West 4200 1/4 DIN Controller with Fuzzy Logic

The West 4200 PID controller's fuzzy logic algorithm works in the background to reduce overshoot and improve settling times on start-up, setpoint changes and load disturbances.

- **Heat/Cool operation**
- **Two process alarms**
- **Loop alarm**
- **RS485 comms**
- **Ramping setpoint**
- **Auto-tuning & fuzzy logic**
- **Remote setpoint input**
- **PC configuration**

Technical Data

Features	
Control Types	PID with fuzzy logic. Pre-tune, Self-tune, Manual Tuning, or On-Off control. Heat only or heat/cool
Auto/Manual	Selectable from front panel, with bumpless transfer
Output Configuration	Up to 3 total. Max 2 for control (Heat & Cool), max 2 for Alarms, max 1 for retransmit Process value or Setpoint
Alarm 1 & 2 Types	Process high, process low, SP deviation, band, logical OR and hysteresis. Also 1 loop alarm
Human Interface	4 button operation, dual 4 digit 13mm & 10mm high LED displays, plus 3 LED indicators
PC Configuration	Off-line configuration from serial port to dedicated config socket (comms option not required)
Input	
Thermocouple	J, K, R, S, T, B, L, & N.
RTD	3 Wire PT100, 50Ω per lead maximum (balanced)
DC Linear	0-20/4-20mA, 0-50/10-50mV, 0-5/1-5/0-10/2-10V. Scaleable -1999 to 9999, dec point available
Impedance	>100MΩ for Thermocouple and mV ranges, 47KΩ for V ranges and 4.7Ω for mA ranges
Accuracy	+/- 0.25% of input span +/- 1 LSD (T/C CJC better than 0.7°C)
Sampling	4 per second, 14 bit resolution approximately
Sensor Break Detection	<2 secs (except zero based DC ranges), control O/P's turn off, high alarms activate for T/C and mV ranges, low alarms activate for RTD, mA or V ranges
Outputs & Options	
Control & Alarm Relays	Contacts SPDT 2Amp resistive at 240V AC, >500,000 operations
Control SSR Outputs	Drive capability >4.3V DC in 250Ω (10V 500Ω version available)
Solid State (Triac) Outputs	0.01 to 1 Amp AC 20 to 280V, 47 to 63Hz
Control DC Outputs	0-20/4-20mA into 500Ω max, 0-10/0-5V into 500Ω min. Accuracy typically +/- 0.5%
Retransmit Outputs	0-20/4-20mA into 500Ω max, 0-10/0-5V into 500Ω min. Accuracy typically +/- 0.25%
Communications	2 Wire RS485, 1200 to 9600 Baud, West ASCII
Dual Setpoint Selection	Selects between 2 SP's using volt free or TTL input (SP1 = -0.6 to 0.8V, SP2 = 2 to 24V)
Remote Setpoint Input	0-20/4-20mA, 0-50/0-100mV, 0-5/0-10V or Potentiometer (2KΩ min), scaleable, with external volt free or TTL remote/local setpoint selection input
Operating & Environmental	
Temperature & RH	0 to 55°C (-20 to 80°C storage), 20% to 95%RH non-condensing
Power Supply	100 to 240V 50/60Hz 7.5VA (optional 20 to 50V AC 7.5VA/22 to 65V DC 4W)
Front Panel Protection	IEC IP66 (Behind panel protection is IP20)
Approvals and Certification	CE, UL & ULc

