

# CM1-PR ECONOMIC PROCESS Indicator

ADTEK

## DESCRIPTION

CM1-PR Indicator has been designed in simple function and 4 digital 20.0mm LED displays with economic cost. They are can be programmed by tact switches that are hidden in backside of front bezel.

They are also available option of 2 Relay outputs, 1 Analogue output or 1 RS485(Modbus RTU Mode) interface with versatile functions such as control, alarm, re-transmission or communication for a wide range of industrial applications.



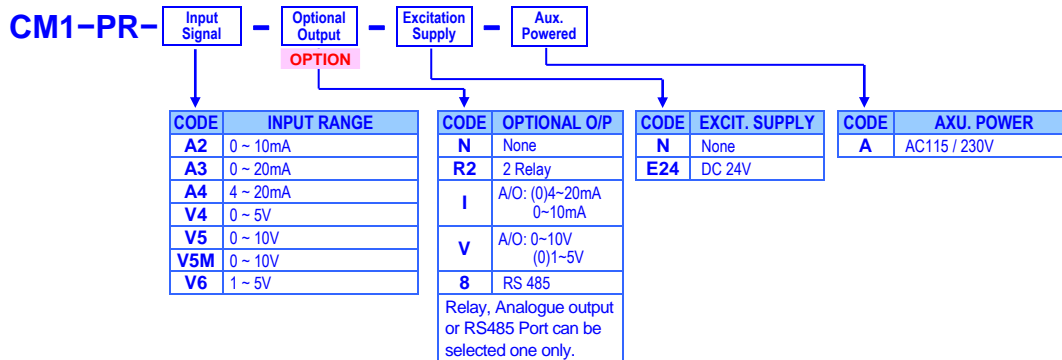
## FEATURE

- Measuring 0(1)~5V/0~10V, 0~10mA/0(4)~20mA ( or 2 wire sensor with 24Vdc excitation supply )
- Optional output available for one of 2 relay, analogue or RS485

## 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 Range

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

**Calibration:** Digital calibration  
**A/D converter:** 14 bits  
**Accuracy:** ≤± 0.1% of FS ± 1 count  
**Sampling rate:** 15 cycles/sec  
**Response time:** ≤ 100 mS.(when the AvG = "1") in standard

### Display & Function

**LED:** 4 digits, 0.8"(20.0mm) high-brightness LED  
**Display range:** -1999~+9999  
**Scaling function:** Lα5C : Low Scale; Settable range: -1999~+9999  
H α5C : High Scale; Settable range: -1999~+9999  
**Decimal point:** Programmable from 0 / 00 / 000 / 0000  
**Over range Indication:** αFL, when input is over 110% of input range Hi  
**Under range indication:** -αFL, when input is under Lα5C value  
**Max / Mini recording:** Maximum and Minimum value storage during power on.  
**Low cut:** LαUα: Settable range: -1999~+9999 counts

### Reading Stable Function

**Average:** RαG Settable range: 1~99 times  
**Moving average:** αRαG Settable range: 1~99 times  
**Digital filter:** dF αLα 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

### Analogue output(option)

**Accuracy:** ≤± 0.2% of F.S. ; 12bits DAC  
**Ripple:** ≤± 0.1% of F.S.  
**Response time:** ≤100 mS (10~90% of input)  
**Output range:** Voltage: 0~5V / 0~10V / 1~5V programmable  
Current: 0~10mA / 0~20mA / 4~20mA programmable  
**Output capability:** Voltage: 0~10V: ≥ 1000Ω;  
Current: 4(0)~20mA: ≤ 600Ω max  
**Scaling function:** RαH5 (output range high): Settable range: -1999~+9999  
RαL5 (output range Low): Settable range: -1999~+9999  
**Digital fine adjust:** RαPα: Settable range: -1999~+9999  
Rα5Pα: Settable range: -1999~+9999

### RS485 Communication(option)

**Protocol:** 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:** 120~300Ω/0.25W(typical: 150Ω)

## Power

**Power supply:** AC115 / 230V±15%,50/60Hz  
**Excitation power:** DC 24V · 30mA(Max)  
**Power consumption:** ≤2.5VA  
**Back up memory:** EEPROM

