

Product description-

CM1-RL series provides a simple economic programmable speed/velocity table, it 20.0mm, 5-digit LED display, press the key to set the display range and its anti-jamming design and reliable quality, simple installation, you can meet the needs of general measurement of speed/velocity.

This instrument also has 2 group relay outputs, 1 analog output, or 1 groups RS485 (Modbus RTU mode) communication features three a (More features please refer

to page description). Operation press the inner design, the more human-no action can be avoided, especially suitable for all kinds of machinery used.

Feature :

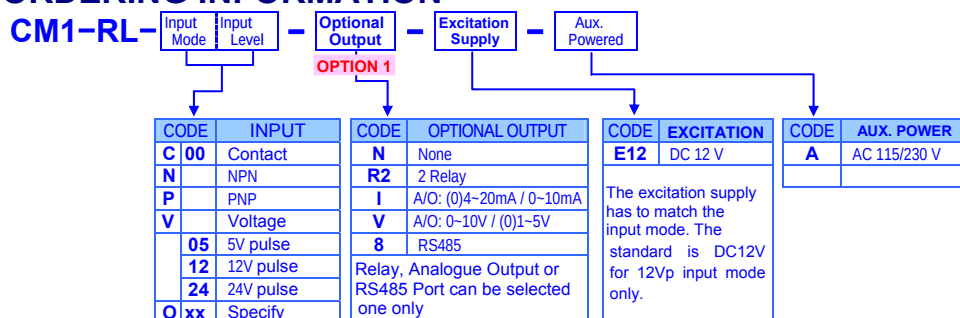
- Free input frequency of 1Hz~6KHz, does not need to specify the frequency range input mode (NPN, PNP, and forth.) and pulse dial switch level by means of direct switch
- Purchase 2 to attach three to choose a group of relay outputs, 1 analog output, or 1 groups RS485 (Modbus RTU mode) communication
- Operation press the inner (in front), according to field requirements set display scope; Terminal straight into design, bad problem-free installation depth only 72mm

Application :

- Tie in with the adjacent switches, photoelectric switch speed/wire speed display, control and RS485 data collection



ORDERING INFORMATION



TECHNICAL SPECIFICATION

Input		
Input Frequency	Input Mode	Input Level
1Hz ~ 50 Hz	Mech. Contact	
1Hz ~ 50 Hz 1Hz ~ 6.00KHz	NPN	High Level: 8~12V; Low Level: 0.0~4.0 V (with excitation supply 12Vdc)
	PNP	
	Voltage Pulse	High Level: over 2/3 of input level Low Level: under 1/3 of input level
Input Mode (NPN, PNP, Contact) & Level (5Vp, 12Vp, 24Vp) changeable by dip switch of rear terminal block.		

Calibration:

Doesn't need calibration

A/D conversion:

Pulse direct-reading, none A/D conversion

Accuracy:

± 0.1% of FS ± 1C

Sampling time:

0.1~99 sec

Response time:

15 times/sec.(≥15Hz, when RuG = "1")
F times/sec.(≥15Hz, when RuG = "4")

Display & Functions

LED: Numeric: 5 digits, 0.8"(20.0mm)H high-brightness LED
Display range: 0~99999
Display type: RPM / RPS / Linear line speed / Frequency programmable
D.P. of set point: D.P. of set point auto / semi-auto / menu
 Programmable from 0 / 0.0 / 0.00 / 0.000 / 0.0000

Display unit:

Line speed unit can be set M/min CM/Min Yd/Min ft/Min

Over range indication:

oofL: when input is over 110% of input range

Max / Mini recording:

Maxi & Mini Value of PV storage during power on.

Low cut:

LoCut: settable range -19999~19999

Reading stable Functions.

Average: RuG: settable range 1~99 times

Digital filter: dF, dL: settable range 1~99 times

Control Functions.(option)

Realy: 2 group_Realy
2 grop FORM-C, 5A/230Vac, 10A/115V

Relay energized mode: Hi / Lo / Hi.HLd / Lo.HLd model

Energizing functions: Start delay / Energized & De-energized delay / Hysteresis / Energized Latch

[r45b] Start band: 0~9999 counts

[r45d] Start delay time: 0.00.0~9(min):59.9(sec)

[r4rd] Energized delay time: 0.00.0~9(min):59.9(sec)

[r4fd] De-energized delay time: 0.00.0~9(min):59.9(sec)

[r4Hy] Hysteresis: 0~5000 counts

Analogue output(option)

Accuracy: ≤ ± 0.2% of F.S.; 12 bits DA converter

Ripple: ≤ ± 0.1% of F.S.

Response time: ≤100 m-sec. (10~90% input)

Isolation: AC 2.0 KV between input and output

Output range:

Specify either Voltage or Current output in ordering

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

Functions:

[RaL5] output range high:

Settable range: -1999~9999

[RaH5] output range Low:

Settable range: -1999~9999

Digital fine adjust:

[Ra2ro] Settable range: 0~99999

[RaSPn] Settable range: 0~99999

RS 485 Communication(option)

Protocol: Modbus RTU mode

Baud rate:	1200/2400/4800/9600/19200/38400 programmable
Data bits:	8 bits
Parity:	Even, odd or none (with 1 or 2 stop bit) programmable
Address:	1 ~ 255 programmable
Distance:	1200M max
Terminate resistor:	150Ω. at last unit.

