



## PT2060/31 TEMP Temperature Module

ProvibTech's PT2060/31 TEMP temperature module is an 8 channels module which processes the incoming temperature sensor signals, compares them with the alarm set-point and outputs the appropriate status information. Acceptable sensor types include both RTD and TC.

The PT2060/31 TEMP module also provides much more information to the field operator and control system, such as module status, alarm status, alarm history and system events. This information can be accessed via Modbus or the configuration software. It can program alarm logic through PT2060/40 RELAY module and output 4-20mA current through PT2060/36 TRO module.

The PT2060/31 TEMP module is also equipped with on-board status indication. There are three LEDs which display the status of the monitoring channels.

- ✓ OK / IO LED indicates that both the module and the RTD probe in the field are working
- ✓ Alarm LED indicates the current alarm status of the module.
- ✓ Bypass LED indicates the channels have been programmed to be in the Bypass mode.

### Specifications

#### **Electrical**

Power supply:

- Internally converted by the rack power supply module
- 3.5W totally typical for this module

Signal Input:

Up to 12 sensors types

RTD:

- PT100 3-wire & 4-wire platinum RTD, ( $\alpha=0.00385$ ):  $-200^{\circ}\text{C}$  to  $850^{\circ}\text{C}$
- PT100 3-wire & 4-wire platinum RTD, ( $\alpha=0.00392$ ):  $-200^{\circ}\text{C}$  to  $700^{\circ}\text{C}$
- NI120 3-wire & 4-wire nickel RTD:  $-80^{\circ}\text{C}$  to  $260^{\circ}\text{C}$
- CU10 3-wire & 4-wire copper RTD:  $-100^{\circ}\text{C}$  to  $260^{\circ}\text{C}$

TC:

- Type E  $-100^{\circ}\text{C}$  to  $1000^{\circ}\text{C}$
- Type J  $-18^{\circ}\text{C}$  to  $760^{\circ}\text{C}$
- Type K  $-18^{\circ}\text{C}$  to  $1370^{\circ}\text{C}$
- Type T  $-160^{\circ}\text{C}$  to  $400^{\circ}\text{C}$



Input Resistance:

$\geq 1\text{M ohm}$

Isolation:

500 Volts

RTD Current Source:

$1000 \pm 100\mu\text{A}$  @  $25^{\circ}\text{C}$  (single supply for each 4-wire RTD, dual supply for each 3-wire RTD)

Signal Conditioning (@ $25^{\circ}\text{C}$ ):

Accuracy:  $\pm 3^{\circ}\text{C}$ .

Resolution:  $1^{\circ}\text{C}$ .

CJC Sensor (used for TC measurements) Accuracy:

$\pm 0.5^{\circ}\text{C}$  @  $25^{\circ}\text{C}$

CJC Error:

$\pm 2^{\circ}\text{C}$

The error of the CJC is caused by proximity to heat sources. To minimize error the CJC should be located in a well-ventilated area.

Static and status Values:

Each of the options for this monitor module has been defined with static values. Those values can be accessed from the digital communication protocols. Direct temperature, OK, Alert, Danger, Bypass.



## Electrical Continued

PT2060-003101: PT2060/31 Back panel

### Alarm:

#### Alarm set-point:

Each channel has four alarm set-points which can be field adjusted from 0 to 100% FS.

#### Alarms:

Normally latching or normally non-latching

#### Alarm delay:

Alert delay can be set to from 1 to 60 seconds with time interval of 1 second

Danger delay can be set to from 1 to 60 seconds with time interval of 1 second

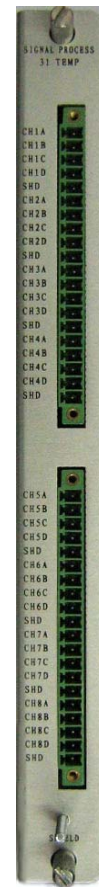
### LED Indicators:

OK / IO: green. On, off, flash

Alarms: red

Bypass: red

## Back Panel Connectors Layout



## Environmental

### Temperature:

Operation: -20°C to +65°C

Storage: -40°C to +85°C

### Humidity:

95% non-condensing

## Physical

Each module comes with two components. The front panel assembly and the back panel assembly.

### Dimensions and Location:

241mm(9.5in)×24.5mm(0.96in)

For 19" rack, they can be mounted in any slot from 1 to 12.

For 12" rack, they can be mounted in any slot from 1 to 6.

### Weight:

1.0kg (2.0 lbs).

