

Process Controller P161100

0 to 10 VDC or 0/4 to 20mA Input

Indicators

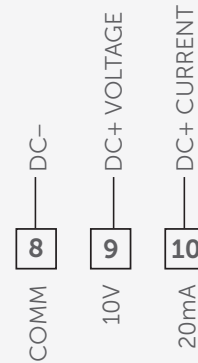


The Model P161100 Controller accepts either a 0 to 10 VDC or 0/4 to 20 mA DC input signal and provides accurate output control to maintain a process at a set value.

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				
input Range	Accuracy	Impedance	Max. Continuous Overload	Resolution
0 to 10 VDC (-1 to 11)	0.30% of reading +0.03V	1 MΩ	50 V	10 mV
0 to 20mA (-2 to 22)	0.30% of reading +0.04mA	10 Ω	100 mA	10 μA

VOLTAGE AND CURRENT:



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:

- LOL** Measurement exceeds + sensor range
- ULUL** Measurement exceeds - sensor range
- SENS** Measurement exceeds controller limits
- 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)

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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

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 Installation Category II, Pollution Degree 2
Weight	179 g