

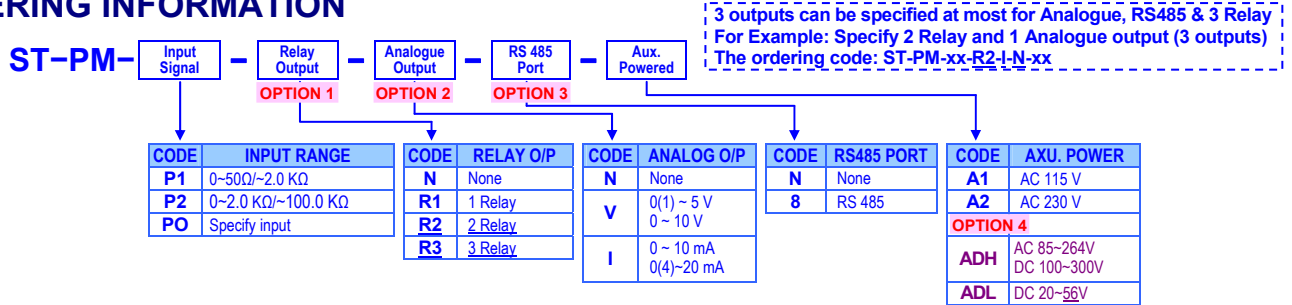
ST-PM POTENTIOMETER Conditioner WITH RS485, A/O & RELAY

FEATURE

- Measuring potentiometer from 0~50Ω/~2.0KΩ; 0~2.0KΩ/~100.0KΩ (3 wire)
- Accuracy: ± 0.04%; Display range: -19999~29999
- User function, Easily programmable via the front panel
- Field calibration with potentiometer to meet the system requirement
- 1 Analogue output, 1 RS 485 port and 3 Relay output available for multi-cross selection 3 outputs at most.
- CE Approved



ORDERING INFORMATION



TECHNICAL SPECIFICATION

Input		
Measuring Range	Input Impedance	Excitation Voltage
0~50Ω~ 2.0KΩ (3 wire)	≥ 1M ohm	About 0.2V
0~2.0 KΩ/~ 100.0KΩ (3 wire)		About 0.8V

- Calibration:** Digital calibration by front key
- Field calibration:** Calibration with sensor input high & low to meet system structure. And field calibration reset is not change the accuracy & linear of factory calibration.
- A/D converter:** 16 bits resolution
- Accuracy:** ≤± 0.04% of FS ± 1C;
- Sampling rate:** 15 cycles/sec
- Response time:** ≤100 msec.(when the AvG = "1") in standard
- Input range:** Input High and Low programmable
R.H.: Settable range: 0.00~100.00% of input range
R.L.: Settable range: 0.00~100.00% of input range

- Display & Functions**
- LED:** Numeric: 5 digits, 0.28"H red high-brightness LED
Relay output indication: 1 square red LED
RS 485 communication: 1 square orange LED
Max/Mini Hold indication: 2 square orange LED
L.S.C.: Low Scale; Settable range: -19999~+29999
H.S.C.: High Scale; Settable range: -19999~+29999
 Programmable from 0 / 0.0 / 0.00 / 0.000 / 0.0000
o.F.L.: when input is over 20% of input range
Lo.F.L.: when input is under -20% of input range
Lo: Maximum and Minimum value storage during power on.
- Display functions:** PV / Max(Mini) Hold / RS 485 Programmable
- Low cut:** Settable range: -19999~29999 counts
- Digital fine adjust:** **P.u.P.n.:** Settable range: -19999~+29999
P.u.S.P.n.: Settable range: -19999~+29999

- Reading Stable Function**
- Average:** Settable range: 1~99 times
- Moving average:** Settable range: 1(No)~10 times
- Digital filter:** Settable range: 0(No)~1~99 times

Control Functions(option)

- Set-points:** Three set-points
- Control relay:** Three relays(Maximum); FORM-A, 1A/230Vac, 3A/115V
- Relay energized mode:** Energized levels compare with set-points:
 Hi / Lo / Hi.HLD / Lo.HLD programmable
- Energizing functions:** Start delay / Energized & De-energized delay / Hysteresis / Energized Latch
- DO function:** Energized by RS485 command of master.
- Start band**(Minimum level for Energizing): 0~9999counts
- Start delay time:** 0:00.0~9(Minutes):59.9(Second)
- Energized delay time:** 0.00.0~9(Minutes):59.9(Second)
- De-energized delay time:** 0.00.0~9(Minutes):59.9(Second)
- Hysteresis:** 0~5000 counts

Analogue output(option)

- Accuracy:** ≤± 0.1% of F.S.; 16 bits DA converter
- Ripple:** ≤± 0.1% of F.S.
- Response time:** ≤100 msec. (10~90% of input)
- Isolation:** AC 2.0 KV between input and output
- Output range:** Specify either Voltage or Current output in ordering
Voltage: 0~5V / 0~10V / 1~5V programmable
Current: 0~10mA / 0~20mA / 4~20mA programmable
Voltage: 0~10V: ≥ 1000Ω;
Current: 4(0)~20mA: ≤ 600Ω max
- Output capability:** **R.o.H.5** (output range high): Settable range: -19999~29999
R.o.L.5 (output range Low): Settable range: -19999~29999
R.o.H.L (output High Limit): 0.00~110.00% of output High
R.o.P.r.o.: Settable range: -38011~+27524
R.o.S.P.n.: Settable range: -38011~+27524

RS 485 Communication(option)

- Protocol:** Modbus RTU mode
- Baud rate:** 1200/2400/4800/9600/19200/38400 programmable
- Data bits:** 8 bits
- Parity:** Even, odd or none (with 1 or 2 stop bit) programmable
- Address:** 1 ~ 255 programmable
- Remote display:** to show the value from RS485 command of master
- Distance:** 1200M
- Terminate resistor:** 150Ω at last unit.

