

Description

CM1-CT multifunction counter(position) display controller, is design to have 2 pulse input, for proximity switch, photoelectric sensor, encoder etc.. Counting increase or decrease, positioning batch count etc.. display, with External input and Modbus communication port.
Multiple types of input mode, trip mode setting to fulfil easy usage and requirement for counter controller. For different requirement, the meter can be with 2 relay or 1 Analogue output or 1 RS485(Modbus RTD mode) communication. (Choose 1 kind of output from the 3 options)



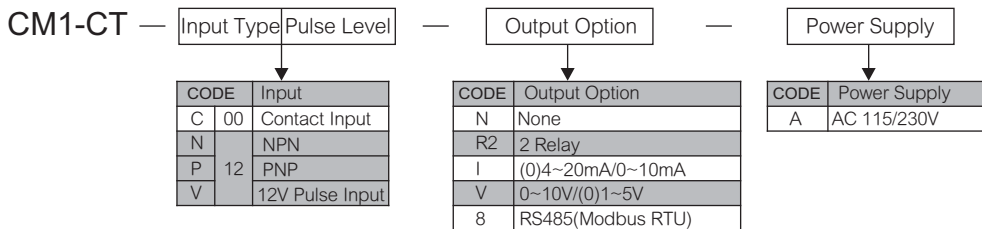
Features

- Measuring Pulse 0~5KHz(A/B phase, 2.5KHz per phase); Mechanical contact/NPN/PNP/Voltage pulse etc.. Input type can be programmable via Dip Switch setting
- 5 counting mode (Counting up, Counting down, Counting Up and Down, each phase counting Up or down and phase different up or down, setting via programming
- When measuring length, set meter pulse per unit (PPR), the diameter (Diame), and the constant (Cnt.SF), the meter automatic calculate and display accumulated length
- When option 2 relays, the relay can be set to totalize value or present value, totalize value output come in various mode N/R/C/E/F/Q or Phase different input position or length, high/low alarm mode
- 2 External control input , use for Reset or Gate function
Choose 1 kind of output from the 3 options , 2 Relays or 1 Analogue output or 1 RS485(Modbus RTD mode) Communication

Applications

- For Proximity switches, photoelectric sensors, encoder etc.. Counting Up/Down, length, positioning, batch display, External Control input and remote terminal communication ability
- Electrical cable machinery, paper printing machinery...

Ordering Information



Technical Specification

Input

Input Range	Input Type	Pulse Level
0~50Hz	Contact	
A/B Phase:0~2.5KHz(each) Other count :0~5kHz	NPN	High level: Over 8V Low level: Under 4V
	PNP	
	12V Pulse Input	

Input type (NPN, PNP, Contact) can select by dip switch of rear panel

Counting mode: Five mode
 UP: Counting up / Increment (A:Increase B:Pause)
 DOWN: Counting down / Decrement (A:Decrease B:Pause)
 IDV: Different input of counting Up or Down (A:Increase B:Decrease)
 CMD: Counting Up or Down(A:signal B:Increase or Decrease)
 ABP-2: A/B phase input (A→B:Increase , B→A:Decrease)
 Input range: UP / DOWN / IDV / CMD mode: 0~5KHz
 A/B phase mode : 0~2.5kHz (Each Channel)

Display and Function

LED: 6 digits,0.56"H red high-brightness LED
 Display range: -199999~999999
 Relay output indication: 2 square red LED
 ECI function indication: 2 square green LED
 ECI1=Gate(Pause) and ECI2=RST(Reset)
 RS485 communication: 1 square orange LED
 Display value: CNT(Counting) / METER(Length Counting)
 Pulse count: PPR : 1~999999
 Multiplier: CNTSF : 0.00001~9.99999
 Display= Pulse count x Multiplier
 Length unit M / CM / Yard / Foot
 Shaft diameter setting: DIQMT : 0.00001~9.99999 (Unit : M)
 Over flow setting: OVFL(Overflow) / RCYCL(Re-cycle counting)
 Initial value of count down : In DOWN mode, can set start value for count down (Relay output type) ; Setting range : 0~999999