Power

Power supply:	AC115/230V, 50/60Hz;
Power consumption:	2.5VA maximum
Back up memory:	EEPROM

Electrical safety

Dielectric strength:	AC 2.0 KV for 1 min, Between Power / Input / Output / Case
Insulation resistance:	≥100M ohm at 500Vdc, Between Power / Input / Output
Isolation:	Between Power / Input / Output
EMC:	EN 55011:2002; EN 61326:2003
Safety(LVD):	EN 61010-1:2001

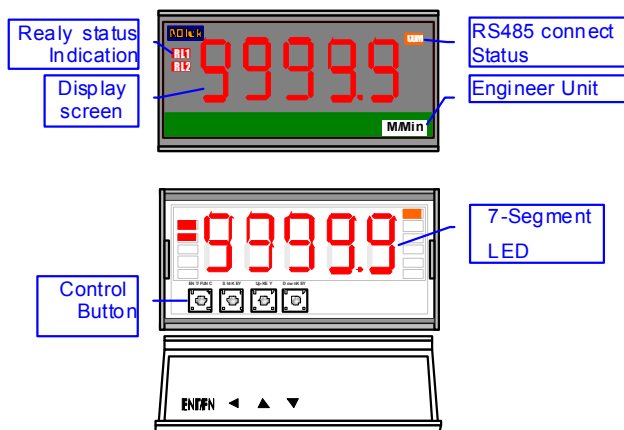
Environment

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
Vibration testing:	1~800Hz, 3.175g ² /Hz

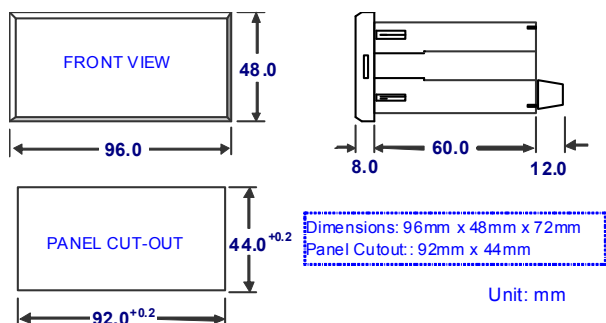
Mechanical

Dimensions:	96mm(W) x 48mm(H) x 72mm(D)
Panel cutout:	92mm(W) x 44mm(H)
Case material:	ABS fire-resistance (UL 94V-0)
Mounting:	Panel flush mounting
Terminal block:	Plastic NYLON 66 (UL 94V-0); 20A/300Vac, M3.5, 1.3mm ² ~3.5mm ² (22~12AWG)
Weight:	310g

FRONT PANEL

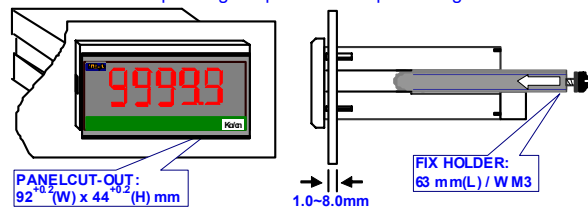


DIMENSIONS



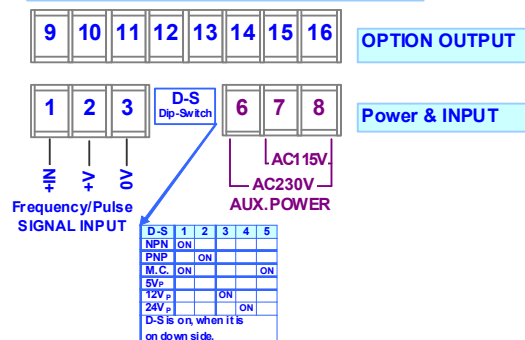
INSTALLATION

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



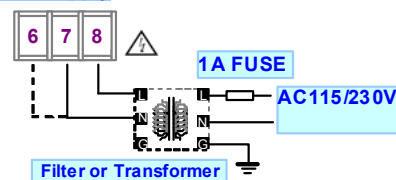
CONNECTION DIAGRAM

Terminal block:
20A/300Vac, M3.5, 1.3~3.5mm² (22~12AWG)

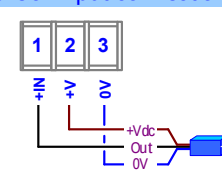


Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker. ⚠

POWER Supply



Sensor Input connection



Please change the dip-switch on rear of meter to match the input mode and level.

D-S	1	2	3	4	5
NPN	ON				
PNP		ON			
Mech. Contact	ON				ON
Voltage pulse 5V _p					
Voltage pulse 12V _p			ON		
Voltage pulse 24V _p				ON	

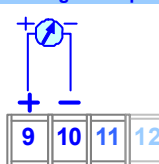
D-S is on when it is on down side

Output (Really \ Analogue Output or RS485 can be selected only one)

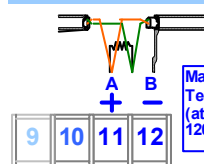
Really Output



Analogue Output



RS485 Communication Port



Max. Distance: 1200M
Terminate Resistor
(at last unit):
120~300ohm/0.25W