

NEW

**8100+**<sup>™</sup>*Affordable, Well-Featured,  
Easy to Use and Adaptable*

### *1/8 DIN Temperature Controller*

#### DESCRIPTION

The West 8100+ is a new generation of '+' Series controller that takes flexibility and ease of use to new levels. The expanded '+' Series platform of 1/4, 1/8 and 1/16 DIN model controllers incorporates numerous product specification, communication, display interface and configuration software improvements that surpass competitive offerings in ease of use, delivery and value-per-dollar.

By adding more versatile features and user-friendly functionalities – like remote setpoint inputs, digital inputs, plug-in output modules, a customizable operator/HMI menu, jumperless and auto-hardware configuration, and 24VDC transmitter power supply – the new generation 8100+ Series controller transforms 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.

Making things complicated is easy – the clever trick with the new generation 8100+ Series controller from West is to make it simple.

#### APPLICATIONS:

Ideal for temperature control applications requiring a value-priced, user-friendly, versatile and well featured general-purpose controller.

#### INDUSTRIES:

- Industrial and lab ovens/furnaces, plastics and thermal forming
- Form/fill and seal
- Packaging applications
- And any others where low costs, smaller size and unmatched connectivity are critical requirements.

#### FEATURES/BENEFITS

- Dual setpoints with optional remote selection
- Plug-in output modules allow installing just the functions needed
- Expanded user-selectable operator modes
- User-selectable plug-and-play output cards
- Process and loop alarms
- Adjustable hysteresis
- Optional 10V SSR driver
- Improved Windows® PC configuration software
- Improved easy-to-use HMI
- Jumperless input configuration
- Auto-hardware recognition
- Faster communication speeds
- More security options
- Backward compatible panel cutout, housing and terminal wiring capability

**WEST™ brand**

**8100+™**

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Easy to Use and Adaptable**

**1/8 DIN Temperature Controller**

**SPECIFICATIONS\***

**STANDARD FEATURES**

Dual setpoints with optional remote selection  
 Plug-in output modules installing just the functions needed  
**NEW** Improved HMI; four button operation, dual 4-digit LED displays  
 4 per second input sample rate  
 Universal input  
 Full PID or ON/OFF control  
 Heat/Cool operation (with dual outputs ordered)  
 Selectable pre-tune, self-tune, manual tune  
 Ramping setpoint  
 Process and Loop alarms  
**NEW** Jumperless input configuration  
**NEW** Auto-detection of installed output modules.  
**NEW** Improved PC configuration software (comms option not required)  
**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 24VDC (20–48VAC / 22–65 VDC)  
**Power Consumption:** 5W / 7.5VA max

**DISPLAY**

**Type:** Dual 4 digit displays, Red or Green, 7 segment LED  
**Height:** 10mm (0.39") upper display, 8mm (0.31") lower display  
**Annunciators:** LED indicators for output and status

**INPUTS**

**Standard Universal input (T/C, RTD and DC Linear):**  
 T/Cs: J, K, C, R, S, T, B, L, N and Pt 20% Rh vs. Pt 40% Rh  
**RTD:** 3-wire; PT100; 50Ω per lead maximum (balanced)  
**DC Linear (scalable -1999 to +9999):**  
**Volts:** 0–5, 1–5, 0–10 or 2–10VDC  
**DC milliamps:** 0–20mA or 4–20mA  
**DC millivolts:** 0–50, 10–50mV

**OUTPUTS**

All output types are user-selectable and customizable based on desired application; choose from the following output types:  
**Max. # of Outputs:** Three for control, alarm, 24VDC transmitter power supply or retransmit of process value or setpoint  
**Relay:** Optional SPDT; 240VAC 2.0A resistive. Lifetime: >500,000 operations at rated voltage/current  
**SSR Driver:** Optional drive capability: >10VDC nominal into 500Ω minimum  
**DC Linear:** Optional 0–20mA, 4–20mA into 500Ω max.; 0–10V, 1–5V, 2–10V, 0–5V into 500Ω minimum; control outputs have 2% over/under drive applied; accuracy ±0.25% (mA into 250Ω load, V into 2kΩ load); degrading linearly to ±0.5% for increasing burden to specified limits  
**Triac:** Optional 0.01 to 1A AC, 20 to 280Vrms, 47–63Hz (limit 2)  
**Transmitter Power Supply:** Optional 24VDC (limit 1)

