

# PXU PID Controller

Red Lion Automation Series



## ▶▶▶ Temperature/Process Controllers

The PXU series is the newest addition to the Red Lion PID controller portfolio, offering outstanding control in a small form-factor for industrial environments.

Available in 1/16, 1/8 and 1/4 DIN models, our PXU PID controllers accept a wide variety of thermocouple and RTD sensor inputs to meet varying application requirements. Featuring one of the industry's largest dual line 4-digit displays, the PXU allows for simultaneous viewing of temperature/process and setpoint values. The PXU also offers on demand auto-tuning for easy set up and provides two control outputs, which can be individually configured for reverse or direct applications using front panel push-button or Crimson® software.

With IP65 ingress protection, flush-mounting installation and easy-to-read displays, our robust PID controllers deliver the reliability and ease of use required for temperature and process control applications.



### APPLICATIONS

- > Food & Beverage
- > Factory Automation
- > Manufacturing
- > Plastic Extrusion

### PRODUCT HIGHLIGHTS

- > Full PID Control
- > Dual Relay Alarms
- > Universal Inputs (Temperature or Process)
- > UL Listed, 61010-1 Approved

### FEATURES & BENEFITS

- > Universal Inputs
  - Thermocouple
  - RTD
  - 0-10 VDC
  - 4 – 20 mA (0 – 50 mA)
- > Full PID Control
  - On demand auto-tuning
  - Independently configured outputs
- > Easy Programming
  - Front panel push-button or Crimson software
- > Digital Pot Functionality
- > AC or DC Powered Models
  - 100 to 240 VAC
  - 24 VDC
- > Reduced Case Depth
- > IP 65 Ingress Protection

# ▶▶▶ PXU PID Controller Specifications

## DISPLAY PROPERTIES

LCD negative image transmissive with backlighting. Top (process) display with orange backlighting, bottom (parameter) display with green backlighting.

4 digits each line

1/4 DIN Model Digit Size: Line 1 - 0.87" (22 mm);

Line 2 - 0.55" (14 mm)

1/8 DIN Model Digit Size: Line 1 - 0.47" (12 mm);

Line 2 - 0.47" (12 mm)

1/16 DIN Model Digit Size: Line 1 - 0.43" (11 mm);

Line 2 - 0.27" (7.0 mm)

## POWER CONNECTION

AC Power: 100 to 240 VAC -20/+8 %, 50/60 Hz, 5 VA

DC Power: 24 VDC, ±10%, 5 W

## INPUT CAPABILITIES

Temperature/RTD Indication Accuracy:

± (0.3% of span, +1°C) at 25°C

Thermocouple Inputs:

Types: T, E, J, K, R, S, B, N, L, U, and TXK

Resolution: 1° for types R, S, B and 1° or 0.1° for all other types

RTD Inputs:

Type: 2 or 3 wire

Excitation: 180 µA

Process Inputs:

0-5 or 0-10 VDC

0-20 or 4-20 mA

0-50 mV

## COMMUNICATION

RS-485 Serial Communication (optional)

## OUTPUTS

Time proportioning or DC Analog (mA and mV)

Alarms: 2 relay alarm outputs.

Type: Form A or Form C, model and alarm dependent

Contact Rating: 3 A @ 250 VAC

## CERTIFICATIONS & COMPLIANCES

CE Approved

EN 61326-1 Immunity to Industrial Locations

Emission CISPR 11 Class A

EN 61010-1

RoHS Compliant

UL Listed: File #E179259

IP65 Enclosure rating (Face only)

## ENVIRONMENTAL

Operating Temperature Range: 0 to 50°C

Storage Temperature Range: -20 to 65°C

Operating and Storage Humidity: 80% max relative humidity (non-condensing) from 0°C to 50°C

