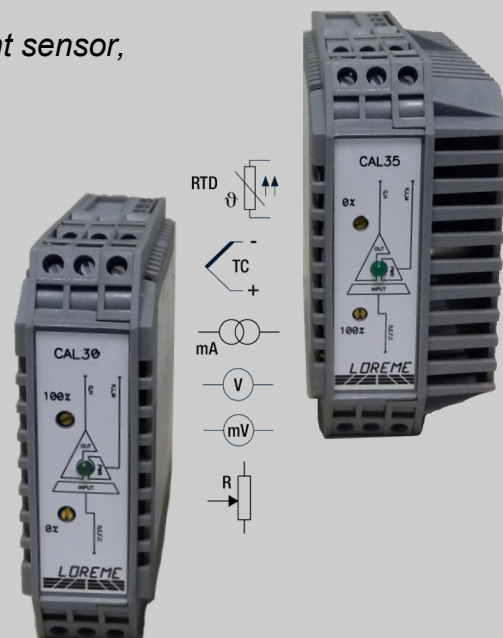


Universal isolator and analog signal conditioners

type: CAL30, CAL35

LOREME

- **All inputs type via interchangeable measuring cards**
Volt, mV, mA, potentiometer, frequency, Hall effect current sensor, thermocouple, PT100, PT1000, integrator for Rogowski coil sensor
- **Unipolar or bipolar analog output:**
0...4...20mA, 0...1...5...10V, +/-20 mA, +/-10V, frequency
- **Special function**
Maximum value selector between 2 analog inputs
Minimum value selector between 2 analog inputs
Voltage to frequency converter,
Adder, differentiator, absolute value, ...
- **Three way galvanic insulation**
Input / Output / power supply
- **Fast signals version**
response time < 50 us
Bandwidth up to 20 KHz



The CAL30iG and CAL35iG measure converters allow to transform, adapt and isolate a wide diversity of analog signals. The internal modular design (interchangeable input card) allows to create new features according to each specific needs.

Inputs (non-exhaustive list)

- Non-linearized thermocouples with internal compensation.
- Linearized platinum sensors (Pt100, Pt1000,...) 2, 3, 4 wires.
- Symmetrical voltage (mV, V, AC and DC).
- Symmetrical current (mA, A, AC and DC).
- 2, 3 or 4 wires resistance.
- 3 wires potentiometer (reference voltage 0.2 V, 1 V, 10 V)
- 4 wires strain gauge, switchable sensitivity, 5 V power supply
- Sensor power supply for 4/20 mA loop powered transmitter.
- NTC, PTC, ...
- Rogowski coil sensor input,
- Hall effect current sensor input

Special inputs

- Sum of 2 non-isolated inputs, mA, V, Tc, Pt100 2 wires,
- Difference of 2 non-isolated inputs, mA, V, Tc, Pt100 2 wires,
- Average of 2 non-isolated inputs, mA, V, Tc, Pt100 2 wires,
- Selection of maximum or minimum value on 2 inputs mV, V, mA,
- Frequency divider
- DC component suppressor from AC signal....
- Absolute value of input signal

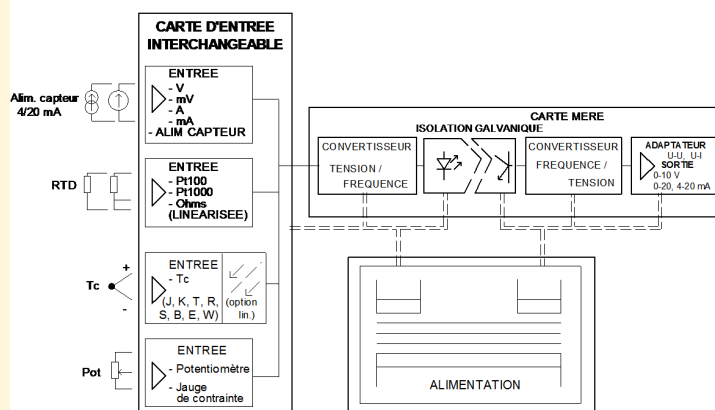
Outputs

- Voltage output, unipolar or symmetrical
- Current output, unipolar or symmetrical
- Frequency output.
- mV output.
- Thermocouple input/output isolator.

Feature:

- DIN rail mounting.
- protection rating IP20
- Conformal coating
- Green LED for presence of power supply.
- Low and high range adjustment with potentiometers.
- Customized range.
- Interchangeable measuring card for input (manufacturer)
- Connection on screw-terminals block (2,5 mm²).

Synoptic:



Version and order code :

- CAL35** Version with 115 Vac or 230 Vac power supply (low noise linear power supply)
- CAL30** Version with 24 Vdc, 48 Vdc, 20...265 Vac/dc power supply (switch mode power supply)

(The input, output ranges and bandwidth must be defined at order).

