

## West P4100 1/4 Din Process Controller



With its improved interface, technical functionality and field flexibility, the West 4100 gives you the best in comprehensive control for most temperature and process control loops.

- Jumperless Configuration
- Auto Detected Hardware
- Process & Loop Alarms
- Modbus & ASCII Comms
- Auto or Manual Tuning
- Heat/Cool Operation
- Ramping Setpoint
- Remote/Dual Setpoint Options



### Technical Data

#### Features

Control Types	Full PID with Pre-tune, Self-tune, manual tuning, or On-Off control. Heat only or heat & cool
Auto/Manual	Selectable from front panel or via digital input, with bumpless transfer
Output Configuration	Up to 3 possible, for control, alarm, 24VDC transmitter power supply or retransmit of process value or setpoint
Alarm 1 & 2 Types	Process high, process low, SP deviation, band, logical OR / AND. Also 1 loop alarm for process control security. Process alarms have adjustable hysteresis.
Human Interface	4 button operation, dual 4 digit 13mm & 10mm high LED displays, optional choice of colours (Red/Red, Red/Green, Green/Red or Green/Green), plus 5 LED indicators
PC Configuration	Off-line configuration from PC serial port to dedicated config socket (comms option not required). Configuration Software for Windows 98 or higher. West Part Number: PS1-CON

#### Input

Thermocouple	J, K, C, R, S, T, B, L, N & PtRh20%vsPtRh40%.
RTD	3 Wire PT100, 50Ω per lead maximum (balanced)
DC Linear	0 to 20mA, 4 to 20mA, 0 to 50mV, 10 to 50mV, 0 to 5V, 1 to 5V, 0 to 10V, 2 to 10V. Scaleable -1999 to 9999, with adjustable decimal point
Impedance	>10MΩ for Thermocouple and mV ranges, 47KΩ for V ranges and 5Ω for mA ranges
Accuracy	±0.1% of input range ±1 LSD (T/C CJC better than 1°C)
Sampling	4 per second, 14 bit resolution approximately
Sensor Break Detection	<2 seconds (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

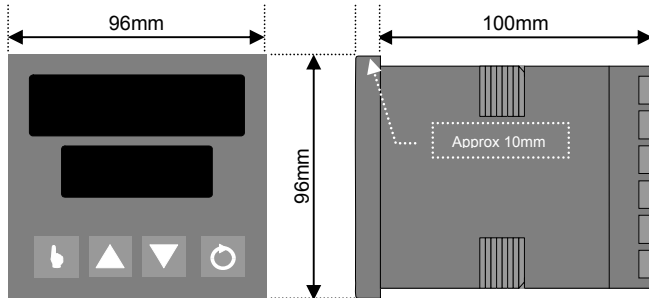
#### Outputs & Options

Control & Alarm Relays	Contacts SPDT 2 Amp resistive at 240V AC, >500,000 operations
Control SSR Driver Outputs	Drive capability >10V DC in 500Ω minimum
Triac Outputs	0.01 to 1 Amp AC, 20 to 280Vrms, 47 to 63Hz
DC Linear Outputs	0 to 20mA, 4 to 20mA into 500Ω max, 0 to 10V, 2 to 10V, 0 to 5V into 500Ω min. Control outputs have 2% over/under drive applied. Accuracy ±0.25% at 250Ω (degrades linearly to 0.5% for increasing burden to specified limits)
Transmitter Power Supply	Output 24VDC (nominal) into 910Ω minimum to power external devices
Serial Communications	2 Wire RS485, 1200 to 19200 Baud, Modbus and ASCII protocol (selectable)
Digital Input	Selects between 2 setpoints or Auto/Manual control. Volt free or TTL input
Remote Setpoint Input	0 to 20mA, 4 to 20mA, 0 to 100mV, 0 to 5V, 1 to 5V, 0 to 10V, 2 to 10V or ≥2KΩ Potentiometer Scaleable -1999 to 9999. Local/Remote setpoint selected from digital input (supplied as part of Full RSP) or front panel

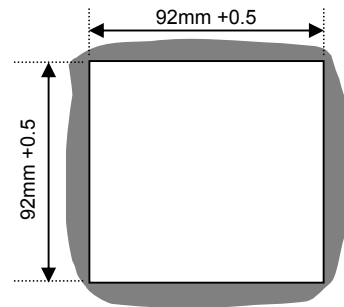
#### Operating & Environmental

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 48V AC 7.5VA/22 to 65V DC 5 watts)
Front Panel Protection	IEC IP66 (Behind panel protection is IP20)
Standards	CE, UL & ULC recognised