Electrical Safety

- Dielectric strength:** AC 2.0 KV for 1 min, Between Power / Input / Output / Case
- Insulation resistance:** ≥100M ohm at 500Vdc, Between Power / Input / Output
 Between Power / Input / Relay / Analogue / RS485
- Isolation:** Between Power / Input / Relay / Analogue / RS485
- EMC:** EN 55011:2002; EN 61326:2003
- Safety(LVD):** EN 61010-1:2001
- Vibration:** 1~800 Hz, 3.175 g²/Hz

Amend: 2010/4/28: Change power supply code from D25 to ADL: AC/DC20~56V, ADH:AC 85~264V / DC 100~300V

Environmental

Operating temp.:	0~60 °C
Operating humidity:	20~95 %RH, Non-condensing
Temp. coefficient:	≤100 PPM/°C
Storage temp.:	-10~70 °C

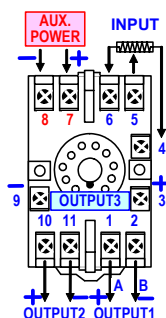
Mechanical

Dimensions:	50mm(W) x 134mm(H) x 80mm(D) with socket
Case material:	ABS fire-resistance (UL 94V-0)
Mounting:	DIN rail mounting (35mm standard)
Terminal block:	11 pin Socket, 10A/500Vac, M2.6, 16~22AWG
Weight:	Under 480g(without socket)

Power

Power supply:	AC 115 or 230V ± 15%, 50/60Hz; Optional: AC 85~264V / DC 100~300V, DC 20~56V
Power consumption:	5.0VA maximum
Back up memory:	By EEPROM

CONNECTION DIAGRAM(11 PIN)

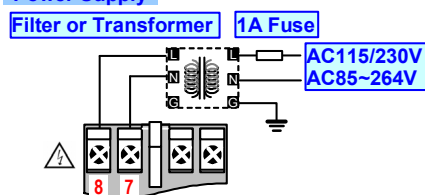


Remark: ST series has been designed in multi-output with limited terminals. Please check the output functions and specify terminals as label on product before wiring.

	OUTPUT 1	OUTPUT 2	OUTPUT 3
	TERMINAL 1+ & 2-	TERMINAL 11+ & 10-	TERMINAL 3+ & 9-
3 O/P	RS485	ANALOGUE	RELAY
3 O/P	ANALOGUE	RELAY	RELAY
3 O/P	RS485	RELAY	RELAY
3 O/P	RELAY	RELAY	RELAY
2 O/P	RS485	ANALOGUE	
2 O/P	RS485	RELAY	
2 O/P	ANALOGUE	RELAY	
1 O/P	ANALOGUE		
1 O/P	RS485		
1 O/P	RELAY		

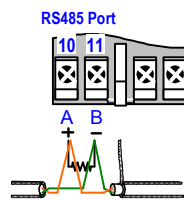
Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

Power Supply



Due to the limited terminals for four outputs (Analogue, RS485, Relay, Excitation Supply), the outputs will be assigned as label on the product and above table. Please check it out before wiring.

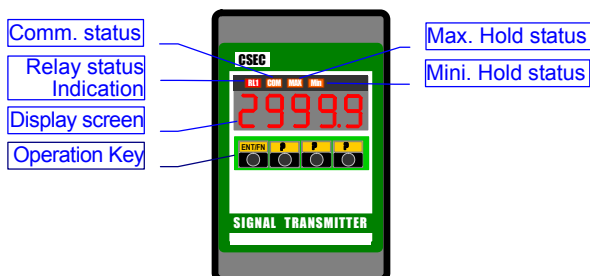
RS485 Communication Port



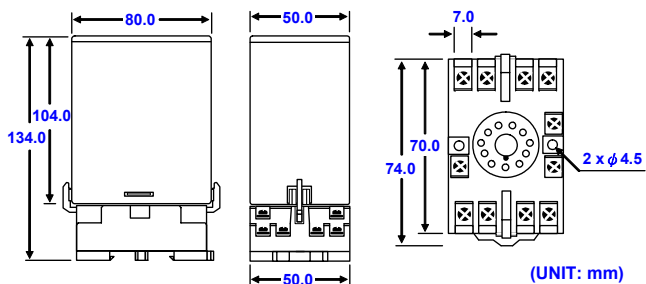
Max. Distance: 1200M Terminate Resistor (at latest unit): 120~300ohm/0.25W; (typical: 150ohm)

For more detail function description, please refer to the data sheet of CS2-PM or ST-PM operating manual

FRONT PANEL



DIMENSIONS



INSTALLATION

The meter should be installed in a location that dose not exceed the maximum operating temperature and provides good air circulation.

