

Voltage transducer, fast galvanic isolator, bipolar current shunt isolator

CAL23DT-HV

LOREME

- **Voltage or current input :**

0..50mV (+/-50mV) to 0...3000V (+/- 3000V)

0...1mA (+/- 1mA) to 0...10A (+/- 10A)

- **High galvanic isolation**

dielectric strength 5KVac / 7KVdc

- **Voltage output**

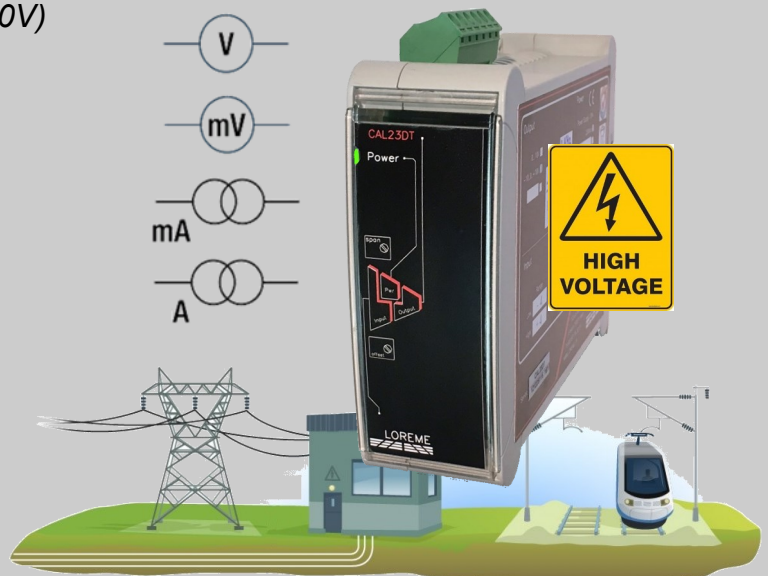
0..10V (+/- 10V)

- **Fast response**

bandwidth up to 30Khz

- **Applications:**

Energy, railway



The CAL23DT-HV is a transmitter for voltage or current measurement in equipment which can be brought up at high potentials (energy distribution, railway, transformers, motors, alternators, ...) requiring a maximal safety.

Description:

isolation amplifier ensuring a galvanic isolation of input measure with high common mode voltage.

This device is suitable for monitoring electric systems working with voltage up to 1000 Vpp, allowing a shunt measurement (mV) or directly high voltage measurement.

Application: DC motor, generator, welding machines, inverter for solar or wind power installation.

This versatile isolation amplifier can be adapted to mostly systems.

- **Universal voltage and current input:**

- Voltage: unipolar / bipolar from 100mV to 1KV (AC / DC)

- Current : unipolar / bipolar from 1mA to 10A (AC / DC)

- **Output:**

- Voltage output. Any range possible up to +/-10V maxi (mV output possible: isolated copy of current shunt signal)

- Cutoff frequency 30Khz maxi

- **Isolation:**

- Test voltage : 5KVac

(input / output - input / power supply)

- Test voltage : 2.5KVac

(output / power supply)

Features:

- Plastic case (PC/ABS) DIN rail mounting (symmetrical).

Protection rating IP20

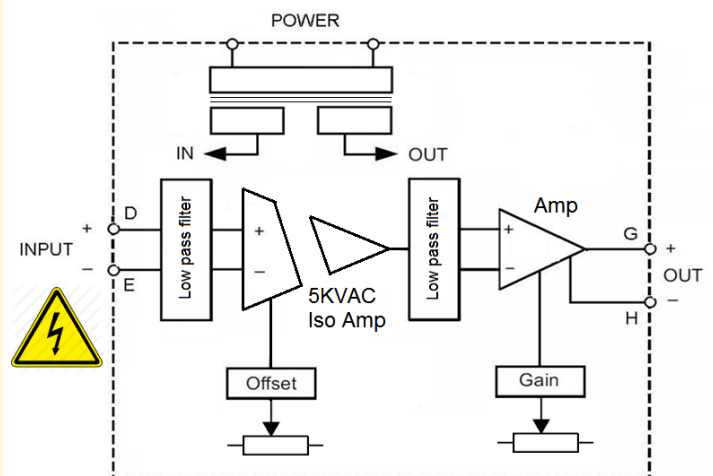
- Connection on pluggable screw terminals block (up to 2.5mm²)

- Green LED for presence of supply voltage.

