

West 6170+, 8170+ & 4170+ Valve Motor Controller



- Jumperless Configuration
- Auto Detected Hardware
- Process & Loop Alarms
- Modbus Communications
- Auto or Manual Tuning
- Motorised Valve Control
- Valve Position Indication
- Remote/Dual Setpoint Options
- Available in 1/16, 1/8 & 1/4 DIN Format

The new Plus Series VMD Controllers have been specifically designed for open loop valve motor drive applications and feature the improved Plus Series interface and greater field flexibility.

Specification

Features

| | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control Types | Full PID with Pre-tune, Self-tune and manual tuning modes. |
| Valve Control | Open Loop Valve Motor Drive. |
| Auto/Manual | Selectable from front panel or via digital input, with bumpless transfer. |
| Output Configuration | Up to 4 possible, two required for valve control, additional outputs for 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 10mm & 8mm (6170+ and 8170+) and 13mm & 10mm (4170+) 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 configuration socket (communications 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 |

Output & Options

| | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control & Alarm Relays | Contacts SPDT 2 Amp resistive at 240V AC (120V AC Max for direct VMD), >500,000 operations. (1A 2xSPST 200,000 operations for Dual Relay) |
| 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. 140V Max for direct VMD. |
| DC Linear Outputs | 0 to 20mA, 4 to 20mA into 500Ω max, 0 to 10V, 2 to 10V, 0 to 5V into 500Ω min. Accuracy ±0.25% at 250Ω (degrades linearly to 0.5% for increasing burden to specified limits) Retransmit of PV or SP Only. |
| Transmitter Power Supply | Output 24VDC (nominal) into 910Ω minimum to power external devices |
| Serial Communications | 2 Wire RS485, 1200 to 19200 Baud, Modbus protocol |
| Digital Input | Selects between 2 setpoints or Auto/Manual control. Volt free or TTL input |

Remote Setpoint / Valve
Position Auxiliary Input

0 to 20mA, 4 to 20mA, 0 to 5V, 1 to 5V, 0 to 10V or 2 to 10V. Scaleable -1999 to 9999.
For Valve Position Indication or Remote Setpoint Input.

Operating & Environment

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

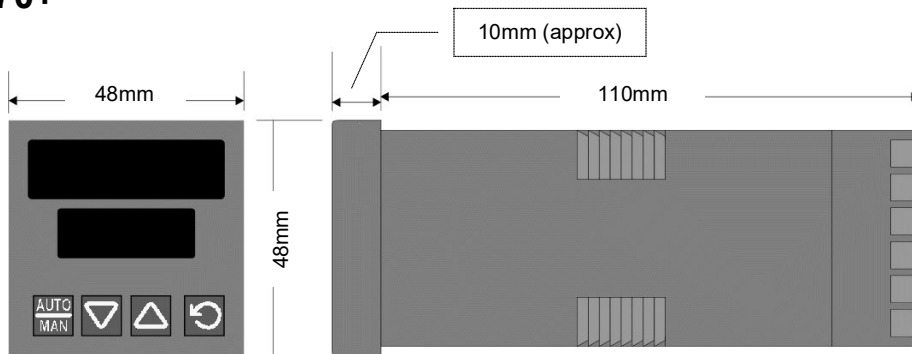
IEC IP66

Standards

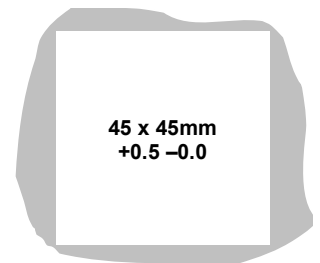
CE, UL & ULC recognised

Dimensions

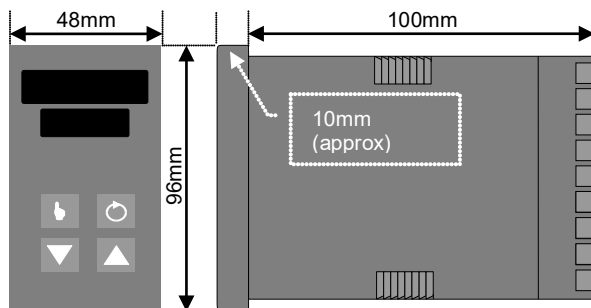
6170+



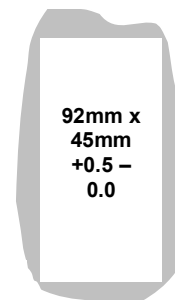
Cut out



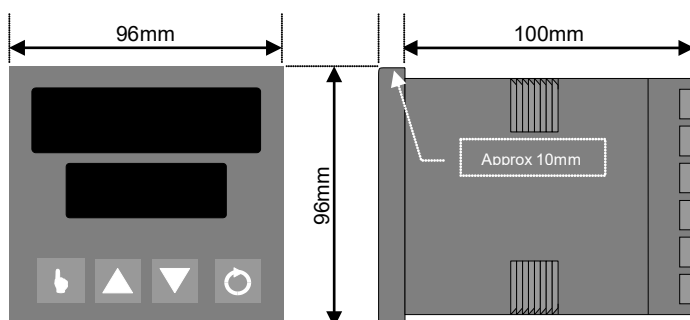
8170+



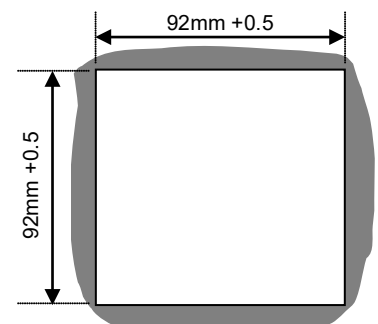
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4170+

