

- **CALP45:** Pt100, Pt1000, Ptxxx, 2 or 3 wires input
- **CALT45:** Thermocouple input
- **CAL45:** mV, V (dc), mA (dc), potentiometer input
- **isolation:** input / output
- **2-wire transmitter:**
powered by the 4-20 mA current loop
- **LED to the immediate control of the loop and sensor**
Green LED 4 ... 20mA loop OK ; red LED fault detection



The CAL45 conditioner allow, for a Pt100, Tc, mA, mV or potentiometer input measure, to provide an output current (4-20 mA), isolated two-wire technique. Their use is recommended for eliminating ground loops, or for the acquisition system protection.

DESCRIPTION:

- Thermocouples : CALT45
- Platinum resistance sensor (PT100, PT1000) : CALP45
- Voltage (mV-V) : CAL45-mV
- Current (mA) : CAL45-mA
- Potentiometer : CALpot45

Correction of sensors

- RTD linearization .
- Cold junction compensation for thermocouples.
- Line compensation for RTD.

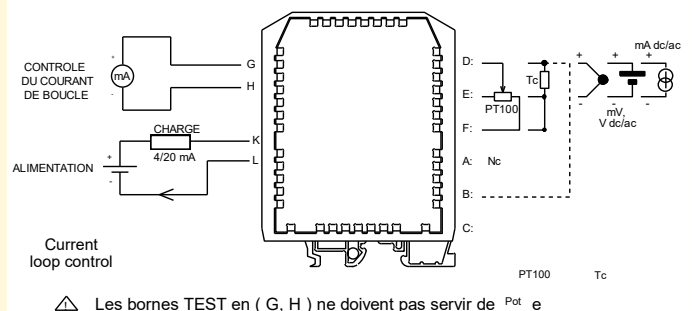
Feature:

- DIN rail mounting,
- IP20 protection rating,
- connection with screw-terminals,
(section of the wires up to 2.5 mm²)
- green led for supply voltage presence,
- red led indicating failure, sensor breaking or excess by 15 %
off the scale
- start and end scale adjustment with potentiometers,
- customization of the measure scale at manufacturing,
- high security value when sensor breaking
(24 mA limitation, low safety on request),
- protected against reverse polarity,
- "test" terminals to control the output current without opening
the loop (no green led during control).
Do not put any load on this "test" terminals !

Environment:

- Long term stability : 0.1% / year
- Operating temperature up to 85 °C
- High EMC immunity
- Resistant protected against shock and vibration

WIRING :



Version and order code :

- CALP45:** linearized Pt100, Pt1000 inputs (2 or 3 wires),
- CALT45:** thermocouple inputs (B, E, J, K, R, S, T, ...to specify),
- CAL45:** voltage input (mV), current (mA)
- CALpot45:** potentiometer input

The input measurement range should be define on request

Option : - SIL2 / SIL3 (all models)

INPUT

CALP45: Pt100 to Pt1000 (2 or 3 wires)

- Measure input range mini : 30 °C
- Line length compensation
- Response time : < 30 ms
- Accuracy : 0.2 % of full scale

CALT45: Thermocouple input (B, E, J, K, R, S, T, ... To be defined)

- Measure input range mini : 100 °C (according to type of thermocouple)
- Cold junction compensation (-10 to 60 °C)
- Response time : < 200 ms
- Accuracy : 0.5 % of full scale

CAL45: mV, mA, potentiometer input

- Measure input range mini for mV, mA : 5 mV, 500uA
- Measure input range for potentiometer: 100 - 1 MOhms
- Response time : < 30 ms
- Accuracy : 0.2 % of full scale

POWER SUPPLY / OUTPUT (two-wire technique)

Loop power supply	14 to 50 V
Current output (loop powered)	4 / 20 mA
Load maxi:	500 Ohms for 24 Vcc
Admissible load :	(Vsupply - 14v) / 0,02
Load influence:	0.005 % / 100 Ohms
Supply influence:	0.003 % / V
Intrinsic consumption:	< 3.6 mA
Safety current:	> 22mA
Error of linearity (typ):	0.05 %
ripple (noise):	< 30 mV

ENVIRONNEMENT

Operating temperature	-20 °C to 60 °C
Storage temperature	-25 °C to +85 °C
Relative humidity	85 % not condensed
Influence (% full scale)	0.01 % / °C

Weight (plastic case) 80g

Protection rating IP20

MTBF (MIL HDBK 217F) > 4 000 000 Hrs @ 25°C

Lifetime > 200 000 Hrs @ 30°C

Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibrations IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibrations IEC 60068-2-6 (transportation)	2 G / 10 - 150 Hz
Montage	horizontal or vertical

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:

