

# Thermostat or regulator for heating cable or element

## High current switching capacity

THL37



- **Temperature input**  
PT100 - 3 wires / Thermocouples J, K, T
- **Fully configurable via front face**  
With push button under the cover
- **Switching power : 20A resistive load**
- **1000 pts LED display for the measure**
- **DIN Rail mounting or watertight box IP65**



The THL36 is a compact digital thermostat, designed for simple temperature regulation of heating elements (cable, ribbon), allowing the direct control of resistive load up to 4.5 KWatt. The numeric regulation combine accuracy and ease of use. The temperature and the setpoint are displayed on large LED display

### DESCRIPTION:

#### Temperature measurement:

- Thermocouple J, K, T
- Rtd platinum sensor. PT100 in 2 or 3 wires.

#### Front face:

- Display of measure / setpoint : 3 digits (1100 pts), 7 segments green LED, 10mm high  
resolution: 0.1°C from -9.9°C to 99.9°C, 1°C resolution above with automatic display of decimal point.
- Sensor break or over range detection  
display "Err LO" if the sensor is short-circuited,  
display "Err HI" if the sensor is open / broken.
- 1 Green LED for relay status indication.
- 2 push buttons on the front:
  - Direct access to the set point (up, down),
  - Advanced configuration (hysteresis, delay).

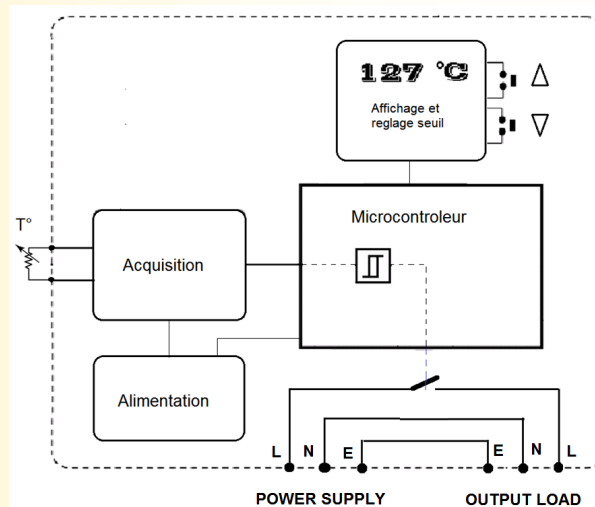
#### Relay:

- Direct output for heating element switching
- "hot mode" regulation with load powered for a measured temperature less than the adjusted threshold.

#### Features:

- Electronic fully protected by conformal coating,
- DIN rail mounting, symmetrical according to EN50022
- Option mounting in IP66 polycarbonate waterproof enclosure (THL37-IP), transparent cover
- Wiring:
  - temperature sensor connection by spring terminals  
max : 1 mm<sup>2</sup>
  - heating element connection on pluggable spring terminal  
max: 4 mm<sup>2</sup>
- isolation : power / input / load output.
- firmware update is possible via serial link for special applications

### Synoptic:



### Modular enclosure

- with 3 cable glands
- Protection rating IP65 / IK09
- temperature: -25°C / +60°C
- size : 150x80x98mm
- Isolation class II
- Hinged cover  
(access to setpoint adjustment)



### Version and order code:

- THL37:** - regulator alone
- THL37-IP:** - Version mounted on IP66 watertight case

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INPUT		
TYPE	RANGE	PRECISION
3 wires PT100	-50.....600 °C	± 0.3 °C
Polarization current:		300 µA
Line influence:		< 0.03 °C / Ohms
Maximum line resistance :		10 Ohms
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	

RELAY	
Power switching capacity	20A / 250Vac / 5000VA
Typical response time of the threshold outputs:	250 ms
Repeatability:	+/- 0.2°C
Electrical endurance @ 16Aac , 230Vac :	1 x 10 <sup>5</sup> operating resistive load cycle of 10 seconds
Electrical endurance @ 16Aac , 24Vac :	5 x 10 <sup>4</sup> operating resistive load cycle of 10 seconds

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:	-25 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

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 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:**

