

Description

CM1-TR RTD Temperature 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 relay output and an analog output or RS485(Modbus RTU Mode)communication.



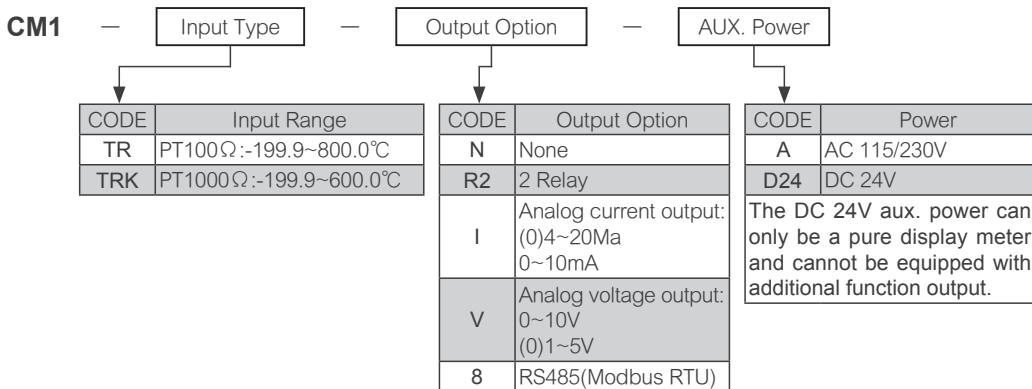
Features

- Measuring RTD type: PT100Ω / PT1000Ω
- Unit can be set to °C or °F
- 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 73mm

Applications

- With RTD (PT100Ω / PT1000Ω) sensor for temperature display and control.
- Process alarm or communication for data collection.

Ordering Information



Technical Specification

Input

Measurement Range	Input Resistance	Explanation
Pt100Ω: -199.9~800.0 °C	≥ 1MΩ	Temperature range is fix
Pt1000Ω: -199.9~600.0 °C	≥ 1MΩ	Temperature range is fix

Calibration: Digital calibration
 A/D converter: 14 bits
 Accuracy: ≤ ± 0.2°C or ±0.4 °F
 Sampling rate: 15 times / sec
 Response time: ≤ 100 mS (when R_u = "1")

Display & Function

LED: 4 digits, 0.8" (20.0mm) red high-brightness LED
 Display range: -1999~+9999

Scaling function: [L.5]: -199.9~+999.9
 [H.5]: -199.9~+999.9
 Digital fine adjust: [P.u.P.a]: -199.9~+999.9
 [P.u.S.P.n]: -199.9~+999.9
 Decimal point: [dP]: 0.0
 Over range indication: [o.u.F.L]: when input is over 110% of input range Hi
 Under range indication: [-o.u.F.L]: when input is under[L.5]setting value
 Max /Mini recording: Maximum and Minimum value storage during running
 Low cut: [L.o.C.U.E] -199.9~+999.9 counts

Reading Stable Functions

Average: [A.u.E]: 1~99 times
 Moving average: [m.A.u.E]: 1~99 times
 Digital filter: [d.F. .L.E]: 1~99 times



Relay Output (Option)

Relay contact form: 2 Sets SPDT(1c) ,5A/230Vac, 10A/115V
 Relay action mode: OFF / Hi / Lo / Hi.HLd / Lo.HLd
 Relay action function: Each Relay can set Start delay time / Delay off time /Hysteresis time
 [r 35b]: Start band: 0~9999 counts
 [r 35d]: Start delay time:0:00.0~9(M):59.9(S)
 [r 34H3]: Hysteresis time: 0~5000 counts
 [r 34r d]: Active delay time:0:00.0~9(M):59.9(S)
 [r 34F d]: Delay off time:0:00.0~9(M):59.9(S)

Analog Output (Option)

Accuracy: $\leq \pm 0.2\%$ of F.S.; 12 bits DA converter
 Ripple: $\leq \pm 0.1\%$ of F.S.
 Response time: ≤ 100 ms (10~90% of output)
 Output range:
 Voltage output: 0~5V / 0~10V / 1~5V
 Current output: 0~10mA / 0~20mA / 4~20mA
 Output capability:
 Voltage output: 0~10V $\geq 1000\Omega$
 Current output: 4(0)~20mA $\leq 600\Omega$ max
 Scaling:
 [R_{OH5}]: Output High setting: -1999~9999
 [R_{OL5}]: Output Low setting: -1999~9999
 Output fine adjust:
 [R_{OPRO}]: adjust range: -1999~1999
 [R_{OSPn}]: adjust range: -1999~1999
 [P5CLR]: NONE / ZERO / SPAN / BOTH

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: 120~300 Ω /0.25W(typical: 150 Ω)

