

## Description

CM2-PR Process Meter has been designed in simple operation and 4 digital 20mm LED display with economic cost.

They are can be programmed by buttons that are hidden in front panel.

They are also available to option 2 relay output and an analog output or RS485(Modbus RTU Mode) communication.



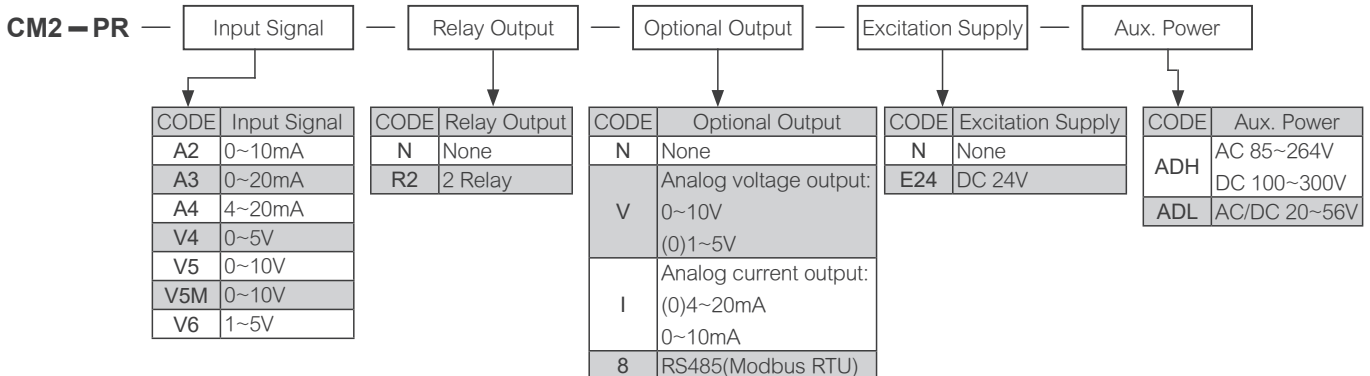
## Features

- Measuring 0(1)~5V/0~10V, 0~10mA/0(4)~20mA
- Optional DC24V excitation power for 2 wire sensor
- The operation buttons are built-in to prevent users from arbitrary operation or incorrect setting, which may cause abnormal operation of the equipment
- The display value can be adjusted slightly with the "field measurement signal"
- The output can option relays and analog output or RS485 (Modbus RTU mode)
- Relay function in addition to start delay, active delay, delay off and active hold
- Analog output voltage signal range can be switched (0~10V/0~5V/1 ~5V) or current signal range can be switched (0~10mA/0~20mA/4~20mA)
- The analog output signal is free to set the corresponding display range (Span-50%) and can be fine-tuned on-site
- On board terminal design, no quality issue; installation depth is only 72mm

## Applications

- 2 wire sensing transducers as like as pressure, level and so on...
- Process alarm or communication for data collection

## Ordering Information



## Technical Specification

### Input

Voltage Input Range	Input Impedance	Current Input Range	Input Impedance
0~5V	≥1MΩ	0~10mA	250Ω
1~5V	≥1MΩ	0~20mA	250Ω
0~10V(CODE:V5)	≥100KΩ	4~20mA	250Ω
0~10V(CODE:V5M)	≥1MΩ		

Calibration: Digital calibration  
 A/D converter: 14 bits  
 Accuracy: ±0.1% of FS±1 count  
 Sampling rate: 15 times/sec  
 Response time: ≤ 100 mS(when R<sub>0</sub> = "1" )

### Display & Function

LED: 4 digits,0.8" (20.0mm) high-brightness LED  
 Display range: -1999~+9999  
 Scaling function: L<sub>0.5E</sub>: Low Scale : -1999~+9999  
 H<sub>.5E</sub>: High Scale : -1999~+9999  
 Decimal point: dP: 0 / 0.0 / 0.00 / 0.000  
 Over range Indication: o<sub>u</sub>F<sub>L</sub>: when input is over 110% of input range  
 Hi  
 Under range indication: -o<sub>u</sub>F<sub>L</sub>: when input is under L<sub>0.5E</sub> value  
 Max / Mini recording: Maximum and Minimum value storage during running  
 Low cut: -1999~+9999 counts



## Reading Stable

Average:  $\overline{R_{avg}}$ : Settable range: 1~99 times  
 Moving average:  $\overline{R_{MA}}$ : Settable range: 1~99 times  
 Digital filter:  $\overline{R_{DF}}$ : Settable range: 1~99 times