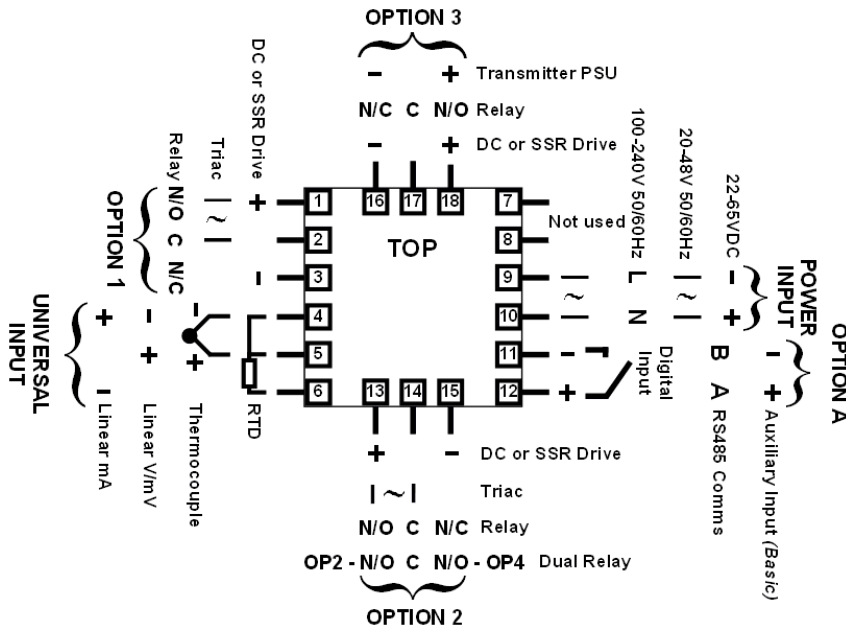


Cut out



Wiring Connections

6170+



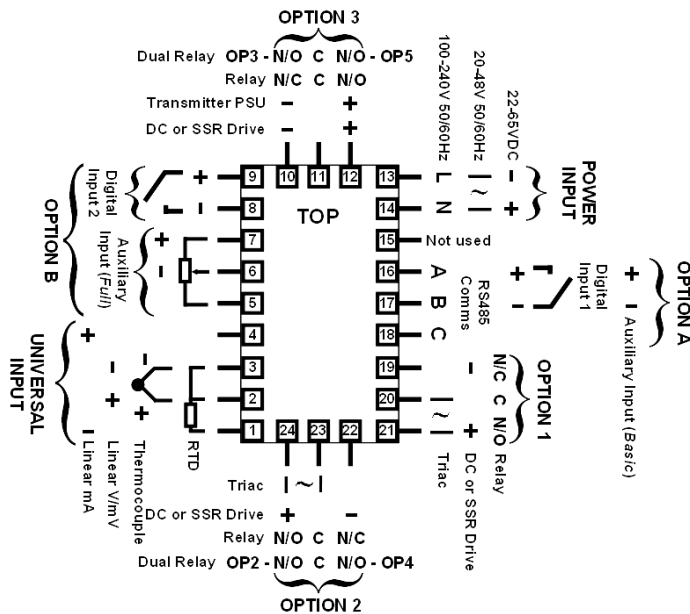
Field Reconfiguration

Input

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

| Option Slot 1 | Part Number |
|-------------------------------|-------------|
| Relay Output | PO1-C10 |
| Linear mA/V DC Output | PO1-C21 |
| SSR Driver Output | PO1-C50 |
| Triac Output | PO1-C80 |
| Option Slot 2 | Part Number |
| Relay Output | PO2-C10 |
| Linear mA/V DC Output | PO2-C21 |
| SSR Driver Output | PO2-C50 |
| Triac Output | PO2-C80 |
| Dual Relay Output | PO2-W09 |
| Option Slot 3 | Part Number |
| Relay Output | PO2-C10 |
| Linear mA/V DC Output | PO2-C21 |
| SSR Driver Output | PO2-C50 |
| 24VDC Transmitter PSU | PO2-W08 |
| Option Slot A | Part Number |
| Digital Input | PA1-W03 |
| Auxiliary Input (Basic) | PA1-W04 |
| RS485 Comms | PA1-W06 |

