

**Programmable panel meter : PT100, thermocouple, 4-20mA.
SIL2**

TYPE : INL35



• Process and temperature inputs

Volt, mV, mA, sensor power supply,
Potentiometer, frequency, strain gauge,
Thermocouple, PT100
Programmable via the front face
and USB-RS232 link

• Display :

10 000 pts for measure,
unit display on 4 alphanumeric digits
96 x 48 mm standard format

• option : Isolated analog output,
up to 4 relay outputs,
RS485 link Modbus / Profibus,
Ethernet Modbus TCP link



• Pluggable terminal blocks

• Universal power supply 20 ... 265Vac-dc

• SIL 2 option according to IEC 61508



The INL35 is a universal panel meter for analog process and temperature inputs. It is configurable in a clear language (without manual) and allowing to display the physical unit.

Description:

Process inputs:

- Current 0..4..20mA with or without sensor power supply.
- Voltage 0..10V..200V
- Potentiometer
- Strain gauge
- Resistance
- Frequency and duty cycle
- Namur sensor

Temperature inputs:

- PT100 2, 3 or 4 wires
- Thermocouple type : B, E, J, K, R, S, T, N, W3, W5,...
(all other thermocouple on request)

Calculation functions:

- square root extraction
- Special linearization on 26 points

Front face :

- Measure display : 4 digits, 7 segments LED of 14,2 mm
- Unit display: 4 digits LED alphanumeric dot matrix
- 3 push buttons: Fully configuration of the device, alarm threshold setting, tare,
- 4 red LEDs for visualization of the relays state, 1 led for tare.

Analog output (option: INL35/S)

- 1 isolated analog output configurable in
current 0 ... 4 ... 20 mA or voltage 0...1...5...10 V
- scale, response time, security value adjustable.

Relays (option: /R)

- Maximum 4 relay output (SPDT contact)
usable in alarm, TOR regulation, sensor or input loop breaking detection.
- Threshold, direction, hysteresis and delay individually adjustable
for each relays (ON delay and OFF delay)

Configuration:

INL35 can be configured via the front face or the serial RS 232 link (jack 3.5mm). USB to jack cable supplied separately.
Firmware update possible via the USB-jack cable.
Attention: No isolation between serial link and inputs !

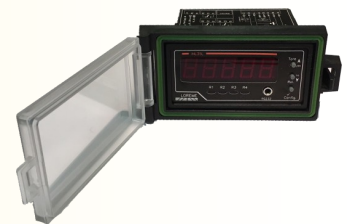
Operational safety data:

component type B , HFT = 0
 $\lambda.f = 239 \text{ fit}$, DC = 87.8 % , PFH : 16 à 21 fit
SFF = 93.3 % with 1 analog output
SFF = 90.8 % with 4 thresholds



Features:

- DIN panel case: 96x48mm
- pluggable screw terminals block
(1.5mm² section)
- Conformal coating
- Protection rating IP20
- IP65 protective cover in option
(opposite photo)



Version and order code:

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INL35 Basic version, 4 digits display
INL35D Double case version, 96mm x 96mm

INL35/R1 + 1 relay
INL35/R2 + 2 relays
INL35/R3 + 3 relays
INL35/R4 + 4 relays
INL35/S + 1 analog output
INL35/CM + RS485 link, MODBUS protocol
INL35/CP + RS485 link, PROFIBUS-DP protocol
INL35/CMTCP + ETHERNET, MODBUS TCP protocol
INL35/SNMP + ETHERNET, SNMP

/SIL2 SIL2 version according to IEC61508

option /R4 , /S , /CM , /CP , /CMTCP not combinable

INPUT

(resolution :14 bits process ,16 bits temperature ; reference 5 ppm)

Type	Range	Accuracy
Voltage (low level)	- 250 to 2000mVdc	+/- 40 uV
Input impedance	1 MOhms	to +/-1 mV
<i>(on two ranges : 250mV and 2000 mV)</i>		
Differential voltage	- 50 to +50mVdc	+/- 10 uV
Input impedance	1 MOhms	
Voltage (High level)	- 25 to 200Vdc	+/- 0.02 V
Input impedance	500 kOhms	to +/-0.8 V
<i>(on two ranges : 25 V and 200 V)</i>		
Current	- 4mA to 40 mA	+/- 0.01 mA
Input impedance	50 Ohms	
Resistance 2, 4 wires	0 / 380 Ohms	+/- 0.1 ohms
Measure current	< 700 uA	
Pt100 2, 3 wires	-200 800 °C	+/- 0.2 °C
Pt100 4 wires	-200 800 °C	+/- 0.1 °C
Thermocouples:		
Tc B	+2001800 °C	+/- 2 °C
Tc E	-250 1000 °C	+/- 0.3 °C
Tc J	-200 600 °C	+/- 0.4 °C
Tc K	-200 1350 °C	+/- 0.5 °C
Tc R	0 1750 °C	+/- 1.5 °C
Tc S	0 1600 °C	+/- 1.5 °C
Tc T	-250 400 °C	+/- 0.4 °C
Tc N	-250 1350 °C	+/- 0.5 °C
TC W3	0 2300 °C	+/- 2 °C
TC W5	0 2300 °C	+/- 2 °C
<i>T° compensation</i>	-10 / 60 °C	+/- 0.2 °C
<i>thermocouple breakdown detection current = 0.5 uA.</i>		
Frequency	0.25Hz...100 KHz	+/- 0.2 %
Duty cycle	50 Hz...5KHz	+/- 0.2 %
Input impedance	100 kOhms	
Measure amplitude	4 to 50 V~ peak to peak	
with automatic DC component suppression.		
All type of sensor: NPN, PNP, NAMUR		

AUXILIARY

Sensor power supply	22 V regulated +/- 5% (50mA)
Potentiometer reference	5 V regulated +/- 0.15% (20mA)
Logical input	dry contact / TTL / 24V/...

POWER SUPPLY

Universal: (2 versions: standard and low voltage not polarized)
 Standard: 21Vdc, 55Vac to 265Vac/dc
 low voltage: 12Vdc to 30Vdc.
 consumption < 3 VA

Analog output (INL35/S) 12 bits resolution

Type	Range	Accuracy
Current	0 4 20 mA	+/- 20 uA
Admissible load:	800 Ohms	
Voltage	0 ... 10 V	+/- 10 mV
Impedance output:	500 Ohms (internal shunt 0.1%)	
Response time (programmable):		
process input:	35ms to 60s	
temperature input:	100ms to 60s	

RELAY (INL35/R)

Switching power 250VAC , 1A (250 VA)

COMMUNICATION (INL35/C--)

RS485 link:	
Modbus (INL35/CM)	from 1,2 to 38,4 kbps.
Profibus-DP (INL35/CP)	from 9600 to 1.5M bds.
Wiring	2 wires screw terminal.
RJ45 Ethernet link (INL35/CMTCP)	10/100 M

ENVIRONMENT

Operating temperature	-25 to +60 °C
Storage temperature	-25 to +85 °C
Temperature drift	< 20 PPM / °C
Humidity	85 % not condensed
Weight	~ 180 g
Protection rating	IP20
Dielectric strength	1500 Vrms continuous
MTBF (MIL HDBK 217F)	> 4 000 000 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		Emission standard for industrial environments
EN 61000-6-2		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:

