

NEW



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.

1401+™

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

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

PARTLOW™ brand

1401+™

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

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

DISPLAY:

- Type:** Dual, Red or Green, 7 segment LED, 4 digit upper and lower displays
- Height:** 13mm (0.53") upper display, 10mm (0.39") lower display
- Annunciators:** 5 LED indicators for output and status

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
- 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

* Specifications are for base models with standard features only unless otherwise noted. Specifications subject to change without notice in accordance with our DBS policy of continuous improvement. All product and brand names are trademarks of their respective owners. All rights reserved.

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Partlow Brand 1401+ Data Sheet (7/05)

PARTLOW™ brand

1401+™

**Affordable, Well-Featured,
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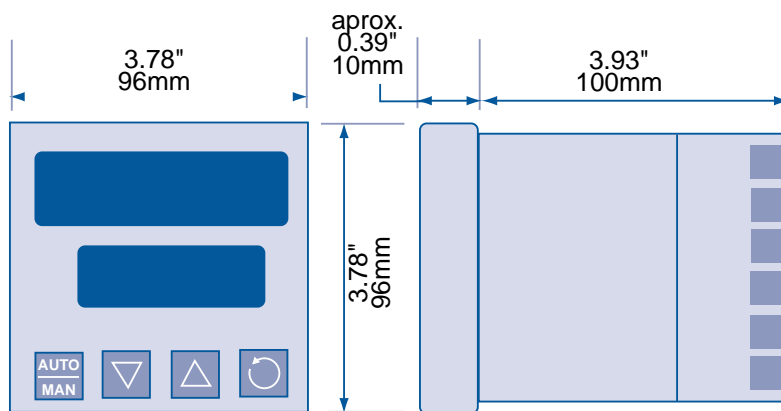
1/4 DIN Limit Controller

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
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



Panel Cutout: 92.0mm x 92mm (3.62" x 3.62")

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Satellite Locations:

North America: North Carolina, South Carolina, Connecticut, Massachusetts, New York, Canada, British Virgin Islands • **Europe:** United Kingdom, Italy, France, Germany, Spain, Slovakia • **Latin America:** Brazil • **Asia:** China, Japan, Korea, Singapore

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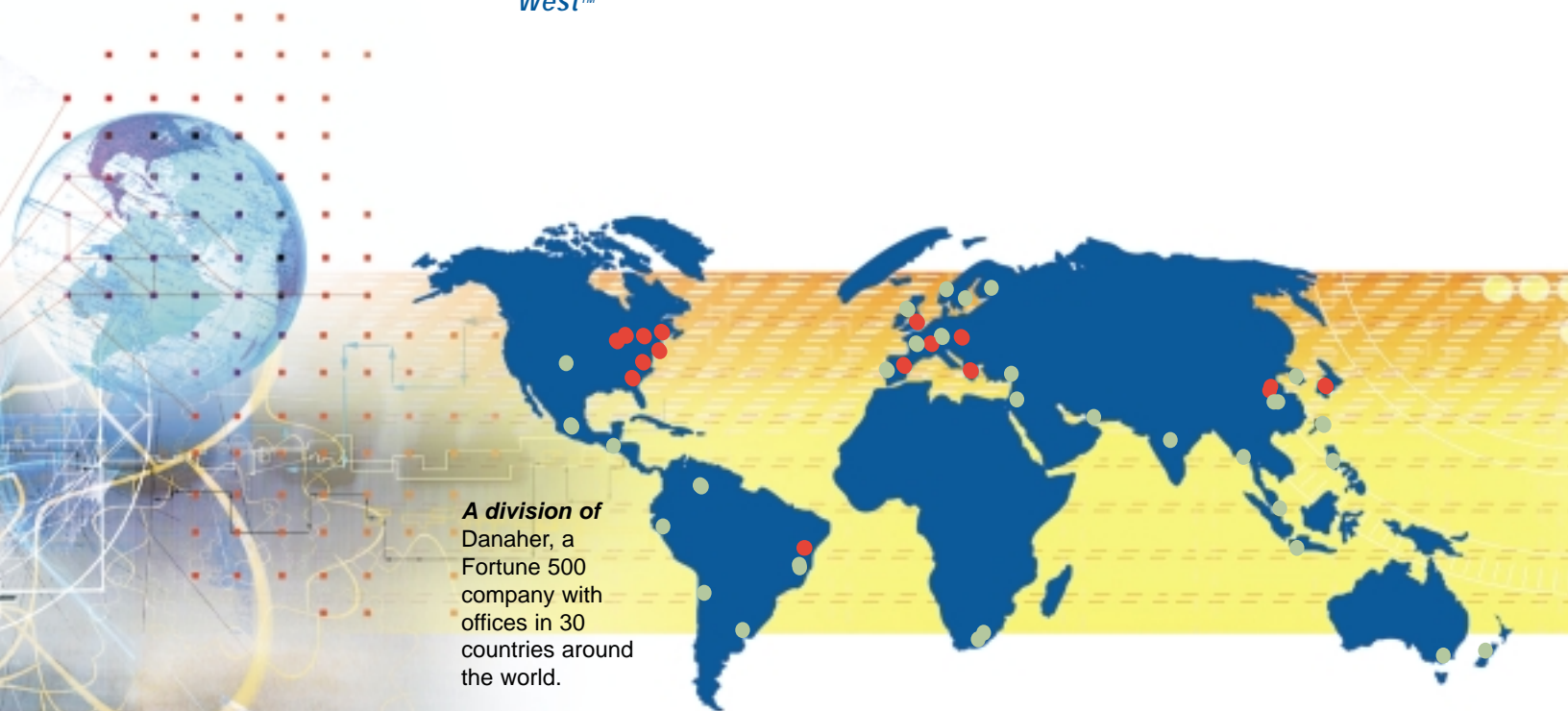
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offices in 30
countries around
the world.

More Available. With factories around the world, global sales and applications support, and an expansive network of distributors, we stay close to our customers - shortening lead times and fostering responsiveness. Three-day lead time is standard, with same-day shipments available on many of our products.

More Selection. We have a broad selection of controllers to meet application requirements in a variety of industries. User-configurable, accurate and flexible, with low, mid, or high level performance ranges, our controller products meet your system and budgetary requirements.

More Reliable. Our experience with more than 25,000 customers has taught us to design controllers that are reliable and durable, with quality standards that meet six sigma requirements.

For additional information or a full-line catalog, contact DICG Customer Service or visit our web site.

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