

NEW



1401+™

*Affordable, Well-Featured,
Easy to Use and Adaptable*

1/4 DIN Limit Controller

DESCRIPTION

The Partlow 1401+ is part of a range of new generation '+' Series limit devices that share the same distinctive styling as the '+' Series temperature controllers.

The expanded '+' Series limit controller platform includes 1/4, 1/8 and 1/16 DIN models that incorporate numerous product specification, communication, display interface and software improvements that surpass competitive limit device offerings in ease of use, delivery and value-per dollar characteristic of the growing '+' Series product family.

By adding more versatile features and user-friendly functionality like digital inputs, an easy-to-use HMI, jumperless and auto-hardware configuration, 24VDC transmitter power supply and MODBUS communication across the range - the new generation Partlow + Series limit controllers transform the complicated into the simple while saving you time (as much as 50% on product set-up), reducing inventory stock and virtually eliminating the likelihood of operator errors.

The + Series limit controllers are affordable, well-featured, easy to use and adaptable with performance features that work for you to make limit control simple.

APPLICATIONS:

Fail-safe protection device to prevent damage to equipment or products. It will shut down a process when a preset temperature is reached and cannot be reset by the operator until the process has returned to a safe condition.

INDUSTRIES

- Industrial and lab ovens/furnaces
- Plastics and thermal forming
- Packaging applications
- And any other where protection against out-of-range temperature condition is a critical requirement

FEATURES/BENEFITS

- **NEW** Improved easy-to-use HMI
- **NEW** Jumperless input configuration
- **NEW** Auto-hardware recognition
- **NEW** Improved Windows PC configuration software
- Process alarms
- Optional digital input and remote reset
- Optional 10V SSR driver output
- Faster communication speeds in selectable MODBUS or ASCII format
- FM Approved
- Backward compatible panel cutout, housing and terminal wiring capability

1/4 DIN Limit Controller

SPECIFICATIONS*

STANDARD FEATURES

4 per second input sample rate
 Universal input
NEW Improved HMI, 4 button operation, dual 4-digit LED display
NEW Plug-in output modules – install just the function needed
NEW Jumperless input configuration
NEW Auto-detection of installed output modules
NEW Improved PC configuration software
 Process alarms
Construction/Enclosure: Rugged ABS Plastic housing

ENVIRONMENTAL CHARACTERISTICS

Operating Temp: 32° to 131°F (0° to 55°C)
Storage Temp: -4° to 176°F (-20° to 80°C)
Humidity: 20% to 95% non-condensing RH

ELECTRICAL

Supply Voltage: 100-240V, 50/60Hz, Optional 20-48VAC 50/60Hz or 22-65VDC
Power Consumption: 5W / 7.5 VA Maximum

INPUTS

T/C's: J, T, K, L, N, B, R, S, C; Pt Rh20% vs. Pt 40% Rh
RTD: 3-wire, PT100
DC Linear (Scalable -1999 to +9999)
Volts: 0-5V, 1-5V, 0-10V, 2-10V
DC milliamps: 0-20mA or 4-20mA
DC millivolts: 0-50mV, 10-50mV

OUTPUTS

Output 1 (limit relay) fixed; outputs 2 and 3 (alarm relay) are user-selectable and customized based on desired application; choose from the following output types
Max # of Outputs: 3 for alarm, 24 VDC transmitter power supply or retransmit of process value/limit trip setpoint
Limit Relay: SPDT; 240VAC 5A resistive; Lifetime >100,000 operations at rated voltage/current
Alarm Relay: Optional SPDT; 240VAC 2A resistive; Lifetime >500,000 operations at rated voltage/current

OUTPUTS (cont'd)

SSR Drive: Optional drive capability: >10 VDC nominal into 500 ohm minimum
DC Linear: Optional 0-20mA, 4-20mA into 500 ohm max; 0-10V, 1-5V, 2-10V, 0-5V into 500 ohm min; Outputs have 2% over/under drive applied; Accuracy +0.25% (mA into 250 ohm load, V into 2k ohm load); degrading linearity to +/-0.5% for increasing burden to specified limits
Triac: Optional 0.01 to 1A AC, 20 to 280Vrms, 47-63 Hz (Limit 2)
Transmitter Power Supply: Optional 24 VDC (Limit 1)