- Adjusting range with potentiometers (under the cover) (+/-10% max)

- Conformal coating.

Synoptic:



Version and order code:

[Request a quote](#)

CAL23DT-HV-230

all inputs signals : mV , V , mA , A
voltage output: 0...10V ; +/- 10V ;
Linear power supply : 230Vac +/- 15%, 3VA

CAL23DT-HV-24

all inputs signals : mV , V , mA , A
voltage output: 0...10V ; +/- 10V ;
Switching power supply : 24Vdc (15...32Vdc)

Bandwidth to define : up to 30kHz -3dB
isolation : 3500 Vrms continuous

INPUT

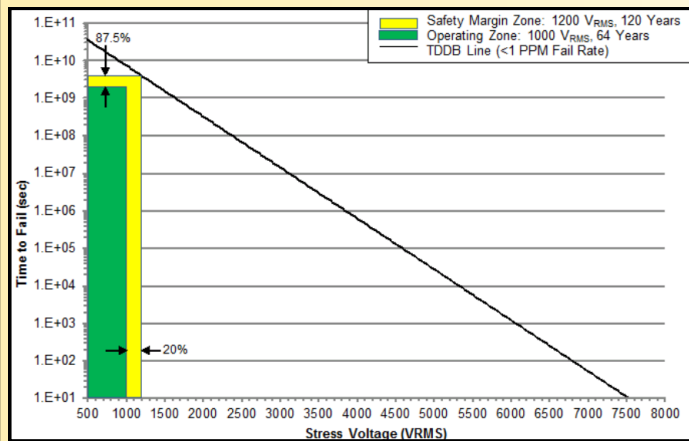
TYPE	RANGE
Voltage mVdc, Vdc	+/- 50 mV to +/- 3000 V
Input impedance	> 200 kohms (0...1 V) > 1 Mohms (1 V...3000 V)
Current mAdc, Adc	+/- 1 mA / +/- 10 A
Input impedance	6.5 Ohms (mA) 0.1 Ohms (1 A) 0.02 Ohms (5 A)

OUTPUT

TYPE	RANGE
Voltage	0 ... 10 V ; +/- 10V
Accuracy	+/- 0.2 % of range
Response time	< 20 us (for BW = 30Khz)
Bandwidth maxi	30 000 Hz (-3 dB)
Signal to noise ratio	80 dB mini
Common-mode rejection	90 dB
residual ripple	~ 20 mV RMS (230Vac version)
Output impedance	50 Ohms for 10V

(Other output range on request)

MTBF evolution according to the voltage between the insulation barrier



ENVIRONMENT

Operating temperature:	-25 °C to 60 °C
Storage temperature :	-25 °C to +85 °C
Thermal drift	~ 0.015 % / °C
Humidity	85 % not condensed
Weight	~ 110 gr.
Protection rating	IP20
Dielectric strength (Inputs / power supply and output)	5000 Vac 1 minute (3500 Vac continuous)
Dielectric strength (Power supply / output)	2500 Vac 1 minute
Insulation resistance	> 500 Mohms
MTBF (MIL HDBK 217F)	> 4 000 000 Hrs @ 25°C
Life time	> 130 000 Hrs @ 30°C
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibration IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibration CEI 60068-2-6 (transportation)	2 G / 10 - 150 Hz

POWER SUPPLY

Linear power supply :	230Vac +/- 15% 3VA
or	
Switching power supply:	24Vdc (15 ... 32Vdc) 3VA

Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



WIRING AND OUTLINE DIMENSIONS

