

# PAX2C Dual Line PID Controller

Red Lion PAX2 Series



## ▶▶▶ Dual Line PID Controller

The PAX2C offers full PID control for temperature and process applications, and features on-demand auto-tune, universal signal input, bar graph capabilities and a universal power supply.

The PAX2C features a dual line display (with units annunciators), dual bar graphs, four universal annunciators and tri-color capability. Each of the seven display zones may be color configured independently, providing a visual indication of control and/or alarm status.

Optional output plug-in cards are available with dual FORM-C relays, quad FORM-A, or either quad sinking or quad sourcing open collector logic outputs. A linear DC output card is also available that can provide either retransmitted 20 mA or 10 V signals. Using Red Lion's Crimson software and built-in USB Programming Port, configuration data can be downloaded to the PAX2C directly, without the need of any additional option cards.



### DISPLAY FEATURES



1. Top Line: 4-Digit 0.51" (13.0 mm) Display
2. Programmable for Red, Orange or Green
3. Custom Unit Indicators
4. Universal Annunciators
5. Tactile Feel Buttons
6. Manual and Remote Mode Mnemonics
7. Bar Graph Display

### PRODUCT HIGHLIGHTS

- > PID Control With Reduced Overshoot
- > Universal Process, Thermocouples, RTD's, Voltage, Current And Resistance Input
- > Programmable Dual Line Display With Units And Bar Graph
- > Four Programmable Universal Annunciators
- > Tri-Color Display, With 7 Programmable Color Zones
- > Up To 16 Alarms With Boolean Logic Functionality
- > Built-In USB Programming Port Enabling Unit Configuration With Crimson Programming Software
- > NEMA 4X/IP65 Sealed Front Bezel

### FEATURES & BENEFITS

- > Customize outputs and communication capabilities using field installable option cards
- > The 1/8 DIN controller is available in vertical and horizontal formats
- > Communication and field bus option cards include RS232, RS485, DeviceNet, and Profibus-DP
- > One model of controller and a handful of option cards covers almost every application need
- > Can be programmed to utilize Modbus protocol

# ▶▶▶ Dual Line PID Controller Specifications

## DISPLAY PROPERTIES

Negative image LCD with tri-color backlight.  
The display is divided into seven independently programmable color zones: Line 1, Line 2, Universal Annunciators (1-4) & Mnemonics  
Vertical Model: Line 1 - 0.51" (13.0 mm), Line 2 - 0.44" (11.2 mm)  
Horizontal Model: Line 1 - 0.62" (15.7 mm), Line 2 - 0.47" (12.0 mm)  
Display Range: -1999 to 9999

## POWER

AC Power: 40 to 250 VAC, 50/60 Hz, 14 VA  
DC Power: 21.6 to 250 VDC, 8 W

## KEYPAD

2 programmable function keys, 4 keys total

## A/D CONVERTER

24 bit resolution

## UPDATE RATES

A/D conversion rate: programmable 5 to 40 readings/sec.

## INPUT CAPABILITIES

Current Input:  $\pm 250 \mu\text{ADC}$ ,  $\pm 2.5 \text{ mADC}$ ,  $\pm 25 \text{ mADC}$ ,  
 $\pm 250 \text{ mADC}$ , and  $\pm 2 \text{ ADC}$   
Voltage Input:  $\pm 250 \text{ mVDC}$ ,  $\pm 2.0 \text{ VDC}$ ,  $\pm 10 \text{ VDC}$ ,  $\pm 25 \text{ VDC}$ ,  
 $\pm 100 \text{ VDC}$ , and  $\pm 200 \text{ VDC}$   
Thermocouple Input: T, E, J, K, R, S, B, N, and C  
RTD Input: 100 $\Omega$  Pt (Alpha 0.00385 and 0.00392) 120 $\Omega$  Nickel  
(Alpha 0.00672) and 10 $\Omega$  Copper (Alpha 0.00427)  
Resistance Input: 100 $\Omega$ , 1,000 $\Omega$ , and 10 K  $\Omega$

## EXCITATION POWER

Jumper selectable  
Transmitter Power: +18 VDC @ 50 mA  
Reference Voltage: +2 VDC,  $\pm 2\%$   
Reference Current: 1.05 mADC,  $\pm 2\%$

## CUSTOM LINEARIZATION

Data Point Pairs: Selectable from 2 to 16  
Display Range: -1999 to 9999  
Decimal Point: 0 to 0.000

## MEMORY

Nonvolatile FRAM memory retains all programmable parameters and display values

## INPUTS

Two programmable user inputs

## CERTIFICATION & COMPLIANCE

Refer to EMC Installation Guidelines section of the bulletin for additional information  
UL Listed: File #E179259

## CONNECTIONS

High compression cage-clamp terminal block

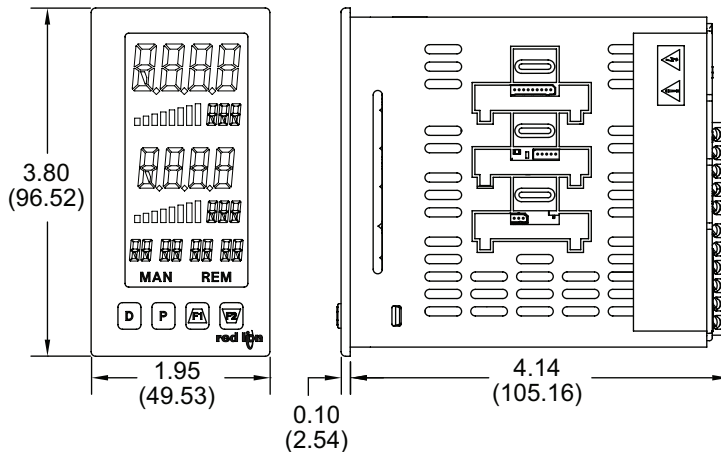
## ENVIRONMENTAL

Operating Temperature Range: 0 to 50 °C  
Storage Temperature Range: -40 to 60 °C  
Operating and Storage Humidity: 0 to 85% max.  
relative humidity non-condensing  
Altitude: Up to 2000 meters

## MECHANICAL

Construction: This unit is rated for NEMA 4X/IP65 indoor use; IP20  
Touch safe; Installation Category II, Pollution Degree 2; One piece bezel/case; Flame resistant; Synthetic rubber keypad; Panel gasket and mounting clip included  
Weight: 8 oz. (226.8 g)

## DIMENSIONS *In inches (mm)*



Note: To determine dimensions for horizontal units, swap height and width.

## ORDERING INFORMATION

PART NUMBER	MODEL	DESCRIPTION
PX2C8H00	PAX2C	Universal Input Temperature/Process Controller, Horizontal
PX2C8V00		Universal Input Temperature/Process Controller, Vertical
PAXCDS10	PAXCDS	Dual Setpoint Relay Output Card
PAXCDS20		Quad Setpoint Relay Output Card
PAXCDS30		Quad Setpoint Sinking Open Collector Output Card
PAXCDS40		Quad Setpoint Sourcing Open Collector Output Card
PAXCDC10	PAXCDC	RS485 Serial Communications Card with Terminal Block
PAXCDC1C		Extended RS485 Serial Communications Card with Dual RJ11 Connector
PAXCDC20		RS232 Serial Communications Card with Terminal Block
PAXCDC2C		Extended RS232 Serial Communications Card with 9 Pin D Connector
PAXCDC30		DeviceNet Communications Card
PAXCDC50		Profibus-DP Communications Card
PAXCDL10		PAXCDL



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