CM1-PR 4 Digits Process Meter

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.

Features

- Measuring 0(1)~5V/0~10V, 0~10mA/0(4)~20mA (or 2 wire sensor with 24Vdc excitation supply)
- 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 or 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

CM1-PR — Input Signal — Output Option — Excitation Supply — AUX. Power

CODE	Input Range
A2	0 ~ 10mA
A3	0 ~ 20mA
A4	4 ~ 20mA
V4	0 ~ 5V
V5	0 ~ 10V
V5M	0 ~ 10V
V6	1 ~ 5V

CODE	Output Option
N	None
R2	2 Relay
I	Analog current output: (0)4~20Ma 0~10mA
V	Analog voltage output: 0~10V (0)1~5V
8	RS485(Modbus RTU)

CODE	Excit. Supply
N	None
E24	DC 24V

CODE	Power
A	AC 115/230V
D24	DC 24V

The DC 24V aux. power can only be a pure display meter and cannot be equipped with additional function and excitation supply output.

Technical Specification

Input

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

Display & Function

LED: 4 digits, 0.8" (20.0mm) red high-brightness LED
Display range: -1999~+9999
Scaling function: [LoSC]: -1999~+9999
[HiSC]: -1999~+9999
Decimal point: Programmable from 0 / 0.0 / 0.00 / 0.000
Over range indication: [ouFL]: when input is over 110% of input range Hi
Under range indication: [-ouFL]: when input is under[losc]setting value

Max /Mini recording: Maximum and Minimum value storage during running
Low cut: [LoCUt] -1999~+9999 counts

Reading Stable Functions

Average: [AvG]: 1~99 times
Moving average: [mAvG]: 1~99 times
Digital filter: [d. Lt]: 1~99 times

Relay Output (Option)

Relay contact form: 2 Relay, SPDT(1c) ,5A/230Vac, 10A/115V
Relay action mode: Hi / Lo / Hi.Hold / Lo.Hold programmable
Relay action function: Each Relay can set Start delay time / Delay off time /Hysteresis time
Start band: 0~9999 counts
Start delay time:0:00.0~9(M):59.9(S)
Hysteresis time: 0~5000 counts
Active delay time:0:00.0~9(M):59.9(S)
Delay off time:0:00.0~9(M):59.9(S)

Analog Output (Option)

Accuracy: ≤ ±0.2% of F.S.; 12 bits DAC
Ripple: ≤ ±0.1% of F.S.
Response time: ≤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 ≧ 1000Ω
Current: 4(0)~20mA ≤ 600Ω max
Scaling: [AoHS]: Output High setting: -1999~9999
[AoLS]: Output Low setting: -1999~9999
Output fine adjust: [AoPro]: adjust range: -1999~1999
[AoSPn]: adjust range: -1999~1999

RS485 Communication (Option)

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

Power Supply

Range: AC 115/230V ±15%,50/60Hz;
DC 24V±10%
Power consumption: AC: ≤2.5VA
Memory storage: EEPROM

Electrical Safety

Dielectric strength: AC 2KV,for 1 min,
between Power / Input / Output / Case
Insulation resistance: ≧ 100MΩ @ 500Vdc,
between Power / Input / Output / Case
EMC: EN 55011:2002; EN 61326:2003
Safety(LVD): EN 61010-1:2001

