%$ variation

5. Protection

Impulse test 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

Surge across output terminals: 25J 1 x 8/20µs

Personal hazard: Enclosure IP40
 Terminals IP20
 Double insulated.

6. Physical constraints

Working temperature: 0 to 13 to 33 to 45°C

Storage temperature: -40 to 70°C (above dewpoint)
 <95%

Relative humidity: 0.05% at 400A/m 50Hz

Variation due to external magnetic field (worst case): Surface mounting in any position indoors.

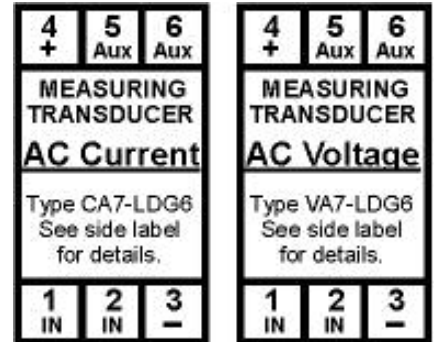
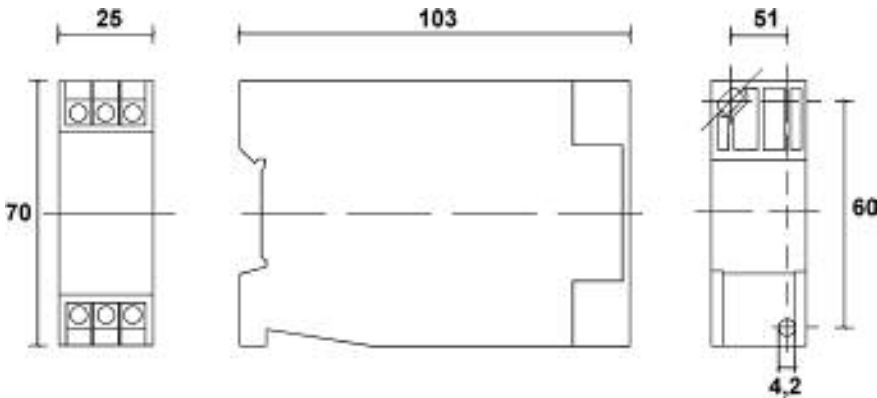
Position:

7. Enclosure

Type LDG6:
 Terminals: ABS
 Plated. Rated 20A. Cable cross section to maximum 4mm².
 DIN rail type 35/15 or chassis

Mounting:

Dimension and Connection Diagrams



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