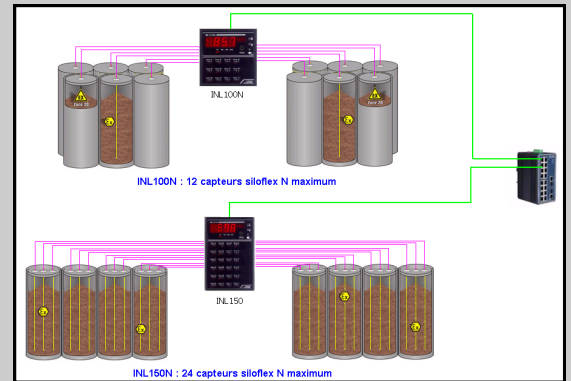


- **Up to 576 temperature points on a single device**  
(INL150N 576 points - INL100N 288 points)
- **3 wires cable by Silo probe**
- **Digital sensors in 3 wires link**  
(-55°C to +125°C)
- **Polling time 25 ms / measurement point**  
( 576 measures in 15 seconds)
- **Accuracy: +/- 0.5 °C**
- **Output relay (pre-alarm, alarm and Watchdog)**
- **Communication option**
  - Modbus
  - Modbus TCP (on Ethernet)
  - Profibus



The INL150N is an monitoring unit allowing combination of a large number of temperature sensors in a single device. The « all digital » technology of the whole, reduce significantly the wiring and implementation costs, the sensors being interconnected on a 3 wires bus.

### Description:

The INL100/150N manages all sensors in clusters (maximum 24 clusters on a device).

Each cluster can be composed of 24 temperature points and extend over a distance of 200 meters. Allowing realization of a total network of 4800 meters regrouping more than 500 sensors.

A single device may, for example, manage all temperature measurement of 24 silos!

The choice of digital sensors ensure excellent accuracy ( $\pm 0.5^\circ\text{C}$  maximum on the whole range) and a long term negligible drift ( $<0.01\%$ /year). *No re-calibration is necessary.*

Addition, deletion or replacement of a sensor is made by simple configuration. Interchangeability is total.

Each sensor has a single 64 bits address automatically recognized by the device.

Two relay ensure temperature monitoring (pre-alarm and alarm). A watchdog output relay permit to signal an internal defect of the device, the sensors or a power supply loss.

A state contact (NO) is available for each clusters allowing a distant identification of the silo in alarm.

An optional digital link permits to return all measures and alarms to a PLC or a supervision.

The display and LEDs on front face allow visualization of all temperature points and alarms as well as the operational status of each sensors cluster (an automatic scanning of maximum temperature of each cluster ease the reading of the display, considering the large number of measurement).

The product is available in two version:

INL100N (96x96) and INL150N (96x144) with respectively 12 and 24 clusters max, the number of cluster has to be specified (from 1 to 24 ).

### Setting:

The device can be configure via the front face or with a computer through the serial RS232 link.

### Complementary functions:

Selection of the scan sequence by individual enabling or disabling of the measured channels.

### Front face :

- Temperature display on 4 digits (7 segments, 14.2 mm) from  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$
  - Display of selected measure (cluster and sensor number)
  - Red LEDs, 2 by cluster (state of alarms 1 and 2 for each sensor)
  - Display mode signalization LEDs:
    - Automatic : Scrolling display of maximum temperature for each cluster.
    - Manual : Individual selection of each measurement point.
  - Alarm relay 1 and 2 and Watchdog relay status LEDs.
  - Push buttons:
    - display selection: scrolling or fixed.
    - alarms thresholds adjustment or complete configuration.
    - alarm inhibition
- (keyboard locking is possible in RS232 configuration).

### Version and order code:

- |                      |                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>INL100N:</b>      | from 1 to 12 clusters of 24 maximum points<br>(96 x 96 mm size)                                                                                  |
| <b>INL150N:</b>      | from 13 to 24 clusters of 24 maximum points<br>(96 x 144 mm size)                                                                                |
| <b>Option /CM</b>    | RS485 MODBUS/JBUS digital link<br>1200 bps to 38400 bps<br>- measure and alarm status reading,<br>Data size: 16 bits integer (% of scale factor) |
| <b>Option /CMTCP</b> | MODBUS TCP 10/100 Mb Ethernet link<br>- measure and alarm status reading,<br>Data size : 16 bits integer (% of scale factor)                     |
| <b>Option /CP</b>    | RS485 PROFIBUS-DP digital link<br>9600 bps to 1,5 Mbps<br>- measure and alarm status reading,<br>Data size : 16 bits integer (% of scale factor) |

**INPUT**

Silicon digital temperature sensor (64 bits single address)

Connection by 3 wires shielded cable: (+5V ; 0V ; DATA)  
Maximum length by silo sensor: 200 metersUp to 24 measure elements by cluster.  
(indifferent distribution)Operating range: -55°C to 125°C  
(accuracy +/-0.5°C)**RELAY**Cutoff power (resistive) 1A / 250 Vac  
Insulated reverser contact 1500 Vac  
(Cluster failure output contact : 1 NO , 500mA 50V)**COMMUNICATION**Modbus RTU over RS485 from 1200 to 38400 bauds  
Modbus TCP over Ethernet 10/100 T base (RJ 45 connection)  
Profibus DP over RS485 from 9600 to 1.5M bauds.**POWER SUPPLY**(to specify at the order)  
20 to 70 Vac-dc, 6 VA  
80 to 265 Vac-dc, 6 VA**RECOMMENDED OPERATING CONDITIONS**