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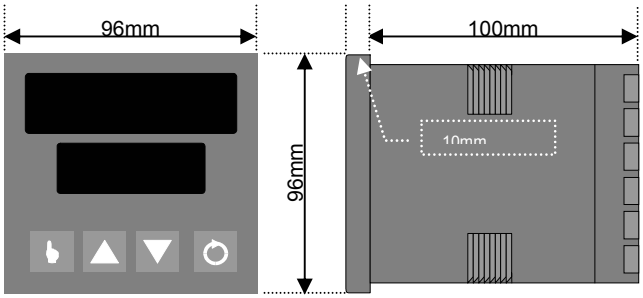
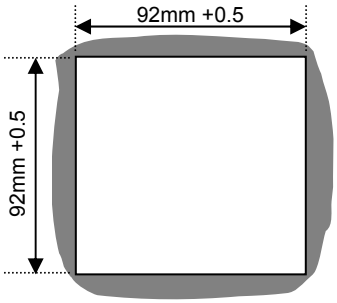
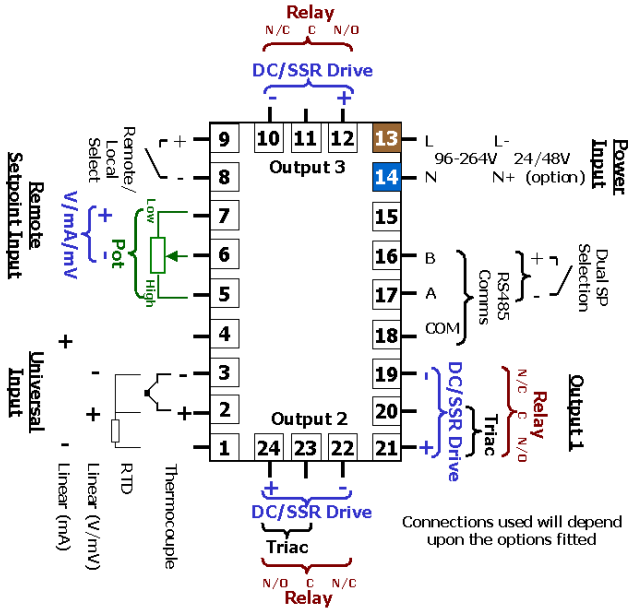
Dimensions



Cut out



Connection Details



Field Reconfiguration

Input
Configurable to any type, no extra parts required

Output 1
Type is fixed as ordered. Either Relay/SSR (selectable), Triac or DC Linear (selectable for mV, mA, Volts)

Output 2
Configurable as Cool O/P or Alarm via plug-in Relay, SSR, Triac or DC Linear modules

Output 3
Configurable as Alarm via plug-in Relay or SSR modules, or retransmit using DC Linear module

Option Slot
Configurable as RS485 comms or dual setpoint selection, via plug-in modules

Secondary Input
If fitted, can be configured to any input range. Cannot be retro-fitted.

Order Code

N4200 - x - x - x - x - xx - x

Input Type	
3 Wire RTD or DC mV	1
Thermocouple	2
DC mA	3
DC Voltage	4

Output 1	
Relay Control	1
DC for SSR Control	2
DC 0-10V Control	3
DC 0-20mA Control	4
DC 0-5V SP Control	5
DC 4-20mA Control	7

Output 2	
Not fitted	0
Relay Control or Alarm 2	1
DC for SSR Control or Alarm 2	2
DC 0-10V Control	3
DC 0-20mA Control	4
DC 0-5V Control	5
DC 4-20mA Control	7
Triac Control	8

Secondary Input	
0	Remote Setpoint not required
1	0-50/0-100mV Remote Setpoint Input
3	0-20/4-20mA Remote Setpoint Input
4	0-5/0-10V Remote Setpoint Input
9	Potentiometer Remote Setpoint Input
8	*Dual Setpoint

Options & Power Supply	
00	No Options/100-240V AC line supply
02	No Options/24-48V AC or DC line supply
10	*RS485 Comms/100-240V AC line supply
12	*RS485 Comms/24-48V AC or DC supply
30	*Dual Setpoint/100-240V AC line supply
32	*Dual Setpoint/24-48V AC or DC supply

Output 3	
0	Not fitted
1	Relay Alarm 1 output
2	DC for SSR Alarm 1 output
3	DC 0-10V Re-Transmit PV or SP
4	DC 0-20mA Re-Transmit PV or SP
5	DC 0-5V Re-Transmit PV or SP
7	DC 4-20mA Re-Transmit PV or SP

*If both dual setpoint selection and comms are required, select Options code 10 or 12 and Secondary Input code 8

In accordance with our policy of continuous improvement, we reserve the right to change specifications from those shown in this document.