## Control Function(option)

Control relay: 2 Relay, SPDT, 5A/230Vac, 10A/115V  
 Relay energized mode: Hi / Lo / Hi.Hold / Lo.Hold programmable  
 Energizing function: Start delay / Energized & De-energized delay / Hysteresis / Energized Latch  
 Start band: 0~9999 counts  
 Start delay time: 0:00.0~9(m):59.9(s)  
 Energized delay time: 0:00.0~9(m):59.9(s)  
 De-energized delay time: 0:00.0~9(m):59.9(s)  
 Hysteresis: 0~5000 counts

## Analog Output

Accuracy:  $\leq \pm 0.2\%$  of F.S.; 12 bits DA converter  
 Ripple:  $\leq \pm 0.1\%$  of F.S.  
 Response time:  $\leq 100$  mS (10~90% of output)  
 Output range: Voltage: 0~5V / 0~10V / 1~5V  
 Current: 0~10mA / 0~20mA / 4~20mA  
 Output capability: Voltage: 0~10V:  $\geq 1000\Omega$   
 Current: 4(0)~20mA  $\leq 600\Omega$  max  
 Scaling:  $R_{OH}$ : Output High setting: -1999~9999  
 $R_{OL}$ : Output Low setting: -1999~9999  
 Digital fine adjust:  $R_{adj}$ : adjust range: -1999~9999  
 $R_{SP}$ : adjust range: -1999~9999  
 $R_{FL}$ : NONE / ZERO / SPAN / BOTH

## RS485 Communication

Protocol: RS485 Modbus RTU mode  
 Baud rate: 1200/2400/4800/9600/19200/38400  
 Data bits: 8 bits  
 Parity: None / Even / Odd  
 Stop bit: 1 or 2  
 Address: 1~247  
 Distance: 1200M max  
 Terminate resistor: 120~300 $\Omega$ /0.25W(typical: 150 $\Omega$ )

## Power

Power supply: ADH: AC 85~264V, DC 100~300V  
 ADL: AC/DC 20~56V  
 Excitation Power: DC24V, 30mA(Max)  
 Power Consumption: AC:  $\leq 2.5$ VA  
 Memory Storage: EEPROM

## Electrical Safety

Dielectric strength: AC 2.0 KV for 1 min,  
 Between Power / Input / Output / Case  
 Insulation resistance:  $\geq 100M\Omega$ @500Vdc,  
 Between Power / Input / Output / Case

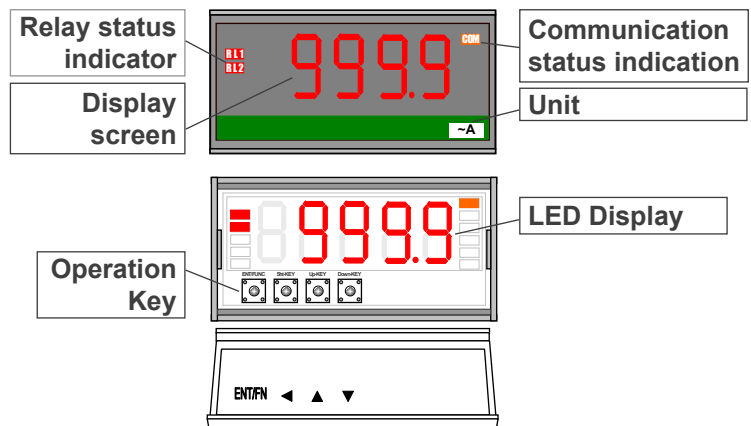
## Environmental Characteristics

Operating Temp.: 0~60 °C  
 Humidity rating: 20~95 %RH, Non-condensing  
 Temp. coefficient:  $\leq 100$  PPM/°C  
 Storage Temp.: -10~70 °C  
 Enclosure: Front panel: IEC 549 (IP54); Housing: IP20