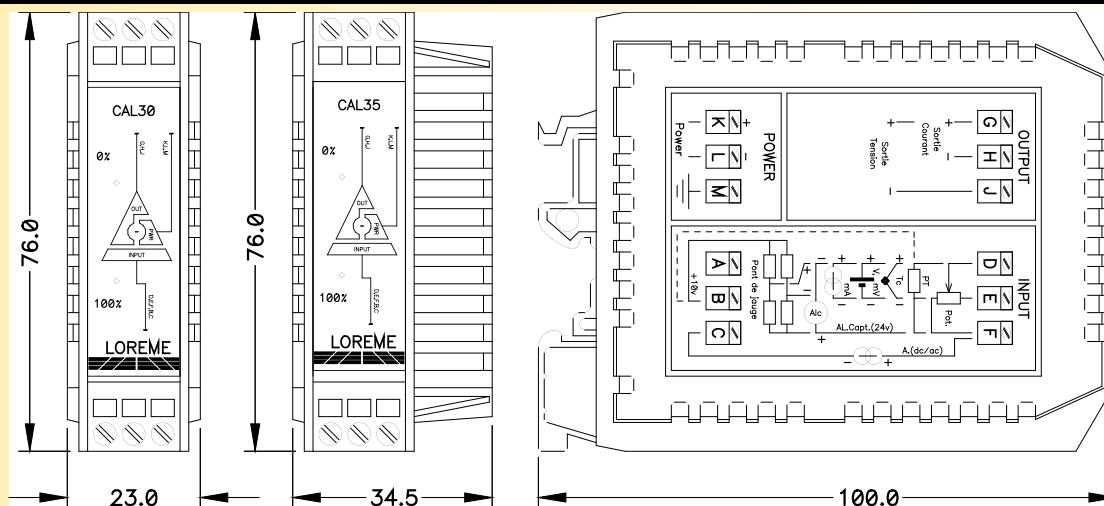
Special versions:

- CAL3x-ABS** Output signal is the absolute value of input
- CAL3x-SVL** 2 analog inputs with Max or Min value selector (input and selector type must be specified)
- CAL3x-DIF** Difference of 2 inputs (difference type is to specify: signed or absolute)
- CAL3x-SOM** Sum or average of 2 inputs.
- CAL3x-PEAK** peak value hold

Rq: The 2 inputs are with common ground.

INPUT		AUXILIARY	
TYPE	RANGE	Sensor supply 19 V (smoothed) @ 20mA (for nominal power supply voltage) Stain gauge supply 5 V (regulated) Potentiometer reference 200 mV, 1 V, 10 V Hall effect sensor supply +/-15Vdc or 12Vdc	
Voltage mV, V, ac, dc Impedance	+/- 5 mV min / +/- 1000 V max. > 1 MOhms		
Current mA, A, ac, dc Impedance	+/- 500 µA min. / +/- 5 A max. 50 Ohms (mA) 0.25 Ohms (1 A) 0.05 Ohms (5 A)	POWER SUPPLY	
Thermocouple - B, E, J, K, R, S, T... - Cold junction compensation	~ 100°C min / limit of Tc. (according to the thermocouple type) -10 / 60 °C.	CAL35 linear power supply 230 Vac 50-60 Hz +/-10 %, 2.3 VA 115 Vac 50-60 Hz +/-10 %, 2.3 VA	
RTD probe - PT100, Pt1000... - 2, 3, or 4 wires input	30 °C min / 800 °C max. Accuracy: 0.2 °C min or 0.25%.	CAL30 switching mode power supply 24 V +/-10 % (low noise) 12 to 30 Vdc, 2 VA 20 Vdc to 265 Vac-dc, 2 VA	
Accuracy	+/- 0.25 % to +/-0.1% (of the full scale. Depend to input type)	ENVIRONMENT	
Response time (min 50us in voltage or current depend to bandwidth defined)	< 200 ms.	Operating temperature -10 °C to 60 °C Storage temperature -20 °C to +85 °C drift ~ 0.01 % / °C Humidity 85 % not condensed Protection rating IP20 Weight CAL30: 92 g ; CAL35: 210 g Dielectric strength 1500 Vac continuous 2500Vac / 1minute (Inputs/Power Supply/Outputs) > 100Mohms @ 500Vdc > 3 000 000 Hrs @ 25°C > 150 000 Hrs @ 30°C	
Bandwidth (on request)	1 Hz...20 kHz (at -3 dB).		
OUTPUT			
TYPE	RANGE		
Current (unipolar or bipolar) Load	-20 ... 0 ... 4 ... 20 mA. 0...700 Ohms.		
Voltage (unipolar or bipolar) Load	-10 ... 0 ... 10 V. >1000 Ohms.		
Frequency Load Amplitude on request	from 0...10 Hz to 0...50 kHz. >1000 Ohms. 0/5V to +/- 15V max or 0/24V.		
		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 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
		EN 55011 group 1 class A	
			

WIRING AND OUTLINE DIMENSIONS:



Connections for version:

- Adder
- Differentiator
- Max. value selector
- Min. value selector
- Average of 2 inputs