Vibration Resistance: Operational 10 to 55 Hz, 1 g

Shock Resistance: Operational 30 g

Altitude: Up to 2000 meters

## MECHANICAL

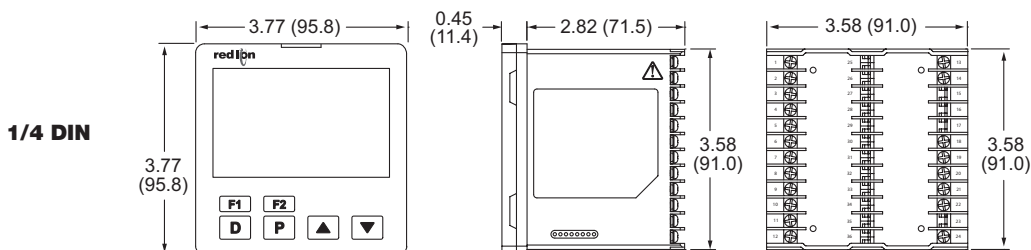
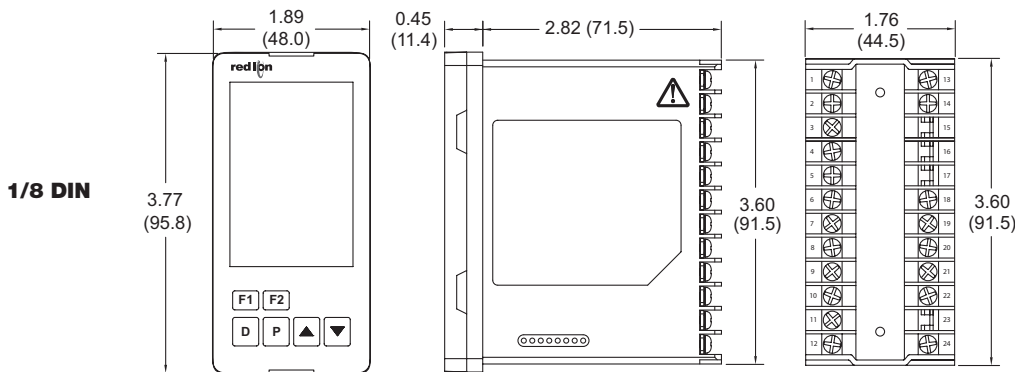
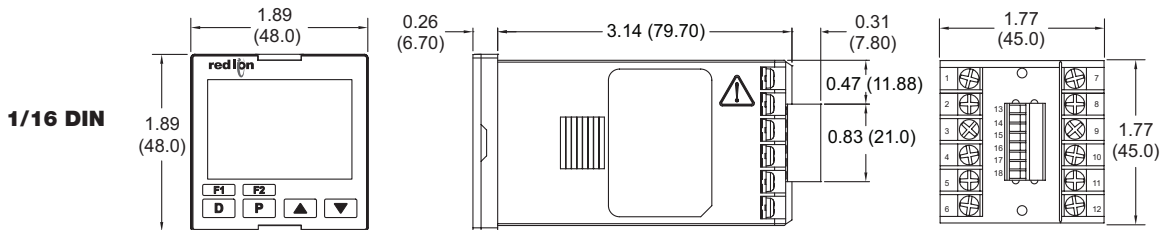
Construction: Black plastic alloy case and panel latch. Black plastic textured bezel with transparent display window. Controller meets IP65 requirements for indoor use when properly installed. Installation Category II, Pollution Degree 2.

Weight: 1/4 DIN: 11.0 oz (312 g)

1/8 DIN: 7.8 oz (221 g)

1/16 DIN: 5.3 oz (150 g)

## DIMENSIONS *In inches (mm)*



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## ORDERING GUIDE

PART NUMBER	DIN SIZE	MAIN CONTROL	SECONDARY CONTROL	RS485 COMMS	USER INPUTS	POWER
PXU30020	1/16 DIN	4 to 20 mA	-	-	-	AC
PXU300B0	1/16 DIN	4 to 20 mA	-	-	-	DC
PXU31A20	1/16 DIN	4 to 20 mA	Relay	Yes	Yes	AC
PXU31AB0	1/16 DIN	4 to 20 mA	Relay	Yes	Yes	DC
PXU11A20	1/16 DIN	Dual Relay Output	Relay	Yes	Yes	AC
PXU11AB0	1/16 DIN	Dual Relay Output	Relay	Yes	Yes	DC
PXU40020	1/16 DIN	Linear Voltage	-	-	-	AC
PXU400B0	1/16 DIN	Linear Voltage	-	-	-	DC
PXU41A20	1/16 DIN	Linear Voltage	Relay	Yes	Yes	AC
PXU41AB0	1/16 DIN	Linear Voltage	Relay	Yes	Yes	DC
PXU21A20	1/16 DIN	Logic/Relay	Relay	Yes	Yes	AC
PXU21AB0	1/16 DIN	Logic/Relay	Relay	Yes	Yes	DC
PXU10020	1/16 DIN	Relay Output	-	-	-	AC
PXU100B0	1/16 DIN	Relay Output	-	-	-	DC
PXU20020	1/16 DIN	Solid State Output	-	-	-	AC
PXU200B0	1/16 DIN	Solid State Output	-	-	-	DC
PXU31A30	1/8 DIN	4 to 20 mA	Relay	Yes	Yes	AC
PXU31AC0	1/8 DIN	4 to 20 mA	Relay	Yes	Yes	DC
PXU11A30	1/8 DIN	Dual Relay Output	Relay	Yes	Yes	AC
PXU11AC0	1/8 DIN	Dual Relay Output	Relay	Yes	Yes	DC
PXU40030	1/8 DIN	Linear Voltage	-	-	-	AC
PXU400C0	1/8 DIN	Linear Voltage	-	-	-	DC
PXU21A30	1/8 DIN	Logic/Relay	Relay	Yes	Yes	AC
PXU21AC0	1/8 DIN	Logic/Relay	Relay	Yes	Yes	DC
PXU10030	1/8 DIN	Relay Output	-	-	-	AC
PXU100C0	1/8 DIN	Relay Output	-	-	-	DC
PXU200C0	1/8 DIN	Solid State Output	-	-	-	AC
PXU20030	1/8 DIN	Solid State Output	-	-	-	DC
PXU31A50	1/4 DIN	4 to 20 mA	Relay	Yes	Yes	AC
PXU31AE0	1/4 DIN	4 to 20 mA	Relay	Yes	Yes	DC
PXU11A50	1/4 DIN	Dual Relay Output	Relay	Yes	Yes	AC
PXU11AE0	1/4 DIN	Dual Relay Output	Relay	Yes	Yes	DC
PXU41A50	1/4 DIN	Linear Voltage	Relay	Yes	Yes	AC
PXU41AE0	1/4 DIN	Linear Voltage	Relay	Yes	Yes	DC