

MOD2PT : input module for two PT100 temperature probes

MOD2PT module allows to transmit, through the **CONTATTO** bus, one or two temperature measurements from one or two standard PT100 probes (not provided).

By a 4-way dip switch located under the front panel, the module may be set according to the requirements of the application as resumed in the following table:

	ON	OFF
SW1	Only channel 1 is enabled (IN1) and the module takes only one input address	Both channels are enabled (IN1 e IN2) and the module takes two consecutive input addresses
SW2	Measurement range for channel 1: -40 ÷ +87.5°C	Measurement range for channel 1: 0 ÷ +127.5°C
SW3	Measurement range for channel 2: -40 ÷ +87.5°C	Measurement range for channel 2: 0 ÷ +127.5°C
SW4	Not used	Not used

The resolution of measurement, for both channels and for both ranges, is 0.5°C; the relationship between the code read from the module through the bus and the temperature value is:

- ❑ range -40 ÷ +87.5°C: code 0 means -40°C and code 255 means +87.5°C
- ❑ range 0 ÷ +127.5°C: code 0 means 0°C and code 255 means +127.5°C

Note: On request, a special version of MOD2PT (named MOD2PT/S) may be provided; this special version features -40 ÷ +215°C measurement range and 1°C resolution; in this case, the temperature range is fixed for both channels, while it is still possible to enable one or both channels (IN1 and IN2).

MOD2PT housing is a standard DIN 3M module. A 5-way removable terminal block on a side of the module allows the connection to the **CONTATTO** bus; on the other side a 6-way fixed terminal block allows the connection to the PT100 temperature probes. A green LED on the front panel shows the power-on condition.

MOD2PT module is designed for the connection to "3-wire" temperature probes (see wiring diagram); the third wire (terminals 3 and 6) allows to compensate the voltage drop on the connection cable, thus avoiding the measurement errors due to the length of the cable itself. When using "2-wire" temperature probes, *it is mandatory* to place a jumper between the terminals 2-3 and 5-6 (see wiring diagram).

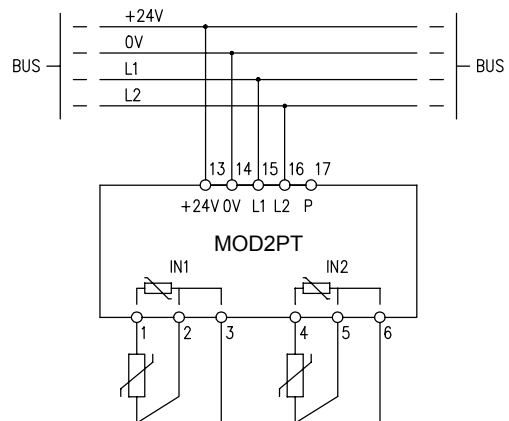
When using only one channel of the module (IN1 or IN2), *it is mandatory* to place jumpers between all the terminals of the unused channel (1-2-3 for channel 1 or 4-5-6 for channel 2).

Address programming

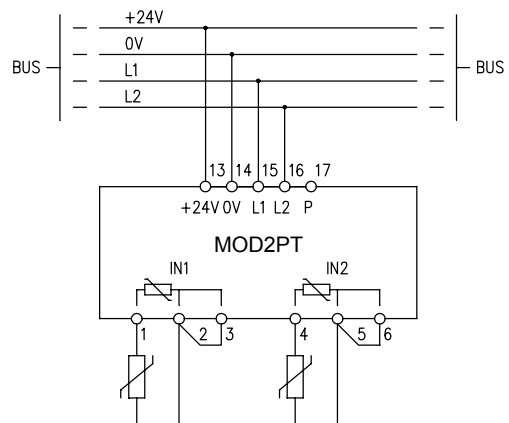
MOD2PT module takes 1 or 2 addresses depending on the settings of the dip-switch located under the front panel (see the table of the previous paragraph). If both channels have been enabled (IN1 and IN2), assigning a "base" address *n* by the FXPRO programmer, the module will take automatically the input addresses *n* and *n+1* (consecutive addresses). Two white labels on the front panel allow to make note of assigned addresses for an immediate visual identification..

Wiring diagram

3-wire probes:



2-wire probes:



Note: If the cables connecting the probes to the modules are very long, it is recommended to use shielded cables; in this last case, take attention to connect the shield to a good earth point.

Technical characteristics

Standard version:

Supply voltage	24V \pm 25% SELV
MAX current consumption	30mA
Number of channels	1 or 2 depending on dip-switch settings
Probe type (both channels)	PT100 ohm at 0°C
Measurement range	-40 \div +87.5°C or 0 \div +127.5 °C depending on dip-switch settings
Resolution	0.5 °C
MAX measurement error	\pm 0.5 °C
Linearity	\pm 0.5 °C
Operating temperature	-10 \div +50 °C
Storage temperature	-30 \div +85 °C
Protection degree	IP20

Variations of the special version (MOD2PT/S) in respect to the standard version:

Measurement range	-40 \div +215°C fixed for both channels
Resolution	1 °C
MAX measurement error	\pm 1 °C
Linearity	\pm 1 °C

Installation hints

To set the dip-switch, disconnect the power supply and remove the front panel lifting it delicately using a screwdriver inserted into the slit on the middle of each short side of the panel. The dip-switch is numbered, left to right, from 1 to 4, with ON position toward the top side. To avoid damages due to electrostatic discharges, do not touch any other component on the circuit. After the dip-switch setting, put back the front panel inserting one of its two short sides at first, then pushing the other side toward the module, levering on the slit on the same side by the screwdriver.

Warning: MOD2PT module accepts PT100 ohm @ 0°C (RTD Platinum) probes only; the connection to any different probe type will produce erroneous measurements.

Outline dimensions

