

Process Controller T161100

RTD and Thermocouple Temperature Input

Indicators

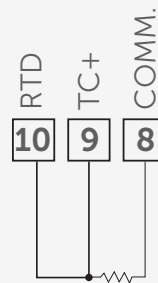


The T161100 Process Controller accepts temperature sensor input signals from either an RTD or thermocouple and provides accurate output control to maintain a process at a set value.

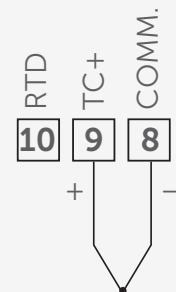
Dual 4-digit displays allow viewing of the process value and set-point simultaneously. Front panel indicators show the control and output status. The PID programming or On/Off control allows these controllers to meet a wide variety of application requirements.

INPUT SIGNALS:

RTD and Resistance



Thermocouple and Millivolt



Thermocouple Input:

Type	Range
T	-200 to 400°C
E	-200 to 750°C
J	-200 to 760°C
K	-200 to 1250°C
R	0 to 1768°C
S	0 to 1768°C
B	149 to 1820°C
N	-200 to 1300°C
C W5/W6	0 to 2315°C
mV	-5.00 mV to 56.00 mV

Linear Resistance Input:

Type	Range
Pt100	-200 to 600°C
Linear Resistance	0 to 320 Ω

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Specification

Display 2 Line by 4-digit, LCD negative image transmissive with backlighting

Top (Process) Display 7.6 mm high digits with red backlighting

Bottom (Parameter) Display 5.1 mm high digits with green backlighting

Annunciators

Status Annunciators:

O1 Main control output is active

O2 Cooling output is active (when Alarm 2 is used for cooling)

A1 Alarm 1 output is active

A2 Alarm 2 output is active

°F, °C Temperature units

%PW Output power percentage is shown in Bottom display

MAN Controller is in Manual Mode.

R Ramping Setpoint indicator

% Percent indicator

Display Messages:

OLOL Measurement exceeds + sensor range

ULUL Measurement exceeds - sensor range

OPEN Open sensor is detected

SHrt Shorted sensor is detected

dddd Display value exceeds + display range

-ddd Display value exceeds - display range

Power 85 to 250 VAC, 50/60Hz, 8 VA

Control and Alarm Outputs

Relay Output

Type Form A

Contact Rating 3 A @ 250 VAC or 30 VDC; 1/10 HP @ 120 VAC (inductive load)

Life Expectancy 100,000 cycles at max. load rating

Logic/SSR Output (main control output only) Rating: 45 mA max @ 4 V min., 7 V nominal

Main Control PID or On/Off

Output Time proportioning or DC Analog

Cycle Time Programmable

Auto-Tune When selected, sets proportional band, integral time, derivative time, and output dampening time
Also sets input filter and (if applicable) cooling gain

Probe Break Action Programmable

Alarms 2 relay alarm outputs

Modes

None

Absolute High Acting (Balanced or Unbalanced Hysteresis)

Absolute Low Acting (Balanced or Unbalanced Hysteresis)

Deviation High Acting

Deviation Low Acting

Inside Band Acting

Outside Band Acting

Heat (Alarm 1 on Analog Output models only)

Cool (Alarm 2)

Reset Action

Programmable; automatic or latched

Standby Mode

Programmable; enable or disable

Hysteresis

Programmable

Sensor Fail Response

Upscale

Annunciator

"A1" and "A2" programmable for normal or reverse acting

Cooling Control

PID or On/Off

Output

Time proportioning

Cycle Time

Programmable

Proportional Gain Adjust

Programmable

Heat/Cool Deadband Overlap

Programmable

Controls

Three rubber push buttons for modification and setup of controller parameters. One additional button (F1) for user programmable function. One external user input (models with alarms) for parameter lockout or other user programmable functions.

Memory

Nonvolatile E2PROM retains all programmable parameters

Isolation Level

250 V working (2300 V for 1 min.)

Relay contacts to all other I/O

300 V working (2300 V for 1 minute)

Safety

UL Recognized Component, File #E156876, UL873, CSA 22.2 No. 24

Recognized to US and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc Type 4X Enclosure rating (Face only), UL50 IEC 61010-1, EN 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use, Part I IP65 Enclosure rating (Face only), IEC 529

Electromagnetic Compatibility

Immunity to EN 50082-2 Emissions to EN 50081-2

Process Controller T1611100

RTD and Thermocouple Temperature Input

Environmental Conditions

Operating Temperature Range	0 to 50°C
Storage Temperature Range	-40 to 80°C
Operating and Storage Humidity	85% max relative humidity (noncondensing) from 0°C to 50°C
Vibration According to IEC 68-2-6	Operational 5 to 150 Hz, in X, Y, Z direction for 1.5 hours, 2 g's
Shock According to IEC 68-2-27	Operational 20 g's (10 g relay), 11 msec in 3 directions
Altitude	Up to 2000 meters
Connection	Wire-clamping screw terminals
Construction	Black plastic alloy case and collar style panel latch. Panel latch can be installed for vertical or horizontal
instrument stacking	Black plastic textured bezel with transparent display window. Controller meets NEMA 4X/IP65 requirements for indoor use when properly installed
Weight	Installation Category II, Pollution Degree 2 179 g