4-20mA loop powered temperature transmitter miniature, isolated, programmable

CNL25IG

LOREME

- ## Temperature and process inputs

    voltage V, mV, mA current, potentiometer
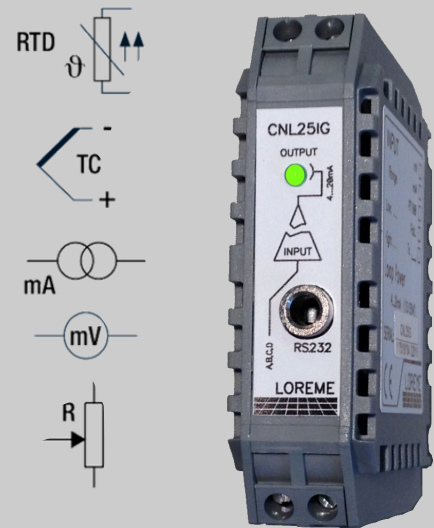
    thermocouple, Pt100

- ## 2 wires technology

    4-20mA loop current powered

- ## Galvanic isolation

- ## Fully configurable

- ## low profile DIN rail mounted enclosure

CNL25ig is an isolated loop powered programmable transmitter. DIN rail mounting, it's low profile is suitable for application constrained by the available volume.

DESCRIPTION:

Temperature inputs :
- thermocouples with linearization and internal cold junction compensation,
- platinum RTD sensor (Pt100 2 or 3 wires mount) with linearization and line length compensation.

Process inputs:
- voltage (mV),
- current (mA) on external shunt.
- potentiometer: 1 kOhms to 200 kOhms,

Signal processing:
- square root calculation (on process inputs),
- user defined security value for sensor breaking detection,
- user defined response time, 0.2 to 60 sec, (filtering measure)
- normal or reverse output,
- offset measure adjustment,
- low sensibility to thermal ambient variations.

Feature:
- symmetrical DIN rail mounting,
- connection on screw terminals (2.5mm^2),
- reverse polarity protection,
- LED indicator for loop current presence,
- RS232 link for configuration,
- configuration parameters saving on Flash, data retention > 30 years,
- watchdog controls the programme running,
- input / output galvanic isolation (elimination of measurement errors due to ground loop),
- conformal coating,
- protection rating IP20 (housing / terminals).

CONFIGURATION:

CONFIGURATION:
The device is configured via the serial link, with any system emulating a terminal under any operating system:
- no specific software to install
- USB ->RS232 cable provide separately

Via the terminal communication, the user is able to :
- see the input measure, shift the measure,
- change the parameters : input range, output range, filter, ...

Attention: the RS232 link is not isolated from the measure inputs (checks that there no dangerous voltage on inputs before all configuration).

Synoptic:
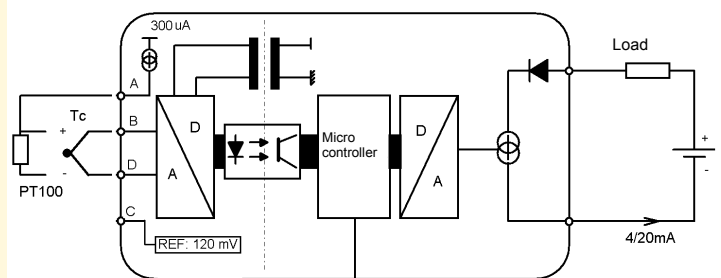
Version and code order :

Request a quote

CNL25ig :   Low profile enclosure with fixed connection.

INPUT (24 bits resolution)

TYPE	RANGE	ACCURACY
Tc B	200 / 1800 °C	+/- 2 °C
Tc E	-250 / 1000 °C	+/- 0.4 °C
Tc J	-200 / 600 °C	+/- 0.4 °C
Tc K	-200 / 1350 °C	+/- 0.4 °C
Tc R	0 / 1750 °C	+/- 1 °C
Tc S	0 / 1600 °C	+/- 1.5°C
Tc T	-250 / 400 °C	+/- 0.5 °C

Other thermocouple on request
T° Compensation   -20 / 60 °C   +/- 0.3 °C
Input impedance   > 1 MOhms
breaking sensor current detection   0.25uA

2, 3 wires Pt100   -200 / 800°C   +/- 0.3 °C
Excitation current   300 uA
Cable influence   < 0.03°C / Ohms
(maximum cable resistance: 10 ohms by wires)

Voltage   0 / 120 mV   +/- 0,02 mV
Input impedance   > 1 MOhms

Current   0 / 30 mA   +/- 0,015 mA
on external shunt   2,5 Ohms   (provided on request)

Potentiometer   1 KOhms to 200 KOhms
(supplied by 120 mV internal reference)

OUTPUT

OUTPUT	RANGE	ACCURACY
Current	4 / 20 mA	+/- 0.01 mA
(14bits resolution)		

2 wires power supply   14 to 40Vdc
Max load   500 at 24Vdc
Max output current   22mA
Output noise   <50mV pp on 500 Ohms
Response time   0.2s to 60s
Security value   3.7 to 22mA
(sensor breaking condition)
Load influence   0.004 % / 100 Ohms
Power supply influence   0.002 % / V

ENVIRONMENT

Operating temperature   -20 to 60 °C
Storage temperature   -25 to 85 °C
Influence (% full scale)   < 0.004 % / °C
Humidity   85 % non condensing
Weight   40 g
Protection rating   IP20

Dielectric strength input / output   1000Vrms continuous

MTBF (MIL HDBK 217F)   > 4 500 000 Hrs @ 25°C
Life time   > 200 000 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	
EN 61000-4-3 *RF*	EN 61000-4-9 *pulse MF*		
EN 61000-4-4 *EFT*	EN 61000-4-11 *AC dips*	group 1	CE
EN 61000-4-5 *CWG*	EN 61000-4-12 *ring wave*	class A	
EN 61000-4-6 *RF*	EN 61000-4-29 *DC dips*		

WIRING AND OUTLINE DIMENSIONS:

On account of the constant technologies and standards evolution, LOREME keeps the possibility to modify the specifications of the included products without notice.