External Control Input Function

Input mode: Two channels input
 Input function: ECI1=Gate ; ECI2= RST

Control function (Option)

Relay output: 2 Sets
 FORM-C, 5A/230Vac, 10A/115V
 Action mode: N / R / C / E / F / Q or Hi / Lo mode
 Relay action time: 0:00.0~9(min):59.9(sec)
 H/L mode: Only in A/B phase input mode

Analog Output (Option)

Accuracy: ≤ 0.2% of F.S.; 12 bits DA converter
 Ripple: ≤ 0.1% of F.S.
 Response time: ≤100 mS (10~90% of input)
 Isolation: AC 2.0 KV between input and output
 Output range: Voltage output: 0~5V / 0~10V / 1~5V
 Current output:0~10mA / 0~20mA / 4~20mA
 Output capability: Voltage: 0~10V; ≥ 1000Ω;
 Current: 4(0)~20mA; ≤ 520Ω max
 Scaling: [AOLS] Output High setting:-199999~999999
 [AOHS] Output Low setting:-199999~999999
 Digital fine adjust: [AOZRO] adjust range: -1999~1999
 [AOSPN] adjust range: -1999~1999

RS485 Communication (Option)

Protocol: RS485 Modbus RTU mode
 Baud rate: 1200/2400/4800/9600/19200
 Data bits: 8 bits
 Stop bits: 1 or 2
 Address: 1~255
 Distance: 1200M max
 Terminate resistor: 150Ω

Power Supply

Range: AC 115/230V, ±15%,50/60Hz
 Excitation power: DC12V,40mA
 Power consumption: ≤ 7.0VA
 Memory storage: EEPROM



Safety

Isolation: AC 2.0KV, 1minute, Between Power/ Input / Output / Case
 Insulation resistance: ≥100MΩ at 500Vdc, Between Power/ Input / Output

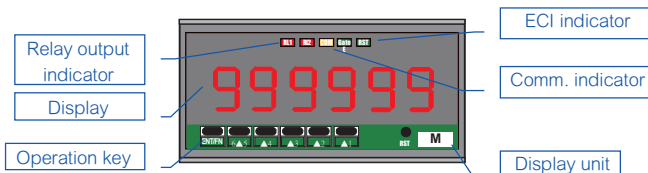
Environmental characteristics

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

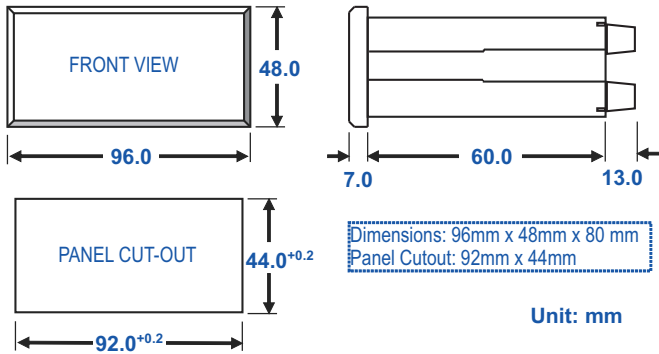
Mechanical characteristics

Dimensions: 96mm(W) x 48mm(H) x 80mm(L)
 Panel cutout: 92mm(W) x 44mm(H)
 Case material: ABS (with fire-retardant)
 Mounting: Panel mounting
 Terminal block: Plastic NYLON 66 (UL 94V-0);
 10A/300Vac, M2.6, 1.3mm²~2.0mm² (16~22AWG)
 Weight: 310g

