

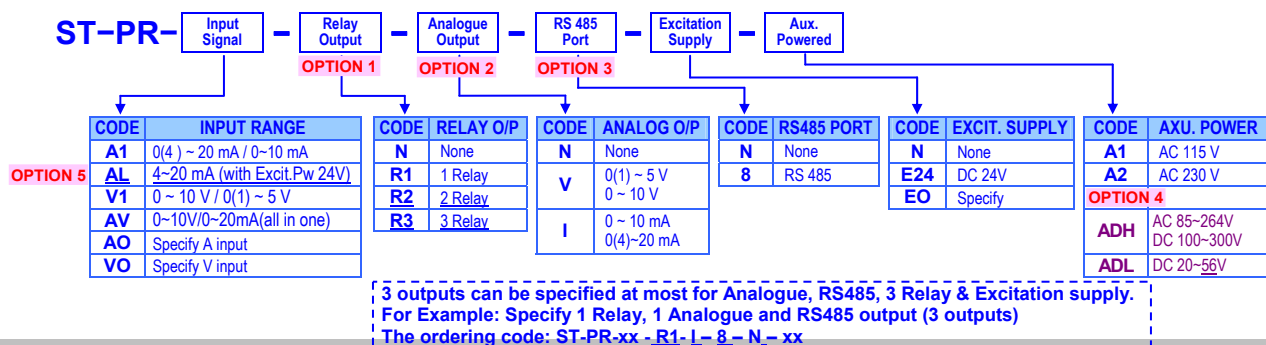
ST-PR DC SIGNAL Conditioner WITH RS485, A/O & RELAY

■ FEATURE

- Measuring linear signal 0~10V / 0(4)~20mA in one controller
- Accuracy: $\pm 0.04\%$; 4 1/2 Digital display: -19999~29999
- User function, Easily programmable via the front panel
- 1 Analogue output, 1 RS 485 port, 3 Relay and Excitation Supply output available for multi-cross selection in 3 outputs
- CE Approved



■ ORDERING INFORMATION



■ TECHNICAL SPECIFICATION

Input

Input Range	Input Impedance	Input Range	Input Impedance
Voltage 0 ~ 10 V	$\geq 1M \text{ ohm}$	Current 4(0)~20 mA	250 ohm

➤ The Meter can be 0~10V and 0~20mA in one unit, according to connection #4 or #5

Calibration: Digital calibration by front key
A/D converter: 16 bits resolution
Accuracy: $\pm 0.04\%$ of FS $\pm 1C$;
Sampling rate: 15 cycles/sec
Response time: $\leq 100 \text{ msec.}$ (when the $AvG = "1"$) in standard
Input type: 0~10V / 0~5V / 1~5V / 0~10mA / 0~20mA / 4~20mA programmable for coding AV(option)
Input range: Input High and Low programmable
R.H.L: Settable range: 0.00~100.00% of input range
R.L.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
 -19999~29999;

Display range: **L.S.C:** Low Scale; Settable range: -19999~+29999
Scaling function: **H.S.C:** High Scale; Settable range: -19999~+29999
 Programmable from 0 / 0.0 / 0.00 / 0.000 / 0.0000

Decimal point: **ouFL**, when input is over 20% of input range Hi
Over range indication: **~ouFL**, when input is under -20% of input range Lo
Under range indication: Maximum and Minimum value storage during power on.

Max / Mini recording: PV / Max(Mini) Hold / RS 485 Programmable

Display functions: Settable range: -19999~29999 counts

Low cut: **PuPn:** Settable range: -19999~+29999

Digital fine adjust: **PuSPn:** Settable range: -19999~+29999

Reading Stable Function

Average: Settable range: 1~99 times

Moving average: Settable range: 1(None)~10 times

Digital filter: Settable range: 0(None)/1~99 times

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

Amend: 2010/4/28: Add excitation supply code in ordering information

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
DO function: Energized by RS485 command of master.
Energizing functions: Start delay / Energized & De-energized delay / Hysteresis / Energized Latch
 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: $\pm 0.1\%$ of F.S.; 16 bits DA converter
Ripple: $\leq \pm 0.1\%$ of F.S.
Response time: $\leq 100 \text{ msec.}$ (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: $\geq 1000\Omega$;
Current: 4(0)~20mA: $\leq 600\Omega \text{ max}$
Functions: **RaH5** (output range high): Settable range: -19999~29999
RaL5 (output range Low): Settable range: -19999~29999
RaLHt (output High Limit): 0.00~110.00% of output High
RaPn: Settable range: -38011~+27524
RaSPn: 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: 150 Ω at last unit.

