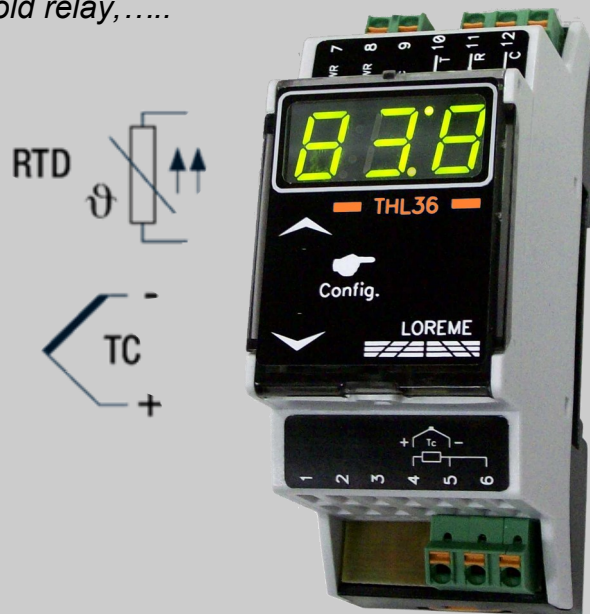# Temperature threshold relay RTD and thermocouple
Industrial thermostat SIL2 option   THL36

LOREME

- **Suitable for heating and cooling mode.**
  Application : protection relay, thermostat, threshold relay,…..

- **Temperature input**
  PT100 - 3 wires / Thermocouples J,K,T

- **Fully configurable via front face**
  With push button under the cover

- **Relay output (changeover contact)**
  10A switching current

- **1000 pts LED display for the measure**

- **DIN Rail mounting**

- **Option : EN 14597 conformity**
  Temperature regulating and limiting devices for heat generating systems.

- **Option : SIL2** *According to IEC 61508*

The THL36 is a compact digital thermostat, designed for simple temperature control, or for protection and safe keeping of more complex systems.
Measuring input can be either RTDs or thermocouples.

DESCRIPTION:

Temperature measurement:
- Thermocouples : J ,K ,T
- RTD 100 ohms sensor

Front face:
- Measure display: 7 segments 3 digits (1100 pts).
  green LED , digits height: 10 mm.
  resolution : 0.1 °C from -9.9 °C to +99.9 °C.
  resolution 1 °C for greater temperature with automatic decimal point display.
- Sensor break detection or scale overflow (display: LO, HI or Err).
- 1 green LED for the alarm status.
- 2 push buttons under the cover for the device configuration.

Relay:
- Dry changeover contacts usable in alarm, regulation, thermostat, ...
- Threshold, direction (hot, cold), hysteresis, adjustable by push buttons on the front face.

Performance / Environment
- Long-term stability 0.1% / year.
- Operating temperature up to 65 °C.
- Excellent EMC performance.
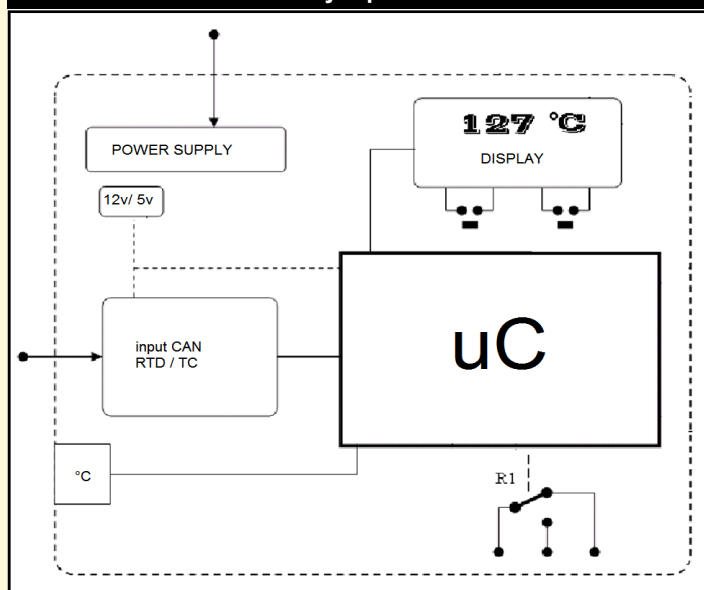- Resistant, protected against shock and vibration.

Installation
- DIN rail mounting according to EN50022.
- Connection by spring terminals max : 1 mm².
- Insulation : power / input / relay.
- IP20 protection + conformal coating.
- Firmware update is possible via serial link.

Operational safety data :
component type B , HFT = 0
$\lambda.f$ = 247 fit   (1/MTBF)
DC = 89.1 %   (diagnostic coverage)
SFF = 90.9 %   (probability of failure fraction)
PFH = 27 fit   (probability of failure per hour)

SIL 2
Safety Integrity Level
IEC 61508 / IEC 61511

Synoptic:

Version and order code:

Request a quote ✉

THL36:   - Standard model with 10 A electromechanical relay
 option   **/SIL2**   SIL2 version according to IEC61508

THL36/Rs: - Version with asynchronous static relay 60V 0.5A
                     (for the drive of static power unit)

INPUT

TYPE	RANGE	PRECISION
Tc J	- 99….600 °C	± 0.4 °C
Tc K	- 99….1000 °C	± 0.4 °C
Tc T	- 99….400 °C	± 0.7 °C
Compensation T°	-20 to 85 °C	± 0.3 °C
Input impedance:	> 1 MOhms	
Breaking current detection:	0.25 uA	
3 wires PT100	-50…..600 °C	± 0.3 °C
Polarization current:	300 µA	
Line influence:	< 0.03 °C / Ohms	
Maximum line resistance :	10 Ohms	

RELAY

Changeover contact
Load   10 A / 250 Vac
Typical response time of the threshold outputs: 750 ms
Repeatability: +/- 0.2°C

Electrical endurance

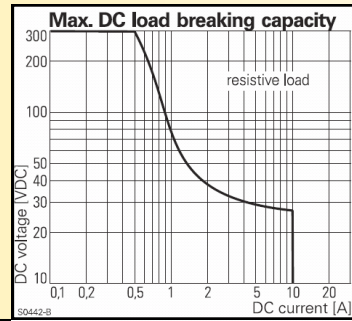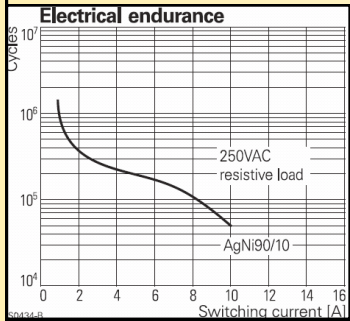**Max. DC load breaking capacity**

POWER SUPPLY
(must be defined at order)
230 Vac 50-60 Hz +/- 15 %, consumption < 1.5 VA
115 Vac 50-60 Hz +/- 15 %, consumption < 1.5 VA
24Vdc +/- 15% (not polarized), consumption < 100mA

ENVIRONMENT

Operating temperature:	-20 à 65 °C
Storage temperature:	-40 à +85 °C
drift (% of full scale)	< 0.02 % / °C
humidity:	85 % not condensed
protection:	IP 20
weight:	150 g
Dielectric strength	2500 Vrms : power (230V) / input
	2500 Vrms : relay / input
MTBF (MIL HDBK 217F)	> 4 000 000 Hrs @ 25°C
Life time	> 200 000 Hrs @ 30°C
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	30 G / 6 ms
Vibration IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibration CEI 60068-2-6 (transportation)	2 G / 10 - 150 Hz

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:

Regulation state LED