

NEW



## 8700+™

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

### 1/8 DIN Limit Controller

#### DESCRIPTION

The West 8700+ 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 West + 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

**WEST™ brand**

**8700+™**

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**1/8 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:** 10mm (0.39") upper display, 8mm (0.31") 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:** 1.77" x 3.62" (45mm x 92mm)  
**Height:** 3.78" (96mm)  
**Width:** 1.89" (48mm)  
**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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West Brand 8700+ Data Sheet (7/05)



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**WEST™ brand**

**8700+™**

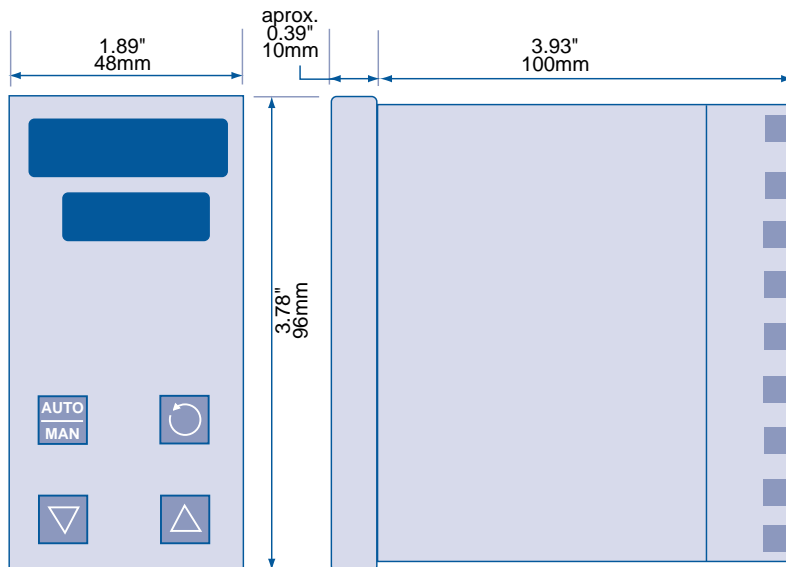
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**MODELS**

Code 1: Model #	Code 2: Input Type	Code 3: Output 1	Code 4: Output 2	Code 5: Output 3	Code 6: Options	Code 7: Power Supply	Code 8: Display Color	Code 9: Option Slot B
<b>P8701Z</b>	<input type="checkbox"/>	<input type="checkbox"/> <b>1</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <b>0</b> <input type="checkbox"/> <b>0</b>
I/8 DIN Limit Controller includes: jumperless input configuration, auto-detection hardware and improved PC configuration software	1 3-Wire RTD or DC mV 2 Thermocouple 3 DC mA 4 DC Voltage	1 Limit relay output (fixed)	0 Not fitted 1 Relay Output 2 DC Drive SSR Output 3 Linear 0-10V DC Output 4 Linear 0-20mA DC Output 5 Linear 0-5V DC Output 6 Linear 2-10V DC Output 7 Linear 4-20mA DC Output 8 Triac Output	0 Not fitted 1 Relay Output 2 DC Drive SSR Output 3 Linear 0-10V DC Output 4 Linear 0-20mA DC Output 5 Linear 0-5V DC Output 6 Linear 2-10V DC Output 7 Linear 4-20mA DC Output 8 Transmitter Power Supply	0 Not fitted 1 RS-485 Serial Communication 3 Digital Input	0 100-240 AC 2 24-48 AC or DC	0 Red upper and Lower 1 Green upper and lower 2 Red upper, Green lower 3 Green upper, Red lower	00 Not fitted

**DIMENSIONS - 1/8 DIN**



Panel Cutout: 45mm x 92mm (1.77" x 3.62")

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Process Automation Worldwide Brands: LFE™ • Partlow™ • PMA™ • Rustrak™ • West™

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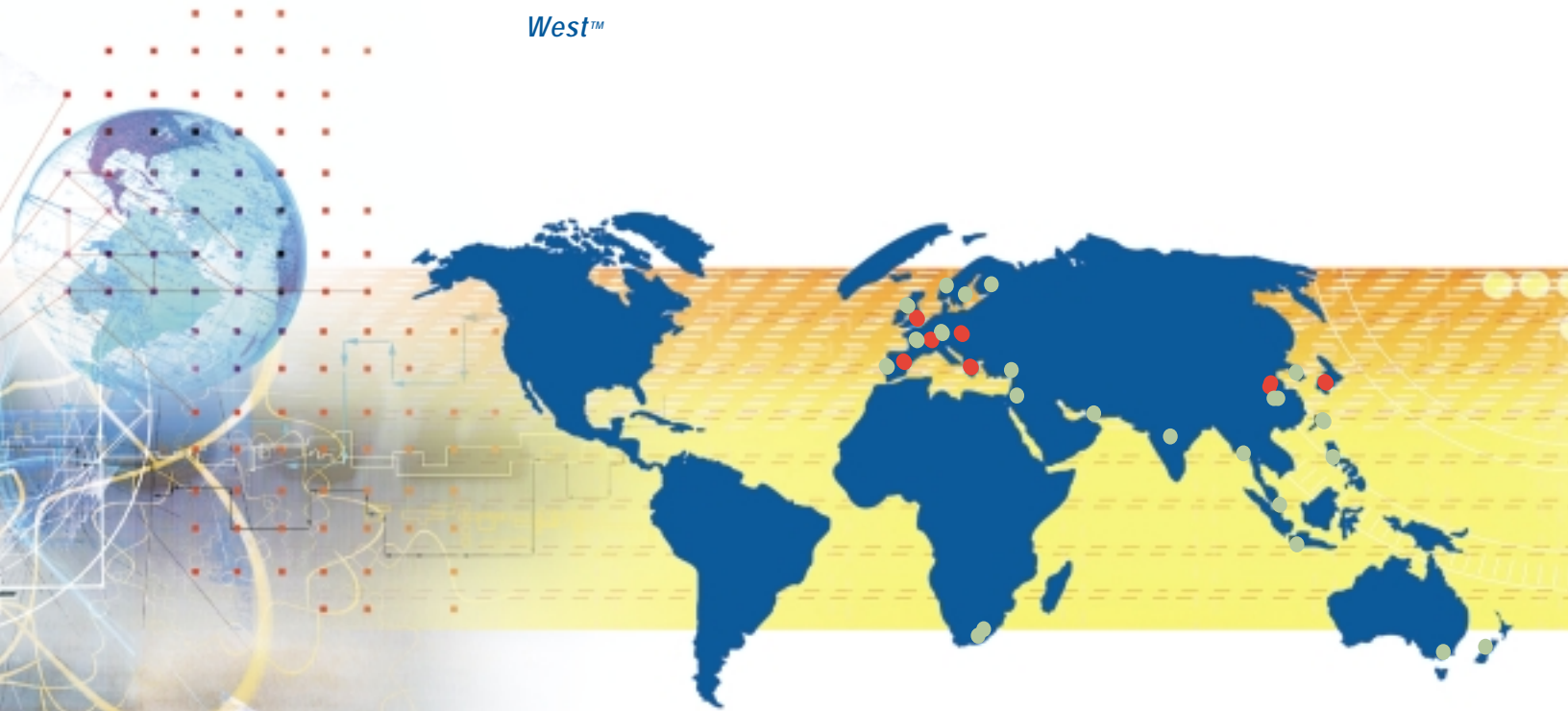
*LFE™*

*Partlow™*

*PMA™*

*Rustrak™*

*West™*



**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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