OUTPUT FUNCTIONS

Process Alarm: (reverse or direct)
Modes (Alarm 1 and 2): High/Low, Band, Deviation, logical OR/AND
Retransmit: Process value or limit setpoint

ELECTRICAL PERFORMANCE

Accuracy: ± 0.1% of input range ±1 LSD (T/C CJC better than 1 degree C)
Input sample rate: 4 per second, 14 bit resolution
Impedance: >10M ohm for the thermocouple and mV ranges, 47k ohm for V ranges and 5 ohm for mA ranges
Sensor Break Detection: <2 seconds (except zero based DC ranges), limit output opens, low alarms activate for RTD, mA or V ranges

COMMUNICATIONS INTERFACE

User-selectable: 2-wire, RS-485 serial communications option with choice of Modbus RTU or ASCII protocol; 1200 to 19200 baud
PC Configuration: Offline configuration from serial port to dedicated configuration socket (comms option not required)

RATINGS/AGENCY APPROVALS

Conformance: FM, CE, UR, cUR UL File # 67237
Safety: EN61010
EMC: EN61326

PROTECTION

IEC IP66 (NEMA 4X) front panel
 IEC IP20 (behind the panel protection)

PHYSICAL DIMENSIONS

Panel Cutout: 3.62" x 3.62" (92mm x 92mm)
Height: 3.78" (96mm)
Width: 3.78" (96mm)
Depth: 3.93" (100mm)
Weight: 0.46 lbs (0.21 kg)
Mounting: Plug in panel with fixing strap

OPTIONS/ACCESSORIES

Digital Input 1 (Optional): remote reset
NEW Faster RS-485 serial communication speeds and user-selectable (Modbus or ASCII) option
NEW 24VDC transmitter power supply option
Choice of Led colors: red/red, red/green, green/red, green/green
 10VDC SSR Drive output

WARRANTY

3 Years

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Partlow Brand 1401+ Data Sheet (11/04)

PARTLOW™ brand

1401+™

1/4 DIN Limit Controller

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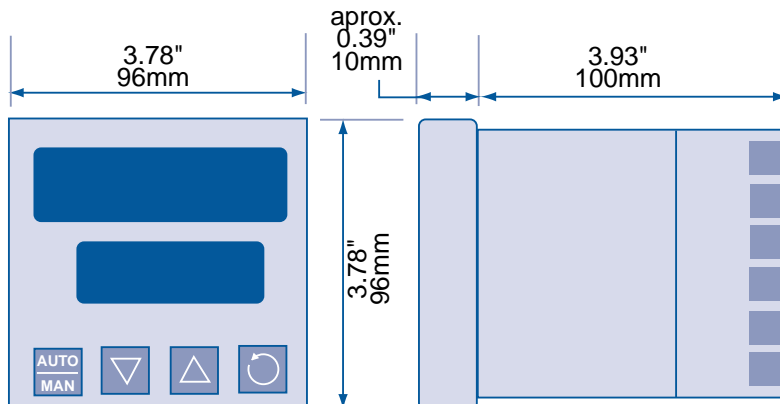
Controllers

MODELS

Code 1: Model #	Code 2: Option Slot 1	Code 3: Option Slot 2	Code 4: Option Slot 3	Code 5: Option Slot A	Code 6: Power Supply
P1401	1				
1/4 DIN Limit Controller includes: jumperless input configuration, auto-detection hardware and improved PC configuration software	1 Relay Output	0 Not fitted 1 Relay Output 2 DC Drive SSR Output 3 Linear DC Output 4 Transmitter Power Supply * 8 Triac Output	0 Not fitted 1 Relay Output 2 DC Drive SSR Output 3 Linear DC Output 4 Transmitter Power Supply * 8 Triac Output	0 Not fitted 1 RS-485 Serial Comms 2 Green Upper Display 3 RS-485 Serial Comms & Green Upper Display 4 Green Upper, Lower Display 5 RS-485 Serial Comms & Green Lower Display 6 Green Upper/Lower Display 7 RS-485 Serial Comms & Green Upper/Lower Display 8 Digital Input 9 Digital Input & Green Upper Display A Digital Input & Green Lower Display B Digital Input & Green Upper/Lower Display	00 100-240V AC 02 24-48 AC or DC

* Only one Transmitter Power Supply may be installed per unit

DIMENSIONS - 1/4 DIN



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