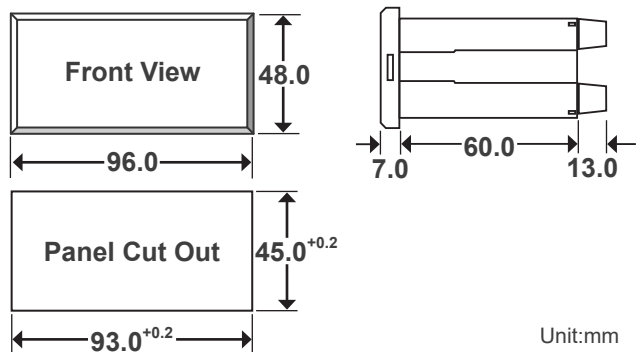
## Mechanical

Dimensions: 96mm(W) x 48mm(H) x 80mm(L)  
 Panel cutout: 93mm(W) x 45mm(H)  
 Case material: ABS fire-resistance (UL 94V-0)  
 Mounting: Panel flush mounting  
 Terminal block: Plastic NYLON 66 (UL 94V-0)  
 22~14AWG / 0.5~2.0mm<sup>2</sup>  
 Screw Torque Value: M3.5 / 12kgf.cm(Max)  
 Weight: 210g

## Front Panel



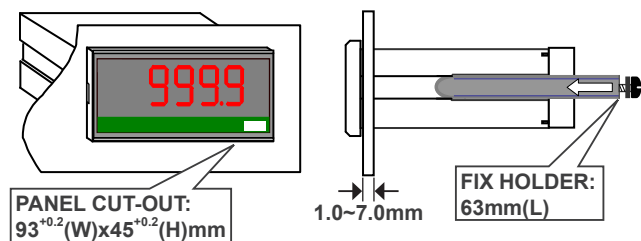
## Dimension



Unit:mm

## Installation

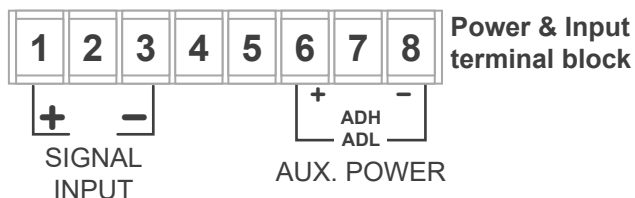
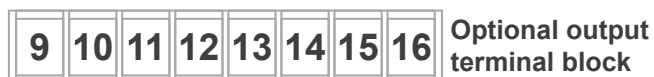
The meter should be installed in a location that does not exceed the maximum operating temperature and provides good air circulation.



## Pin Assignment

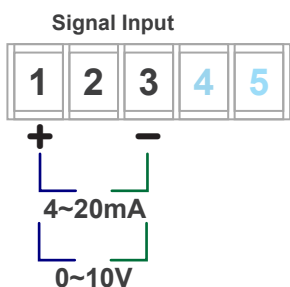
Terminal blocks:

20A/300Vac, M3.5, 0.5~2.0mm<sup>2</sup>(22~14AWG)

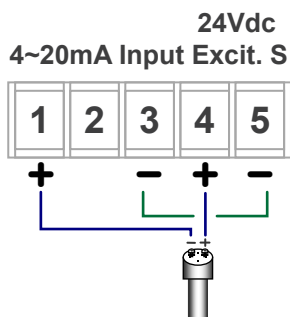


Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

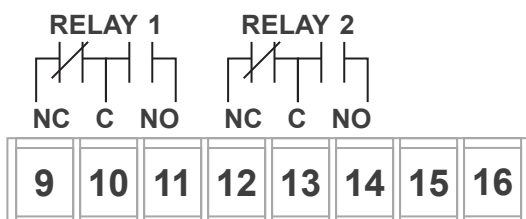
## Signal Input



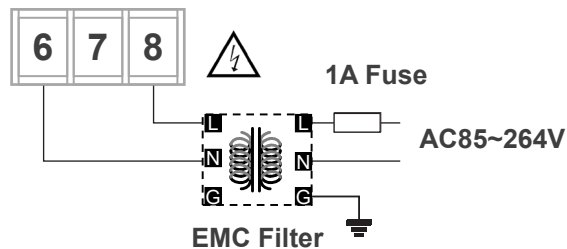
## 2 wire sensor Input Connection



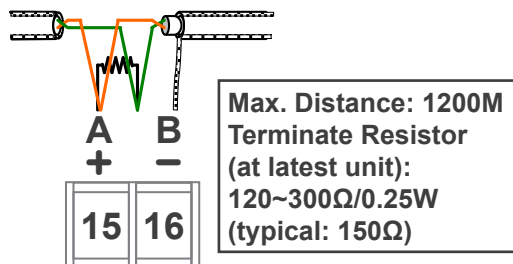
## Relay Output



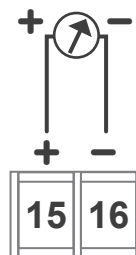
## Power Connection



## RS485 Communication Port



## Analog Output



CM2-PR