Power Supply

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

Electrical Safety

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

Environmental Characteristics

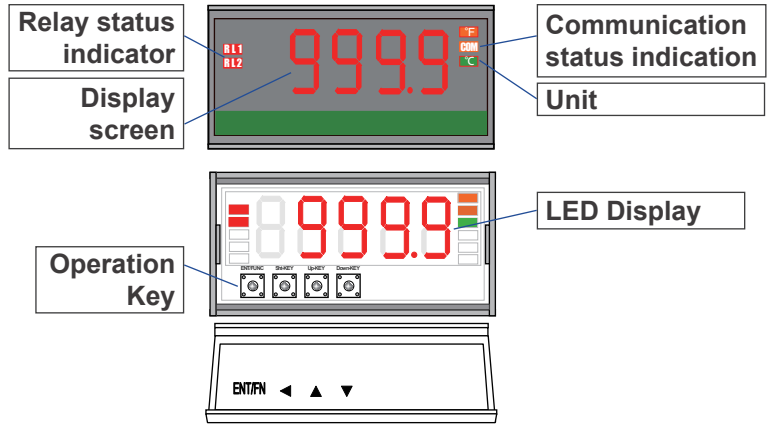
Operating Temp.: 0~60°C
 Humidity rating: 20~95%RH, Non-condensing
 Temp. coefficient: ≤ 100 PPM/°C
 Storage Temp.: -10~70°C
 IP Enclosure: Front panel: IEC 549 (IP54); Housing: IP20

Mechanical Characteristics

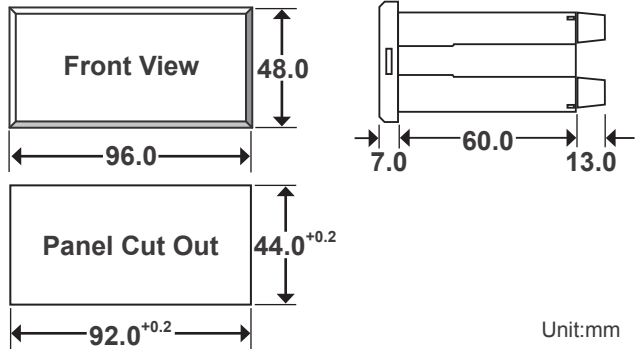
Dimensions: 96mm(W)x48mm(H)x80mm(L)
 Panel cutout: 92mm(W)x44mm(H)
 Case material: ABS (with fire-retardant)(UL 94V-0)
 Mounting: Panel mounting
 Terminal block: Plastic NYLON 66 (UL 94V-0)

AWG 22~14 / 0.5~2.0mm²
 Screw Torque Value: M3.5 / 12 kgf.cm(Max)
 Weight: 310g

Front Panel

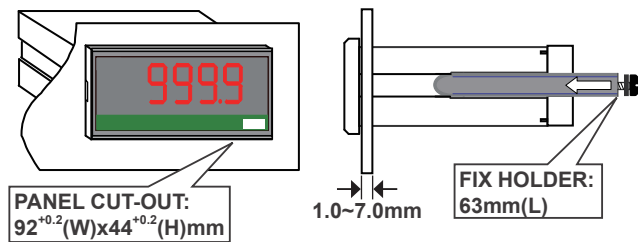


Dimension



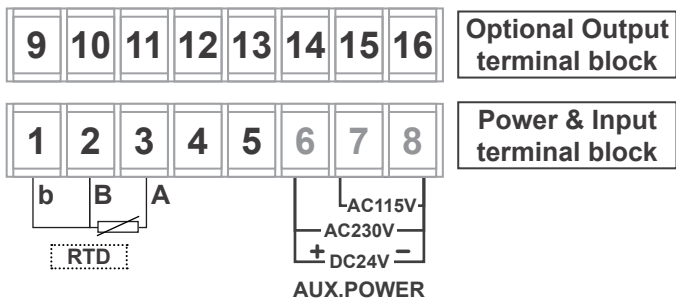
Installation

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



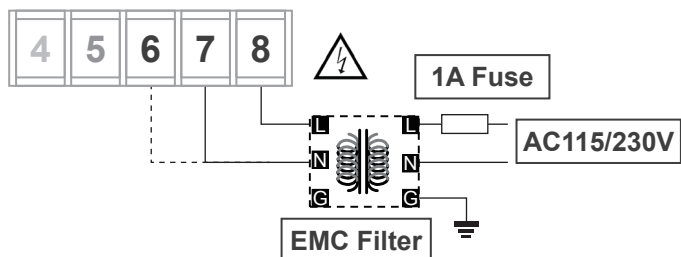
Pin Assignment

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

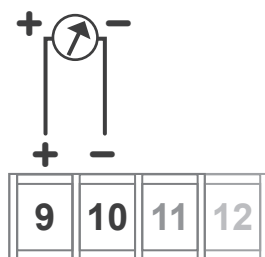


⚠ Please check the voltage of power supplied first and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.

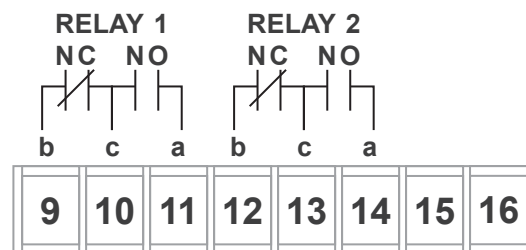
Power Connection



Analog Output



Relay Output



RS485 Communication Port