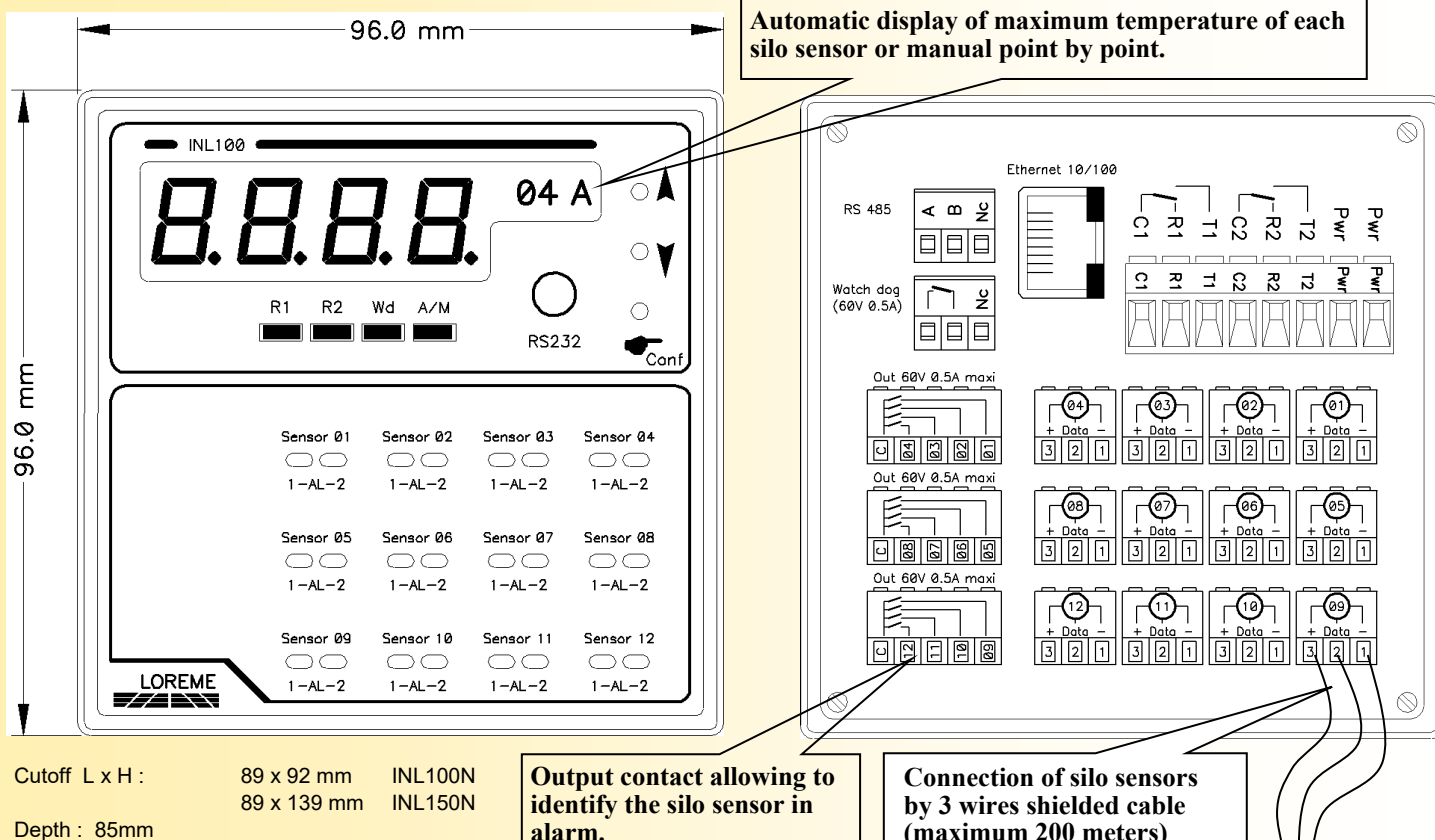
|                                      |                                           |
|--------------------------------------|-------------------------------------------|
| Operating temperature                | -10 to 60 °C                              |
| Storage temperature                  | -20 to +85 °C                             |
| Influence (% of full scale)          | no applicable                             |
| Relative humidity (not condensed)    | 85 %                                      |
| Weight (according to channel number) | ~ 500 g (12 channels)                     |
| Protected                            | IP20, in basic version<br>IP65, in option |
| Dielectric strength                  |                                           |
| input/P. supply/output/relay/RS485   | 1000 Vrms continuous                      |

**Electromagnetic compatibility**

Generic standards: NFEN50081-2 /NFEN50082-2



|              |              |                    |             |             |
|--------------|--------------|--------------------|-------------|-------------|
| EN55011      | meet         | group 1 / classe A |             |             |
| EN61000-4-2  | no influence | B                  | EN61000-4-3 | < +/- 5 % A |
| EN61000-4-4  | < +/- 5 %    | B                  | EN61000-4-6 | < +/- 5 % A |
| EN61000-4-5  | < +/- 5 %    | B                  |             |             |
| EN61000-4-8  | no influence | A                  |             |             |
| EN61000-4-11 | < +/- 5 %    | B                  | DBT         | 2006/95/CE  |

**WIRING AND OUTLINE DIMENSIONS:**

**Digital Silo Sensor  
Siloflex-N Type  
of maximum 24 temperature points**