## Electrical Safety

**Dielectric strength:** AC 2.0 KV for 1 min, Between Power / Input / Output / Case  
**Insulation resistance:** ≥100M Ω@500Vdc, Between Power / Input / Output  
**Isolation:** Between Power / Input / Relay, Analogue or RS485  
**EMC:** EN 55011:2002; EN 61326:2003  
**Safety(LVD):** EN 61010-1:2010

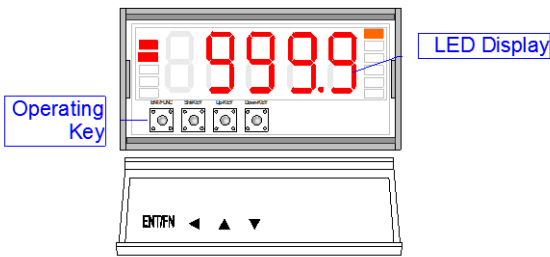
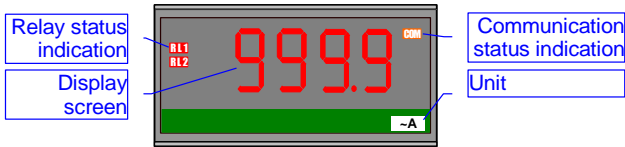
## Environmental

**Operating temp.:** 0~60 °C  
**Operating humidity:** 20~95 %RH, Non-condensing  
**Temp. coefficient:** ≤100 PPM/°C  
**Storage temp.:** -10~70 °C  
**Enclosure:** Front panel: IEC 549 (IP54); Housing: IP20

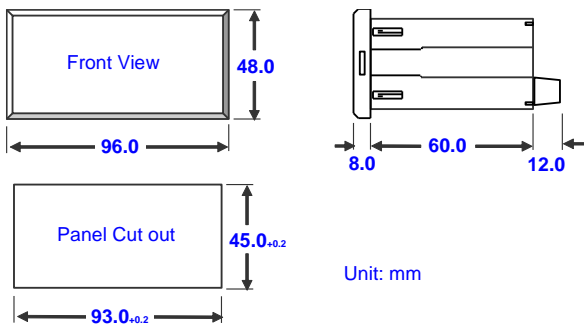
## Mechanical

**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:** 310g

## FRONT PANEL

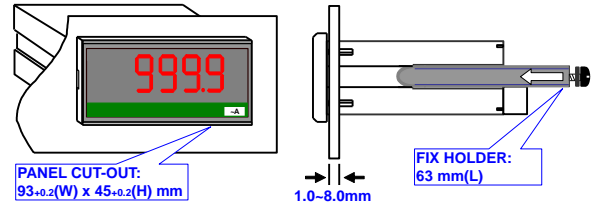


## DIMENSIONS



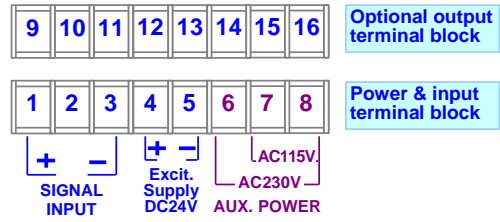
## INSTALLATION

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



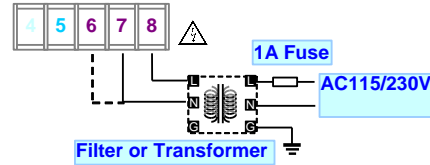
## CONNECTION DIAGRAM

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

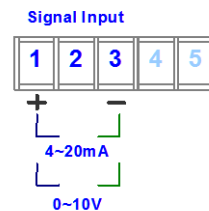


Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

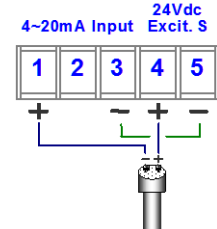
### Power Supply



### Signal Input

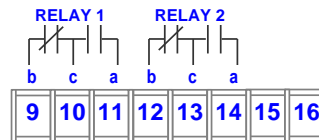


### 2 wire sensor Input connection

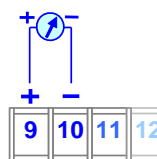


### Output ( one output available of Relay, Analogue or RS485 )

#### Relay output



#### Analogue output



#### RS485 port