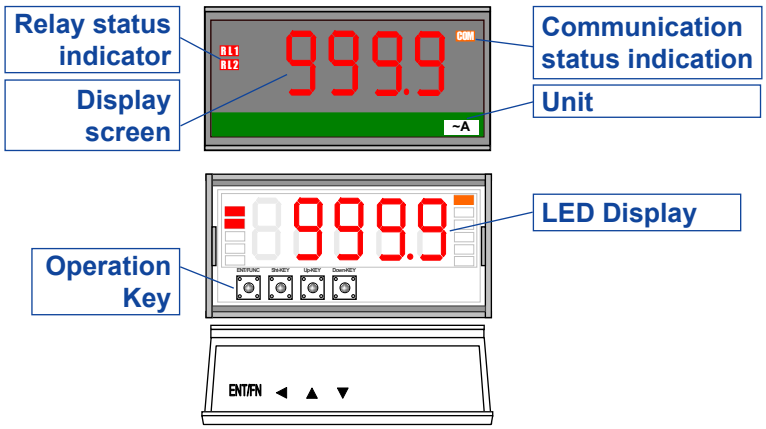
Environmental Characteristics

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

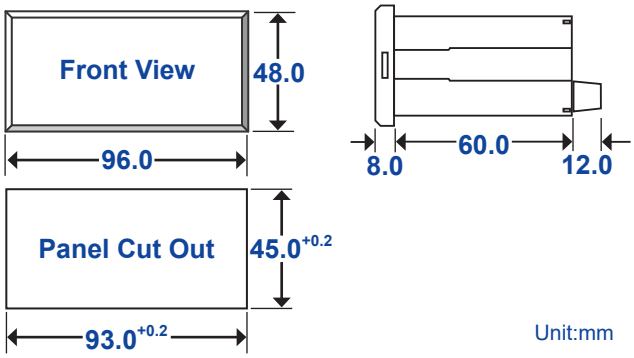
Mechanical Characteristics

Dimensions: 96mm(W)x48mm(H)x80mm(L)
Panel cutout: 93mm(W)x45mm(H)
Case material ABS (with fire-retardant)(UL 94V-0)
Mounting: Panel flush mounting
Terminal block: Plastic NYLON 66 (UL 94V-0)
AWG 22~14 / 0.5~2.0mm^2
crew Torque Value: M3.5 / 12 kgf.cm(Max)
Weight: 310g

Front Panel

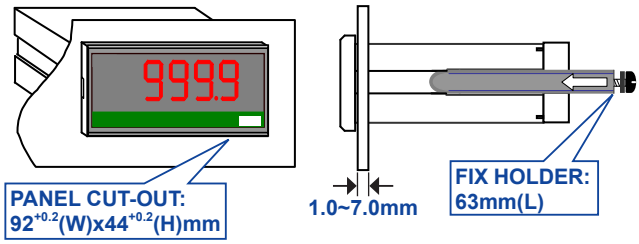


Dimension



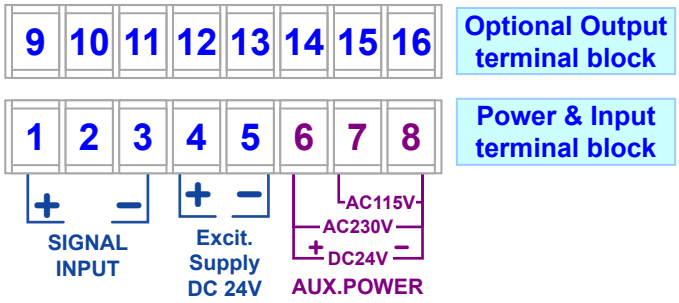
Installation

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



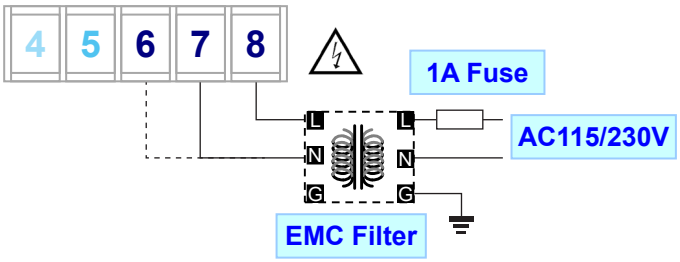
Pin Assignment

Terminal blocks:
20A/300Vac, M3.5, 0.5~2.0mm²(22~14AWG)

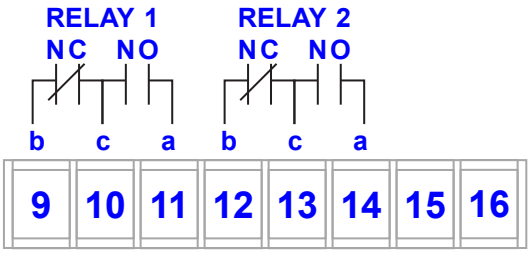


⚠Please check the voltage of power supplied first and then connect to the specified terminals It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

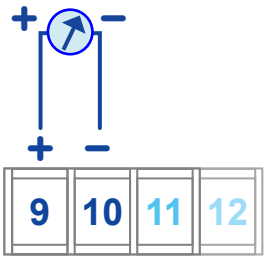
Power Connection



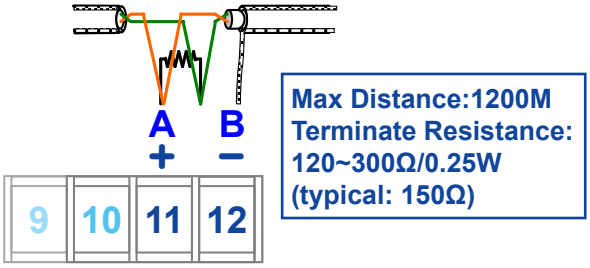
Relay Output



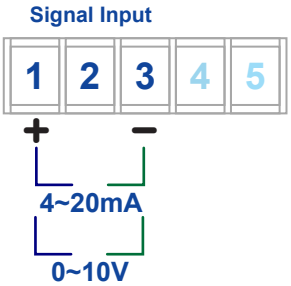
Analog Output



RS485 Communication Port



Signal Input



2 wire sensor Input Connection