**WEST**
Temperature Control Solutions

# West P6170 $^1$/$_{16}$ Din Valve Motor Controller

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.

- **Jumperless Configuration**
- **Auto Detected Hardware**
- **Process & Loop Alarms**
- **Modbus Communications**
- **Auto or Manual Tuning**
- **Motorised Valve Control**
- **Valve Position Indication**
- **Remote/Dual Setpoint Options**

## Technical Data

### 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 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

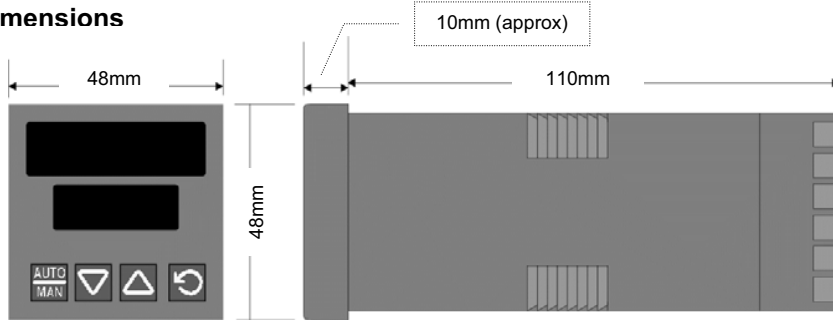| | |
|---|---|
| Thermocouple | J, K, C, R, S, T, B, L, N & PtRh20%vsPtRh40%. |
| RTD | 3 Wire PT100, 50Ω per lead maximum (balanced) |
| DC Linear | 0 to 20mA, 4 to 20mA, 0 to 50mV, 10 to 50mV, 0 to 5V, 1 to 5V, 0 to 10V, 2 to 10V. Scaleable -1999 to 9999, with adjustable decimal point |
| Impedance | >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 |

### Outputs & 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 & 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 |

**www.corema.fr**

CONTROLE   REGULATION   MESURE   AUTOMATISME
Z.I. chemin de Bernichon - F-33360 LATRESNE - Internet: www.corema.fr
Tél : +33 (0)5.56.30.66.12  Fax : +33 (0)5.56.30.62.24  e-mail :contact@corema.fr

**COREMA**
BORDEAUX

## Dimensions

48mm

10mm (approx)

110mm

48mm

## Cut out

45 x 45mm
+0.5 –0.0

## Connection Details



OPTION 3

DC or SSR Drive

Transmitter PSU – +

N/C  C  N/O  Relay

DC or SSR Drive – +

Relay N/O C N/C | ~ | Triac

OPTION 1

DC or SSR Drive +

100-240V 50/60Hz

20-48V 50/60Hz

22-65VDC

**TOP**

Not used

~

L

N

| ~ |

B  A  RS485 Comms

POWER INPUT

OPTION A

Auxiliary Input (Basic)

Digital Input

UNIVERSAL INPUT

+ – +

I Linear mA

Linear V/mV

Thermocouple

RTD

DC or SSR Drive + ~ –

| ~ |  Triac

N/O  C  N/C  Relay

OP2 - N/O  C  N/O - OP4  Dual Relay
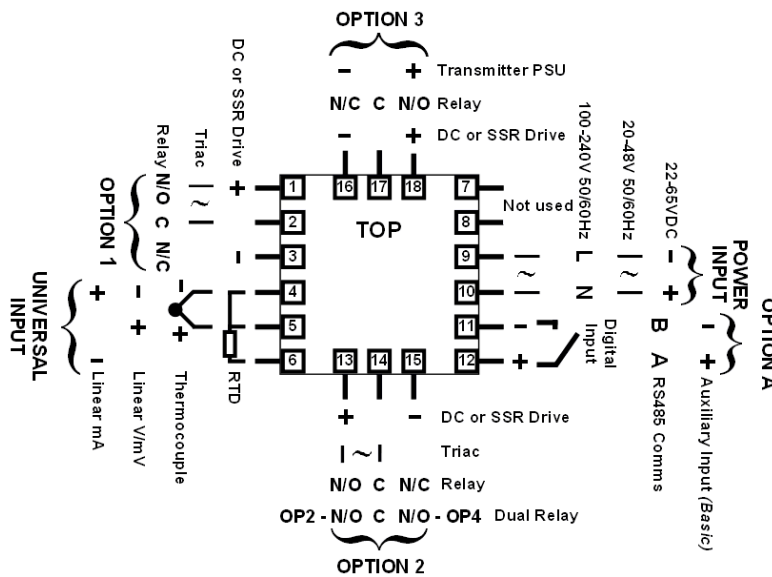
OPTION 2

## 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** |

## Order Code

P6170 - x - x - x - x - x - x - x

| 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 |
| Dual Relay | 9 |

| Display Colour | |
|---|---|
| Red Upper & Lower | 0 |
| Green Upper & Lower | 1 |
| Red Upper, Green Lower | 2 |
| Green Upper, Red Lower | 3 |

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

| Option Slot A | |
|---|---|
| Not fitted | 0 |
| RS485 Communications | 1 |
| Digital Input | 3 |
| Auxiliary Input *(Basic)* | 4 |

| Option Slot 3 | |
|---|---|
| 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 |
| Transmitter Power Supply | 8 |

**DANAHER** INDUSTRIAL CONTROLS

PMA