8700+ & 4700+



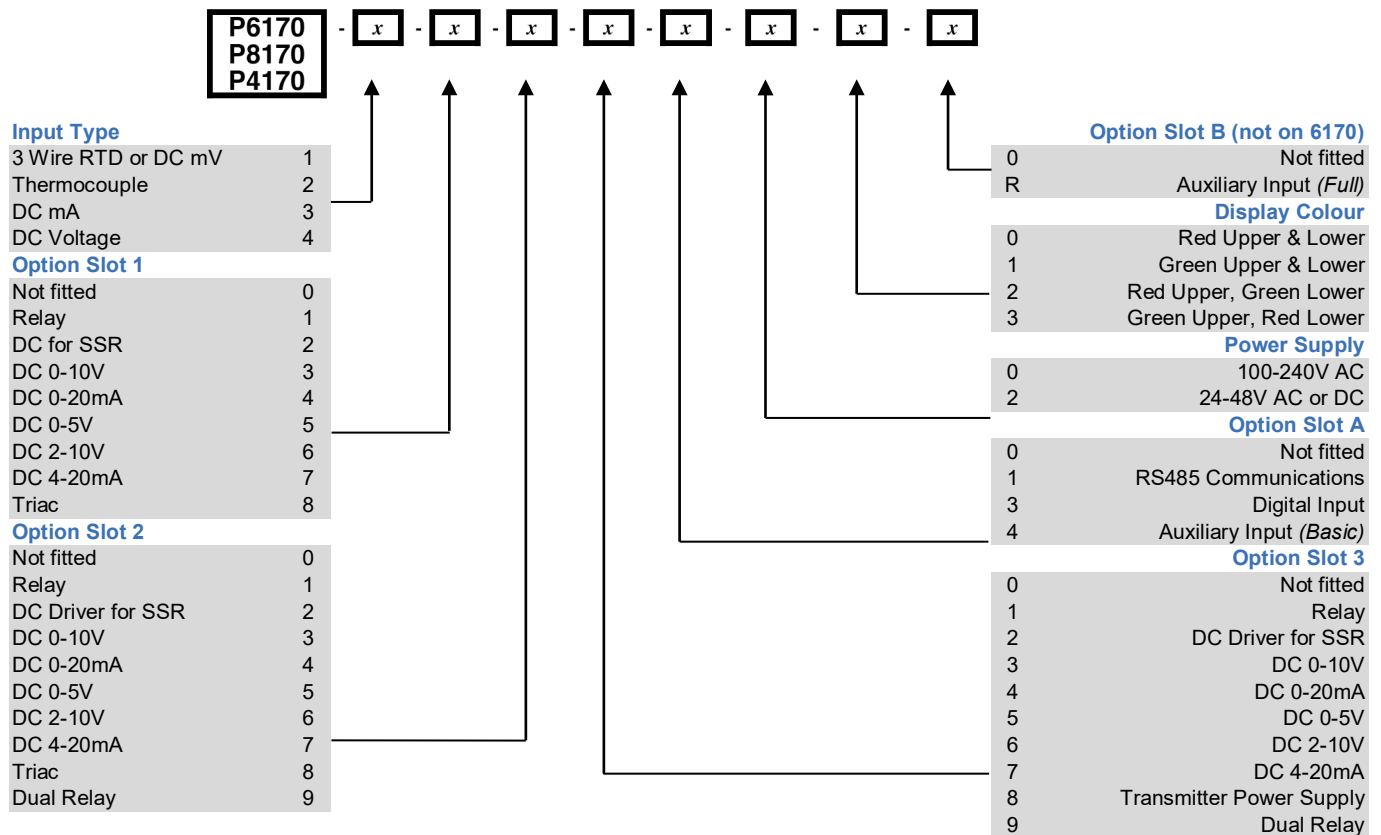
Field Reconfiguration

Input

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

| Option Slot 1 | Part Number |
|-------------------------------|-------------|
| Relay Output | PO1-C10 |
| Linear mA/V DC Output | PO1-C21 |
| SSR Driver Output | PO1-C50 |
| Triac Output | PO1-C80 |
| Option Slot 2 | Part Number |
| Relay Output | PO2-C10 |
| Linear mA/V DC Output | PO2-C21 |
| SSR Driver Output | PO2-C50 |
| Triac Output | PO2-C80 |
| Dual Relay Output | PO2-W09 |
| Option Slot 3 | Part Number |
| Relay Output | PO2-C10 |
| Linear mA/V DC Output | PO2-C21 |
| SSR Driver Output | PO2-C50 |
| 24VDC Transmitter PSU | PO2-W08 |
| Dual Relay Output | PO2-W09 |
| Option Slot A | Part Number |
| Digital Input | PA1-W03 |
| Auxiliary Input (Basic) | PA1-W04 |
| RS485 Comms | PA1-W06 |
| Option Slot B | Part Number |
| Auxiliary Input (Full) | PB1-W0R |

Ordering Code



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Brochures and datasheets are available for the complete range of West Control Solutions products, contact your local sales office or visit our website at: **www.west-cs.com** for more information.

Specifications are subject to change without notice, as a result of continual development and improvement, E&OE