Isolated loop powered transmitter
Temperature and process inputs
CNL45

LOREME

- ### Programmable temperature and process input
  - Volt ,mV, mA, potentiometer
  - thermocouple, RTD PT100

- ### 2 wire Loop powered
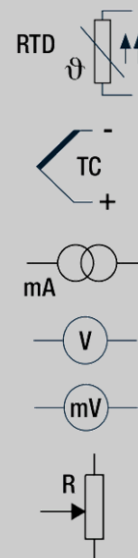 - powered by 4-20mA current loop

- ### Galvanic isolation
  - 1000V input / output

- ### Fully configurable
  - RS232 link

- ### High thermal stability
  - 50 ppm

The CNL 45 is an isolated numeric transmitter powered by the 4-20 mA current loop, combining the ease of use of loop powered device with the flexibility of programmable converters.

DESCRIPTION:

Temperature input :
- thermocouples with linearization and cold junction compensation
- platinum RTD probe (PT100 2 or 3 wires mounting) with linearization and line length compensation.

Process input :
- voltage mV, V,
- current mA,
- potentiometer from 1 kOhm to 200 kOhms,
- resistance,

Output :
- 2 wires 4-20mA current (loop powered),
- programmable response time from 0.2 to 60 seconds,
- programmable output security value when sensor breaking,
- normal or reverse output,

Additional functions :
- special linearization configurable on 20 points,
- square root extraction,
- adjustment of measure offset.

Front face :
- Jack 3.5 plug for device configuration
- Green led for loop current presence,

Feature:
- DIN rail mounting, IP20
- connection on 2.5 mm² screw-terminals,
- protection against reverse polarity,
- test terminals for controlling current without opening the loop,
- configuration settings saved in FLASH, data retention > 20 years,
- "Watchdog" controls the good program running,
- input / ouput galvanic isolation,
- conformal coasting.

CONFIGURATION:

The **CNL45** can be configured via the serial RS232 link (jack 3.5), with any system emulating a terminal.
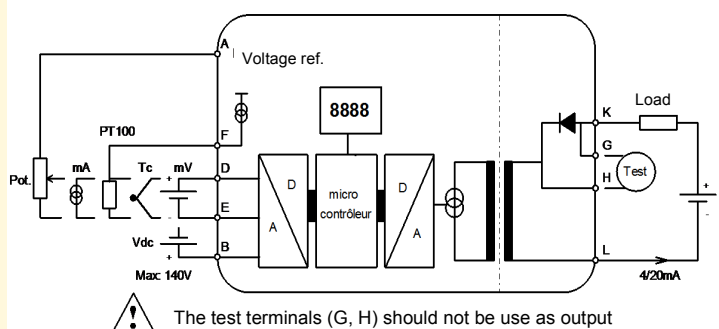- No specific software required.
- USB - jack 3.5 adapter provide separately.

Via the terminal, the user will can:
- see the measures, shift the measure
- setting the transmitter parameters: input range, output range, filter, ...

Warning the RS232 link is not isolated from measure inputs (check the absence of hazardous voltage on inputs before any configuration).

Synoptic

⚠ The test terminals (G, H) should not be use as output

Version and order code :

CNL45 :   Standard version

CNL45L :   Low cost version

INPUT	RANGE	ACCURACY	
		CNL45	**CNL45L**
		(24bits resolution)	(20bits resolution)
Low level voltage	-10/ 140 mV	± 0.01 mV	± 0.02 mV
input impedance	> 2 MOhms		
High level voltage	-10/ 140V	± 10 mV	± 15 mV
input impedance	1 MOhms		
Current	0/ 35 mA	± 0.02 mA	± 0.02 mA
impedance	2 Ohms		
Resistance 2, 3 wires	0 / 384 Ohms	± 0.1 Ohms	± 0.1 Ohms
measure current	400 µA		
Potentiometer	1K to 1MOhms	± 0.1 %	± 0.1%
Potentiometer reference		~ 140 mV for 1 MOhms	
(according to potentiometer)		~ 55 mV for 1 kOhms	
PT100 2, 3 wires	-200 / 800 °C	± 0.35 °C	± 0.4°C
Influence of the line	< 0.4 °C / 10 Ohms		
Thermocouples			
Tc B	200 / 1800 °C	± 2 °C	± 2.2 °C
Tc E	-250 / 1000 °C	± 0.4 °C	± 0.6 °C
Tc J	-200 / 600 °C	± 0.4 °C	± 0.6 °C
Tc K	-200 / 1350 °C	± 0.5 °C	± 0.6 °C
Tc R	0 / 1750 °C	± 1.5 °C	± 1.6 °C
Tc S	0 / 1600 °C	± 1.5 °C	± 1.6 °C
Tc T	-250 / 400 °C	± 0.5 °C	± 0.5 °C
Other couples on request			
T° compensation	-10 / 60 °C	± 0.3 °C	
input impedance	> 2 MOhms		

OUTPUT	RANGE	ACCURACY
Current	4 / 20 mA	± 0.01 mA
	(14 bits resolution)	
Power supply	14 to 50 Vdc	
Load max.	500 Ohms at 24Vcc = (Vpwr -14) /0.02	
Current max.	22 mA	
Noise	< 50 mV pp.	on 500 Ohms
Response time	200 ms to 60 s	
security value	3.5 to 22 mA	
power supply influence	0.002 % / V	
Load influence	0.004 % / 100 Ohms	

ENVIRONMENT

Operating temperature	-20 to 60 °C
storage temperature	-20 to +85 °C
influence (% of the full scale)	< 0.004 % / °C
Humidity	85 % (not condensed)
Weight	105 g
Protection rating	IP 20
Dielectric strength	1000 Veff continuous (input / output)
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*
EN 61000-4-5 CWG	*EN 61000-4-12 ring wave*	*class A*
EN 61000-4-6 RF	*EN 61000-4-29 DC dips*	

CE

WIRING AND OUTLINE DIMENSIONS:

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