CR Series INSTRUCTION MANUAL

Thank you for purchasing our product. Please read this instruction manual carefully before using to ensure the correct usage of this product. Please keep this instruction manual for future reference.

WARNING Misuse of this device may lead to injury to the user or damage to the device.

● Customer Service

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⚠ Attention

- Do not use this device near machines that emit strong electromagnetic fields or objects that store static electricity.
- Do not drop or subject this device to strong impact.
- Do not use this device on rollers with high temperature or where it will be exposed to solvent, oil, water.
- Do not use or store this device where it will be exposed to direct sunlight, dust, high temperature and high humidity.
- Do not use this device where it will be exposed to vibration to avoid incorrect measuring or fault.
- Do not use organic solvents such as thinners etc. to clean this device.
- Do not attempt to disassemble or modify this device.
- Internal parts may be destroyed if a voltage outside the rated voltage is applied.
- Do not touch conductive part of leadwires while power is being applied.

● Models

Model	Sensor	Unit	Speed	Rotation Torque	Weight	Proper Counter
CR-3:1AC	Photoelectronic Sensor, 1 Non-contact Output (Open Collector Output)	1m [yard]	700meter [yard]/minute	20mN・m	605g	Electronic Counter
CR-3:10AC		0.1m[yard]	700meter [yard]/minute			
CR-3:100AC		0.01m[yard]	250meter [yard]/minute			
CR-3:1RC	Photoelectronic Sensor, 2 Non-contact Outputs (Open Collector Output, 90° Quadrature Output)	1m[yard]	700meter [yard]/minute		610g	Bi-directional Electronic Counter
CR-3:10RC		0.1m[yard]	700meter [yard]/minute			
CR-3:100RC		0.01m[yard]	250meter [yard]/minute			

● Specifications

Models	Output	Power Source	Current Consumption	Maximum load current	Cable Type
CR-3:1AC, CR-3:10AC, CR-3:100AC	1 Output	DC5~24V ± 10%	35mA	100mA	2-meters, Shielded Cable
CR-3:1RC, CR-3:10RC, CR-3:100RC	2 Outputs (90° Quadrature)		44mA		

Ambient Temperature: Operating	-5 ~ 40°C [23 -104°F] (Non-freezing)	Ambient Humidity: Operating	35~85% (Non-Condensing)
Structure Protection	IP41 (IEC 60529)	Compliance	CE , RoHS
Installation Environment	Over-voltage category II, Pollution degree 2, Indoor use (IEC61010-1)	Altitude	2,000m maximum

● Accessories

Model : CR-AC	Measuring wheel for meter x 2	2 pieces of measuring wheel for meter are equipped as standard accessories. Alternatively, 2 pieces of measuring wheel for yard are available. Please order type of measuring wheel. "-YP" should be added to the model number. (Ex.) CR-3:1AC-YP
Model : CR-RC	Measuring wheel for meter x 2	

Measuring wheel for meter : Diameter 106.1mm (Circumference 1/3 meter), Surface material is Thermoplastic Rubber.
Measuring wheel for yard : Diameter 97.0mm (Circumference 1/3 yard), Surface material is Thermoplastic Rubber.

● Connection

• Model: CR-AC
(Photoelectronic sensor, 1 output)
3-wire cable (shielded)

Black	GND
White	Output
Red	DC Power Source
Shield	Frame Ground

• Model: CR-RC
(Photoelectronic sensor, 2 outputs, bi-directional)
4-wire cable (shielded)

Black	GND
White	Output A
Green	Output B
Red	DC Power Source
Shield	Frame Ground

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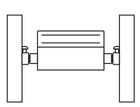
● Connection to counters

Model : CR-AC (1 output)

Wire color		Terminal numbers in Line Seiki Counter G48 / E48	E60	E10
Red	DC Source	3	3	3
White	Output	1	1	1
Black	GND	4	4	4

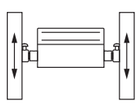


Count Method when using the connection table above:

Top Going, Top Coming = Add

Model : CR-RC (2 outputs, Bi-directional)

Wire color		Terminal numbers in Line Seiki Counter G48 / E48	E60	E10
Red	DC Source	3	3	3
White	Output A	1	1	1
Green	Output B	2	2	2
Black	GND	4	4	4



Count Method when using the connection table above:

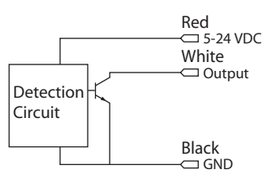
Top Going = Add
Top Coming = Subtract

Note : If wiring for output A & B was reversed unintentionally, counting method will also be reversed.

● Output Circuit

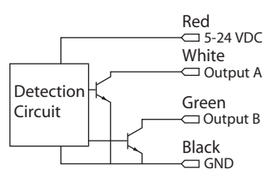
Model : CR-AC

• CR-3:1AC
• CR-3:10AC
• CR-3:100AC

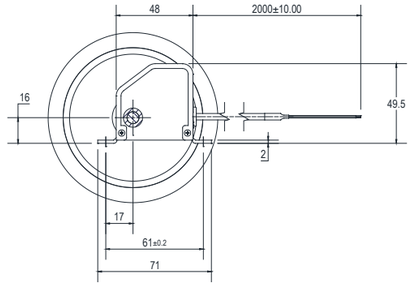


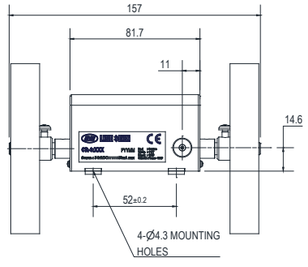
Model : CR-RC

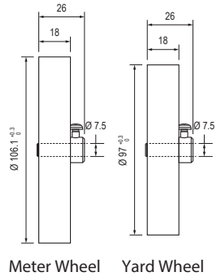
• CR-3:1RC
• CR-3:10RC
• CR-3:100RC



● Dimension : mm







Meter Wheel Yard Wheel

	Meter Wheel	Yard Wheel
UNIT OF MEASURE	Meters	Yard
MODEL	MRM096	MRM097
TYPE OF SURFACE	Plain	
MATERIAL OF SURFACE	Thermoplastic Rubber	

Measuring wheels are subject to slippage due to normal wear and tear caused by continuous usage. This may cause measuring discrepancies. Please check the wheels periodically and replace them with new ones when necessary.

Installation note

- Make sure that measuring wheels are fixed to the shaft of the device with the screws provided to avoid slippage.
- Make sure that both measuring wheels are parallel to each other and perpendicular to the surface of measuring object or roller.
- Be careful to the surrounding environment if the measuring object is easy to be stretched by tension, temperature and humidity.
- Please avoid using this device at places with vibrations that may cause not only imprecise measurement, but also malfunction of the device.
- There may be differences between measured value on the counter and actual length of the material. If this happens, kindly check if the measuring wheels slip or if the roller is synced with the measuring object.
- ON and OFF ratio of output of standard device is 1:1. For example, 0.5m-ON and 0.5m-OFF are for the measuring unit of a meter.
- There may be some differences between measured value on the counter and actual length of the material. The differences may be made when ON/OFF of output signal happens shortly before or after the measuring "start position" or measuring "stop position". It is recommended that you consider the resolution of the device based on the required accuracy.

This manual was last revised January 9, 2019. 4CR001F
*Subject to change without prior notice.