Electrical Safety

Dielectric strength: AC 2.0 KV for 1 min, Between Power / Input / Output / Case
Insulation resistance: $\geq 100M \text{ ohm}$ at 500Vdc, Between Power / Input / Output
Isolation: Between Power / Input / Relay / Analogue / RS485 / E.C.I.
EMC: EN 55011:2002; EN 61326:2003(Including EN61000)
Safety(LVD): EN 61010-1:2001
Vibration: 1~800 Hz, 3.175 g²/Hz

Environmental

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

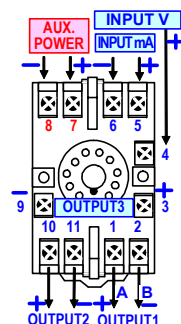
Mechanical

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
Excitation supply:	DC 24V±10%, 30mA
Power consumption:	5.0VA maximum
Back up memory:	By EEPROM

CONNECTION DIAGRAM(11 PIN)

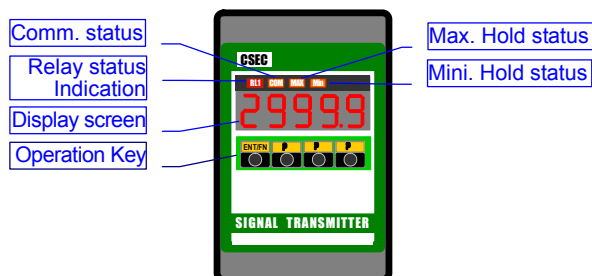


20mA INPUT	10V INPUT
TERMINAL 5+ & 6-	TERMINAL 4+ & 6-

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.

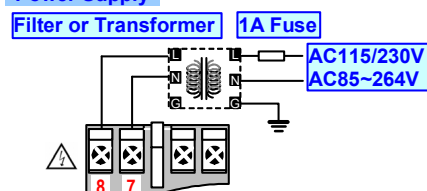
	OUTPUT 1 TERMINAL 1+ & 2-	OUTPUT 2 TERMINAL 10+ & 11-	OUTPUT 3 TERMINAL 3+ & 9-
3 O/P	RS485	ANALOGUE	EXCITATION SUPPLY
3 O/P	ANALOGUE	RELAY	EXCITATION SUPPLY
3 O/P	RS485	RELAY	EXCITATION SUPPLY
3 O/P	RELAY	RELAY	EXCITATION SUPPLY
3 O/P	RS485	ANALOGUE	RELAY
3 O/P	ANALOGUE	RELAY	RELAY
3 O/P	RS485	RELAY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

FRONT PANEL



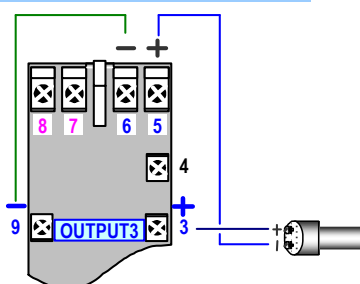
Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

Power Supply

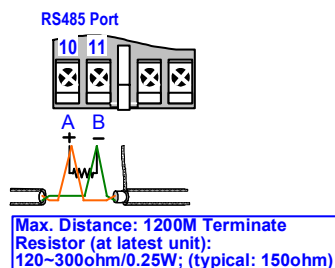


Due to the limited terminals for four outputs (Analogue, RS485, Relay, Excitation Supply), the outputs will be assigned as label on the product and above table. Please check it out before wiring.

2 wire Transmitter connection

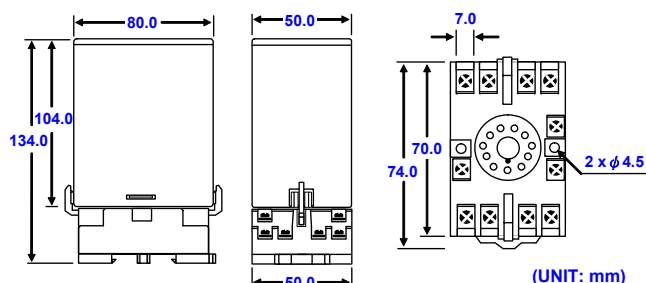


RS485 Communication Port



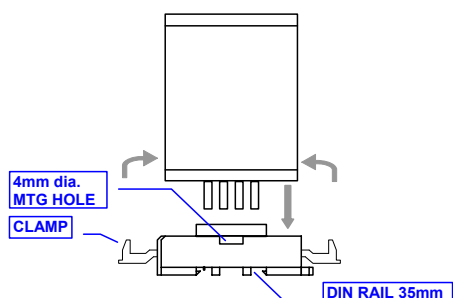
For more detail function description, please refer to the data sheet of CS2-PR or ST-PR operating manual

DIMENSIONS



INSTALLATION

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



Amend: 2010/4/28: Add excitation supply DC 24V±10%, 30mA