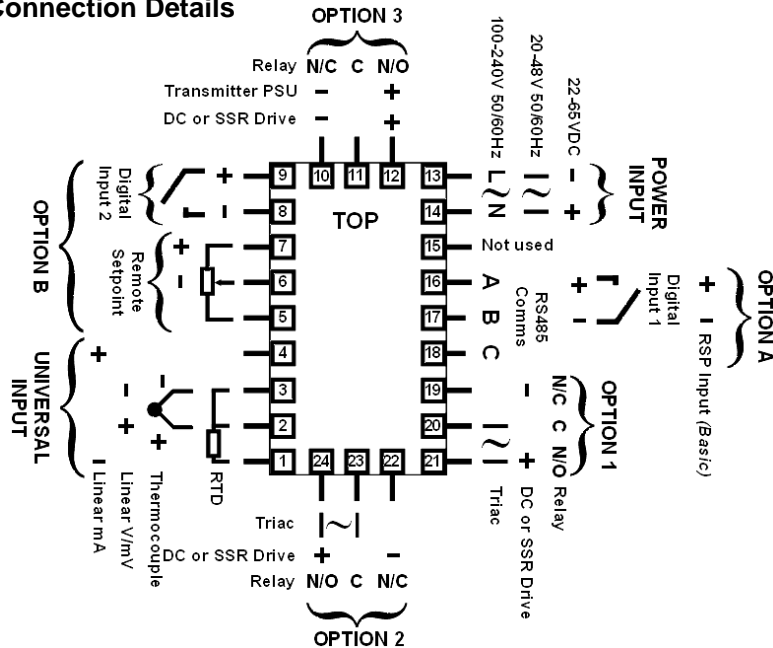
## Dimensions



## Cut out



## Connection Details



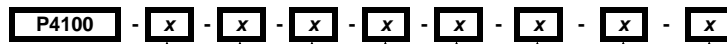
## Field Reconfiguration

### Input

Jumper-free configuration for any type  
(no extra parts required)

- |                                     |                    |
|-------------------------------------|--------------------|
| <b>Option Slot 1</b>                | <b>Part Number</b> |
| Relay Output .....                  | PO1-C10            |
| Linear mA/V DC Output .....         | PO1-C21            |
| SSR Driver Output .....             | PO1-C50            |
| Triac Output .....                  | PO1-C80            |
| <b>Option Slot 2</b>                | <b>Part Number</b> |
| Relay Output .....                  | PO2-C10            |
| Linear mA/V DC Output .....         | PO2-C21            |
| SSR Driver Output .....             | PO2-C50            |
| Triac Output .....                  | PO2-C80            |
| <b>Option Slot 3</b>                | <b>Part Number</b> |
| Relay Output .....                  | PO2-C10            |
| Linear mA/V DC Output .....         | PO2-C21            |
| SSR Driver Output .....             | PO2-C50            |
| 24VDC Transmitter PSU .....         | PO2-W08            |
| <b>Option Slot A</b>                | <b>Part Number</b> |
| Digital Input .....                 | PA1-W03            |
| Remote Setpoint Input (Basic) ..... | PA1-W04            |
| RS485 Comms .....                   | PA1-W06            |
| <b>Option Slot B</b>                | <b>Part Number</b> |
| Remote Setpoint Input (Full) .....  | PB1-W0R            |

## Order Code



### Input Type

- |                     |   |
|---------------------|---|
| 3 Wire RTD or DC mV | 1 |
| Thermocouple        | 2 |
| DC mA               | 3 |
| DC Voltage          | 4 |

### Option Slot 1

- |            |   |
|------------|---|
| Not fitted | 0 |
| Relay      | 1 |
| DC for SSR | 2 |
| DC 0-10V   | 3 |
| DC 0-20mA  | 4 |
| DC 0-5V    | 5 |
| DC 2-10V   | 6 |
| DC 4-20mA  | 7 |
| Triac      | 8 |

### Option Slot 2

- |                   |   |
|-------------------|---|
| Not fitted        | 0 |
| Relay             | 1 |
| DC Driver for SSR | 2 |
| DC 0-10V          | 3 |
| DC 0-20mA         | 4 |
| DC 0-5V           | 5 |
| DC 2-10V          | 6 |
| DC 4-20mA         | 7 |
| Triac             | 8 |

### Option Slot B

- |                       |                              |
|-----------------------|------------------------------|
| 0                     | Not fitted                   |
| R                     | Remote Setpoint Input (Full) |
| <b>Display Colour</b> |                              |
| 0                     | Red Upper & Lower            |
| 1                     | Green Upper & Lower          |
| 2                     | Red Upper, Green Lower       |
| 3                     | Green Upper, Red Lower       |

### Power Supply

- |   |                 |
|---|-----------------|
| 0 | 100-240V AC     |
| 2 | 24-48V AC or DC |

### Option Slot A

- |   |                               |
|---|-------------------------------|
| 0 | Not fitted                    |
| 1 | RS485 Communications          |
| 3 | Digital Input                 |
| 4 | Remote Setpoint Input (Basic) |

### Option Slot 3

- |   |                          |
|---|--------------------------|
| 0 | Not fitted               |
| 1 | Relay                    |
| 2 | DC Driver for SSR        |
| 3 | DC 0-10V                 |
| 4 | DC 0-20mA                |
| 5 | DC 0-5V                  |
| 6 | DC 2-10V                 |
| 7 | DC 4-20mA                |
| 8 | Transmitter Power Supply |