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# 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

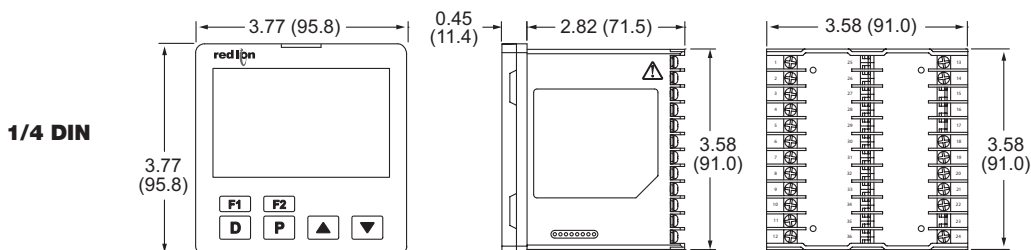
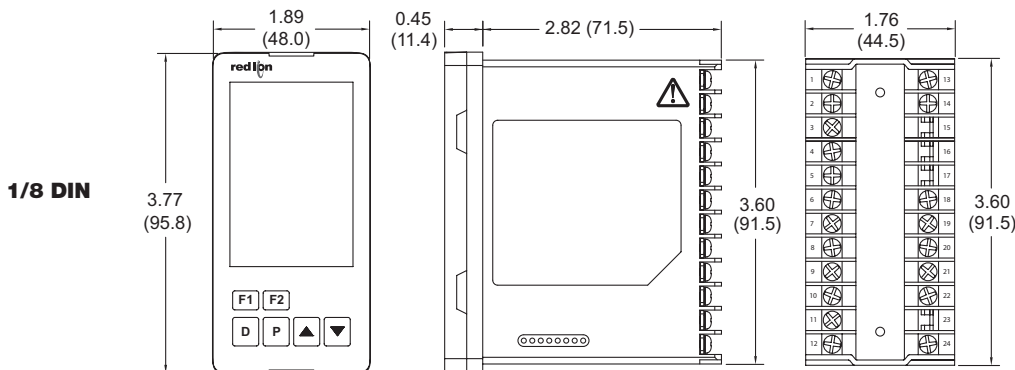
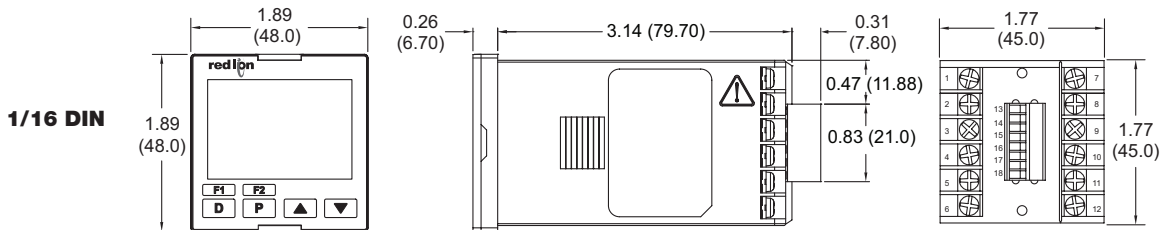
Construction: Black plastic alloy case and panel latch. Black plastic textured bezel with transparent display window. Controller meets IP65 requirements for indoor use when properly installed. Installation Category II, Pollution Degree 2.

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)*



# ▶▶▶ PXU PID Controller Specifications

## 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    |



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