**OUTPUT FUNCTIONS**

All output functions are user-selectable and customizable based on the application:  
**Heat Power**  
**Cool Power**  
**Process Alarm** (reverse or direct)  
**Modes (Alarms 1 and 2):** High/low, SP deviation, band, logical OR/AND  
**Loop Alarm** (reverse or direct)  
**Retransmit** (setpoint or process value)

**ELECTRICAL PERFORMANCE**

**GENERAL:**  
**Accuracy:** ±0.1% of input range ±1 LSD (T/C CJC better than 1°C)  
**Input Sample Rate:** 4 per second; 14 bit resolution  
**Impedance:** >10MΩ for thermocouple and mV ranges, 47kΩ for V ranges and 5Ω for mA ranges  
**Sensor Break Detection:** <2 seconds (except zero based DC ranges), control O/Ps turn off, high alarms activate for T/C and mV ranges, low alarms activate for RTD, mA or V ranges

**COMMUNICATIONS INTERFACE**

**User-selectable:** 2-wire, RS-485 serial communications option with choice of Modbus® or ASCII protocol; 1200 to 19,200 baud  
**PC Configuration:** Off-line configuration from serial port to dedicated configuration socket (comms option not required)

**RATINGS/AGENCY APPROVALS**

**Safety:** CE, UR, cUR, UL file# E67237  
**EMC:** Certified EN61326  
**Other:** ISO 9002 registered

**PROTECTION**

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

**PHYSICAL DIMENSIONS**

**Panel Cutout:** 1.77" (45mm) × 3.62" (92mm)  
**Width:** 1.89" (48mm)  
**Depth:** 3.93" (100mm)  
**Height:** 3.78" (96mm)  
**Weight:** 0.46 lbs (0.21kg)  
**Mounting:** Plug-in with panel mounting fixing strap

**OPTIONS/ACCESSORIES**

**NEW** 24VDC transmitter power supply option  
**NEW** Faster RS-485 serial communication speeds and user-selectable (Modbus® or ASCII) option  
**Digital Input 1 (Optional):** Selects between two setpoints or auto/manual tune control; volt free or TTL input  
**Basic Remote Setpoint Input (Optional):** 0–20mA, 4–20mA, 0–10V, 2–10V, 0–5V; scalable -1999 to 9999; local or remote setpoint selected from front panel  
**Full Remote Setpoint Input (Optional):** 0–20mA, 4–20mA, 0–5V, 1–5V, 0–10V, 2–10V, 0–100mV; scaleable -1999 to 9999; potentiometer (2kΩ minimum); local or remote setpoint selected from front panel; digital input can be configured to switch between setpoints (either setpoint 1 and 2 or between local setpoint and remote setpoint) or between auto and manual control modes. Not available on Model 1160+  
**Optional Choice of LED colors:** (red/red, red/green, green/red, green/green); plus five indicators  
**10V SSR drive output**

**WARRANTY**

3 years  
 Made in USA

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 West Brand 8100+ Data Sheet (7/05)



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**WEST™ brand**

**8100+™**

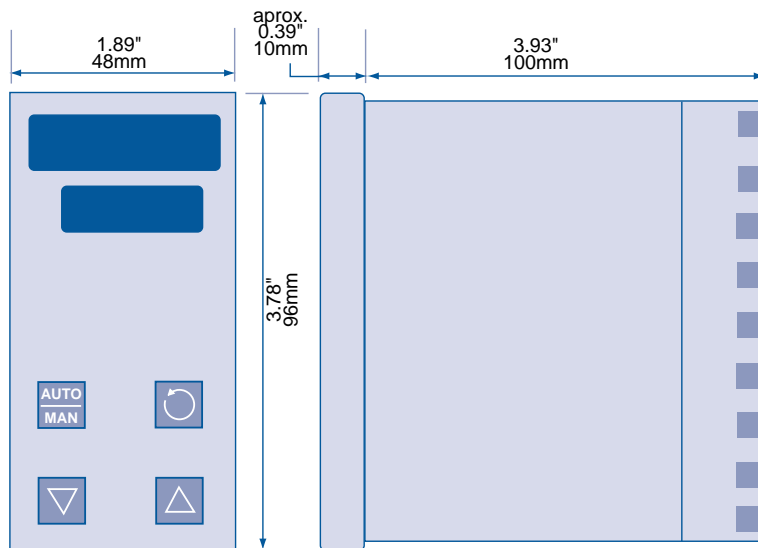
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**MODELS**

