Analogue isolated transmitter for Pt100, thermocouple loop powered 4..20mA, DIN rail mounting — *Type CAL45*

- ***CALP45:*** *Pt100 to Pt1000 input*
- ***CALT45:*** *Thermocouple input*
- ***CAL45:*** *mV, V (dc), mA (dc), potentiometer input*
- ***isolation:*** *input / output*
- ***2-wire transmitter:*** *(powered by the 4-20 mA 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 isolated output current (4-20 mA). Their use is recommended for eliminating ground loops, or for the protection of the acquisition system.

DESCRIPTION:

Temperature measurements:
- Thermocouples CALT45
- PT100 probe CALP45

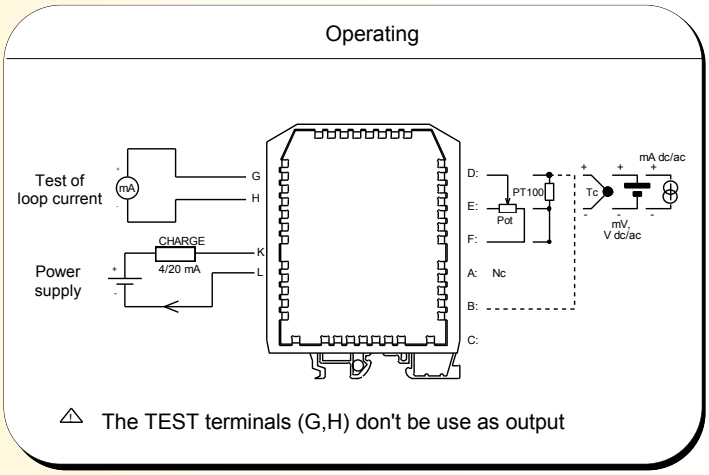
Correction of sensors
- PT100 linearization .
- Cold junction compensation for thermocouples.
- Line compensation for PT100.

Process measure:
- voltage (mV) CAL45
- current (mA) CAL45
- potentiometer CALpot45

Feature:
- DIN rail mounting,
- 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 adjustment of scale 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 : Request a quote

CALP45:	linearized Pt100 to 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 measurement range is customizable

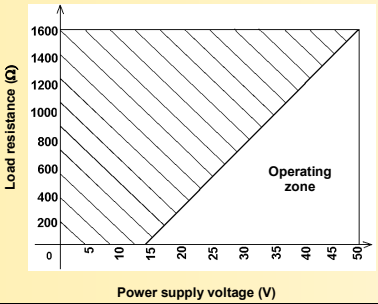
90 days accuracy (20 °C +/- 2 °C) *DATA SHEET CAN BE DOWNLOADED ON* WWW.LOREME.FR **TECHNICAL SPECIFICATIONS**

INPUT

TYPE	Minimal range
Voltage mVdc, Vdc	5 mV
Input impedance:	> 1 MOhms
Current mAdc, Adc	500 µA
Thermocouple	~ 100 °C
B, E, J, K, R, S, T...	according on the Tc type
Cold junction compensation	-10 / 60 °C
Line resistance influence:	0.03 % / 100 Ohms
RTD probe linearized (Pt100 to Pt1000)	30 °C
Type of wiring to specify :	2 or 3 wires
Line resistance influence:	0.1 % / Ohms
Accuracy	+/- 0.25 %
response time	30 to 200 ms (according on the input type)

POWER SUPPLY

Power supply	14 to 50 Vdc
Type	2-wire loop powered
Power supply influence:	0.003 % / V



OUTPUT

Current	4-20mA (loop powered)
Load	500 Ohms at Vsupply= 24 V
Load = (Vsupply - 14) / 0.02	
Influence:	0.004 % / 100 Ohms
Linearity error (typ):	0.05 %
Residual ripple (noise):	< 30 mV

ENVIRONNEMENT

Operating temperature	-10 °C to 60 °C
Storage temperature	-20 °C to +85 °C
Influence (% full scale)	0.01 % / °C
Relative humidity	85 % not condensed
Dielectric strength	1000 Vac continuous (Input/Outputs)
Weight	80g
Protection rating	IP20
Mounting	Horizontal or vertical

Electromagnetic compatibility

Generic standards: **NFEN50081-2 / NFEN50082-2**

CE

EN55011	meet	group 1 / class A			
EN61000-4-2	no influence	B	**ENV50140**	< +/- 5 %	A
EN61000-4-4	< +/- 5 %	B	**ENV50141**	< +/- 10 %	A
EN61000-4-5	< +/- 5 %	B	**ENV50204**	no influence	A
EN61000-4-8	no influence	A			
EN61000-4-11	< +/- 5 %	B	DBT	**73/23/CEE**	

WIRING AND OUTLINE DIMENSIONS: