WEST™ brand

Controllers

NEW

8100+™

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 <u>simple</u>.

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

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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

* 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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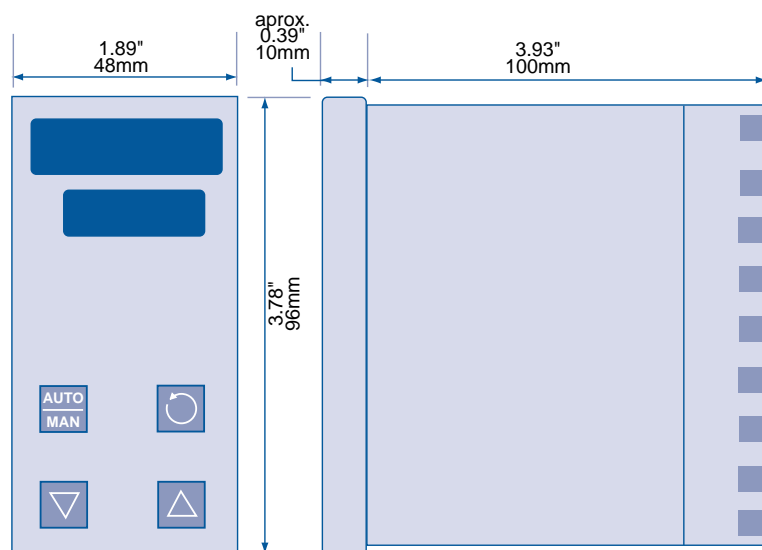www.westinstruments.com • www.danaherindustrialcontrols.com

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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
P8101Z	☐	☐	☐	☐	☐	☐	☐	☐
I/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

1.89" 48mm

aprox. 0.39" 10mm

3.93" 100mm

3.78" 96mm

AUTO MAN ↻ ▽ △

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

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West Brand 8100+ Data Sheet (7/05)

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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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