Code 1: Model #	Code 2: Input Type	Code 3: Output 1	Code 4: Output 2	Code 5: Output 3	Code 6: Option Slot A	Code 7: Power Supply	Code 8: Display Color	Code 9: Option Slot B
<b>P8101Z</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1/8 DIN Temperature 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	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 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	0 Not fitted R Full Remote Setpoint Input with Digital Input 2

**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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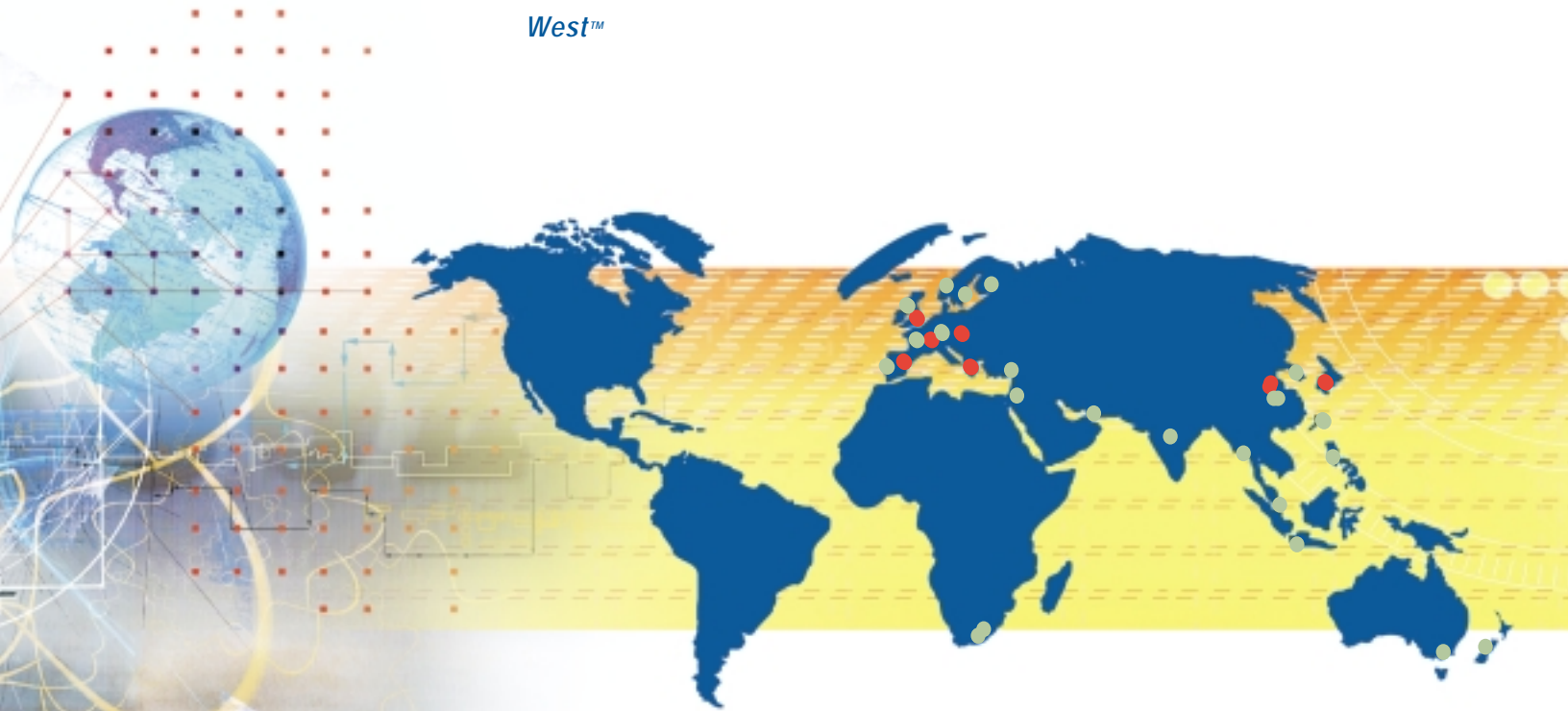
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*West™*



**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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