Front Panel

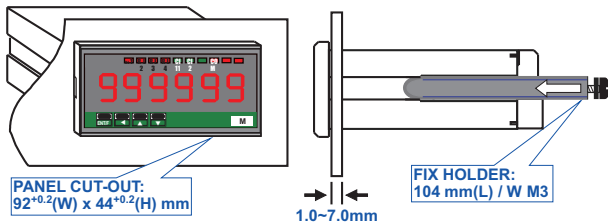


Dimension

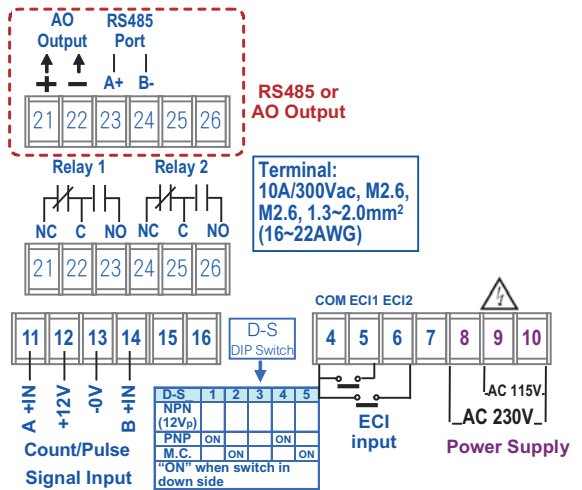


Installation

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

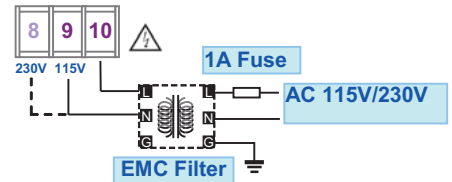


Connection Diagram

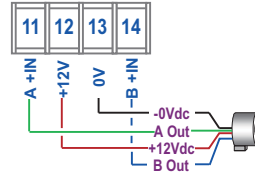


⚠ Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker

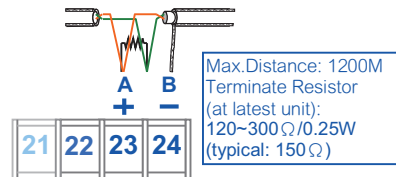
Power Supply



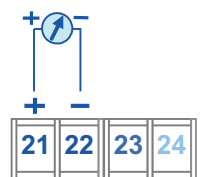
Sensor Input



RS485 Communication Port



Analog Output



Relay action mode

Optional 2 relay output for N/R/C/E/F/Q, H/L 8 types of control mode.
Function details as below

Output mode setting	Input mode			Operation after count completion
	Up	Down	Up/Down-counting	
N				The outputs and present value display are held until reset
C				As soon as the count reaches SV, the present value display returns to the reset start status. Out 1 self-holding output turn OFF after the Out 2 one-shot output time . The Out1 one-shot output time is independent of Out2
R				The present value display return to the reset start status after the one-shot output time. Out1 self-holding output turns OFF after the Out 2 one shot output time The Out1 one-shot output time is independent of Out 2
E				The present value display continues to increase/decrease. Out 1 self-holding output turns OFF after the Out 2 one-shot output time The Out1 one-shot output time is independent of Out 2.
F				The present value display continues to increase/decrease. Out 1 self-holding output turns OFF after the Out 2 one-shot output time. The Out1 one-shot output time is independent of Out2.
Q				The present value continues to increase/ decrease for the one-shot output time, but returns to the reset start status after the one shot output time has elapsed. Out 1 self-holding output turns OFF after the Out 2 one-shot output time. The Out1 one-shot output time is independent of Out2.

CM1-CT

		Input	Operation after count completion
		phase different up or down	
Output	L		<p>The display continues to increase / decrease until the overflow or underflow value is reached.</p> <p>Out1 is held while the present value is less than or equal to set value 1.</p> <p>Out 2 is held while the present is greater than or equal to set value 2.</p>
	H		<p>The display continues to increase / decrease until the overflow or underflow value is reached.</p> <p>Out1 is held while the present value is greater than or equal to set value 1.</p> <p>Out 2 is held while the present is greater than or equal to set value 2.</p>