## Ordering Information

PT2060/31-AX

AX: Back-panel IO module

A0: Basic IO module

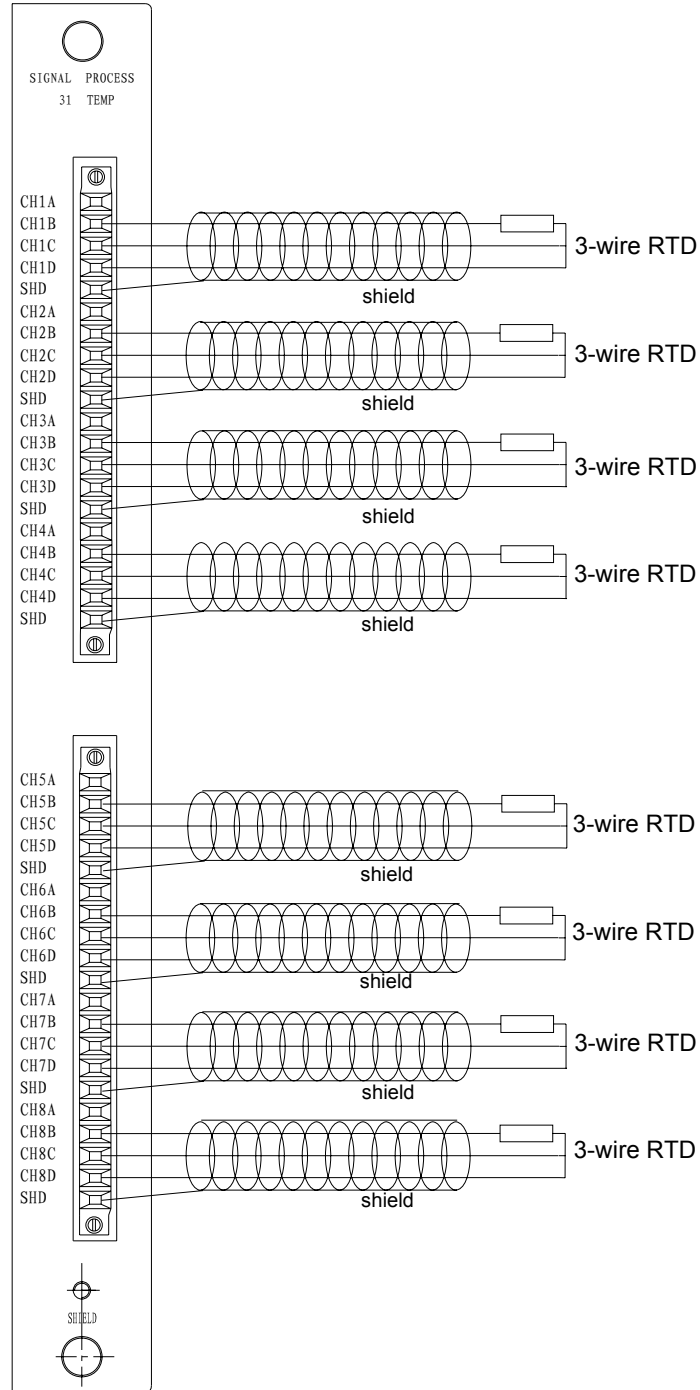
### Optional Accessories:

PT2060-003100: PT2060/31 Front panel



Field-wiring Diagram

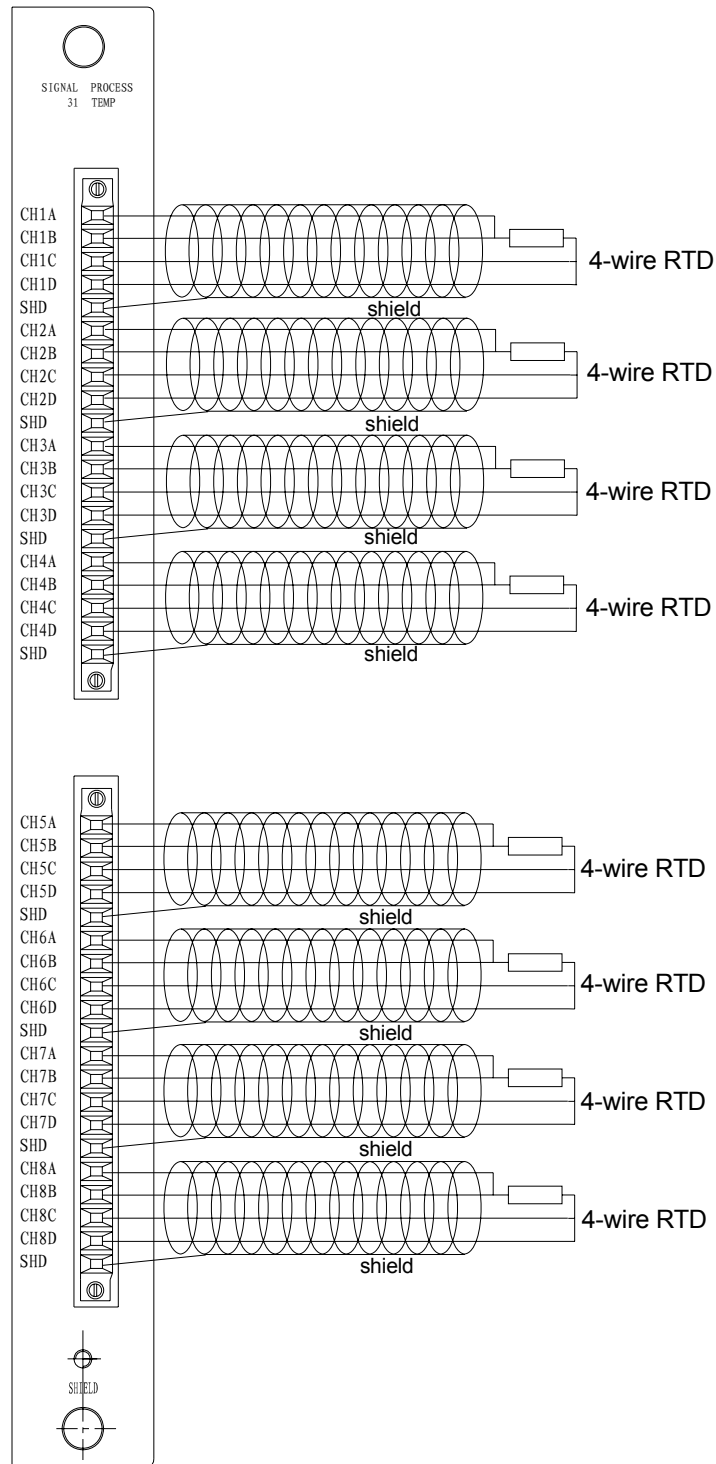
For 3-wire Thermoelectricity Resistance





# PT2060 Monitor

For 4-wire Thermoelectricity Resistance





Field-wiring Diagram for Thermocouple Transducer

