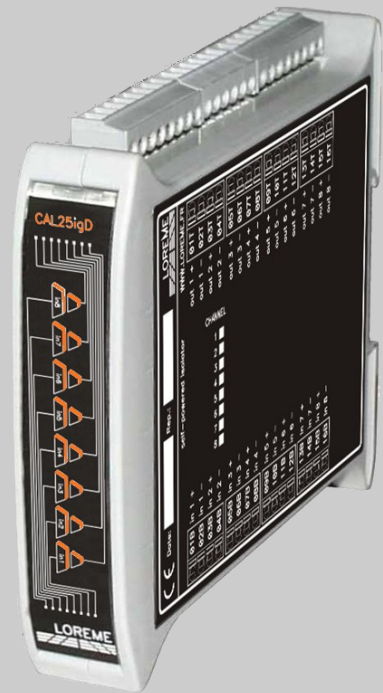


# Self powered galvanic isolator for 0..4..20mA current loop SIL2 / SIL3

CAL25igD **LOREME**

- **Up to 8 isolated channels**  
Available with 1 to 8 independents channels
- **High density**  
8 isolators in 23mm width case
- **No auxiliary supply**  
Loop powered
- **Excellent linearity** : 0.1%
- **Low response time** : < 2 ms
- **Low insertion loss** : < 65 ohms
- **Pluggable terminal blocks**
- **Option SIL2 and SIL3 according to IEC 61508**
- **Application**  
isolation between PLC



The galvanic separator CAL25IGD is designed to isolate 0...4...20mA current loops.

No auxiliary power supply is required, there are easily integrated in existing current loops. It's a way to eliminate ground loop or common mode problems. Its high integration density allows a great space saving. The technology of this isolator provides an excellent reliability and a life time greater than 40 years.

#### DESCRIPTION:

- This galvanic isolators allows the copy of current loops 0...4... 20...(50) mA, without auxiliary power supply.
- Inside the device, the loop current is transform in an alternative signal and isolated via a transformer and rectified to recover its initial value.
- This isolation mode bring a small insertion loss. (equivalent to a 65 ohms load, voltage drop: 20mA :1.3V )
- Due to its operating principle (self powered), a load insert on the output current loop have an impact in the input current loop.
- high accuracy: +/- 0.15 %,
- low thermal drift < 0.01 % / °C
- with its long-term stability, it is not necessary to recalibrate the device.

#### Operating mode :

Two operating mode are available :

- 1) Isolation of an active current signal 4..20mA  
(the output copy the input constrained current)
- 2) isolation of a loop powered transmitter  
(the transmitter constrained the consumed current on the output, the isolator consumes this same current on its input)

#### Feature:

- Symmetrical DIN rail mounting, protection rating IP20
- Connection on pluggable spring terminal blocks (up to 1.5 mm<sup>2</sup> wire section),
- reverse polarity protection,
- Conformal coating,

#### Operational safety data:

type A component , HFT = 0

λf : 150 fit (1/MTBF)

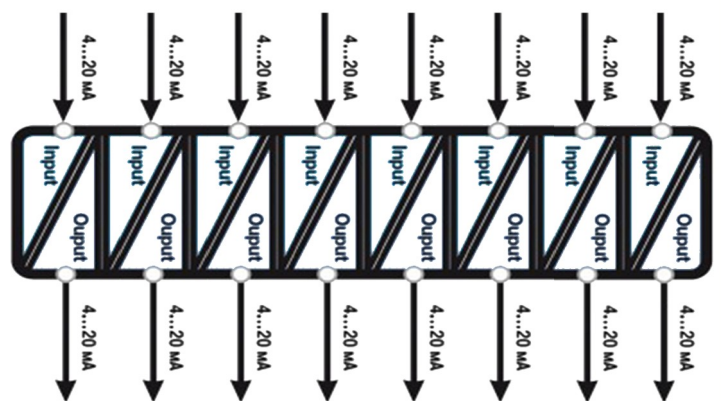
DC : 95 % (diagnostic coverage)

PFH : 1.5 fit (probability of dangerous failure per hour)

SFF : 98 % (safe failure fraction)



#### Synoptic:



#### Version and order code:

[Request a quote](#)

- CAL25igD-1 1 channel isolator
- CAL25igD-2 2 independent channels isolator
- CAL25igD-3 3 independent channels isolator
- CAL25igD-4 4 independent channels isolator
- CAL25igD-5 5 independent channels isolator
- CAL25igD-6 6 independent channels isolator
- CAL25igD-7 7 independent channels isolator
- CAL25igD-8 8 independent channels isolator

Remark: In standard version, a loop breaking on output generates a loop breaking on input loop.

**Option :** SIL2 / SIL3 ( according to IEC 61508 )

**Option :** IZ : A 10V zener diode in parallel with the output prevents the input loop opening when there is a breaking loop on output.

(Load maxi. 450 ohms. The zener voltage may be adapt)

INPUT / OUTPUT	
Input	0 ... 4 ... 20... (50) mA
Max. input voltage	30 V
Output	0 ... 4 ... 20... (50) mA
Transformation ratio	1:1
Threshold current	< 2 µA
Residual ripple (noise)	< 3.57 mV pp /mA
Insertion loss	< 1.3 V for 20 mA (65 Ohms)
Max. load	1300 Ohms
Load influence	< 0.1 % / 100 Ohms
Input capacity	2 µF
Output capacity	1 µF
Response time	< 2 ms load of 600 Ohms

ENVIRONMENT	
Operation temperature	-20 °C to 65 °C
Storage temperature	-25 °C to +85 °C
thermal drift	< 0.01 % / °C
Long-term stability	< 0.025% / year
Humidity	85 % not condensing
weight	150 g
Protection rating	IP 20
Dielectric strength	1000 Vrms continuous (input / output and between channels)
Isolation resistance	>100 Mohms @ 500Vdc
MTBF (MIL HDBK 217F)	> 4 000 000 Hrs @ 25°C
Lifetime	> 350 000 Hrs @ 30°C

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:**

