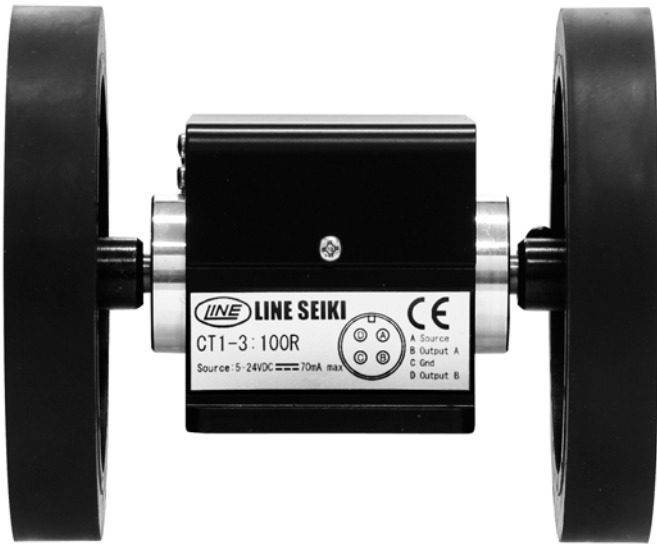


Length Sensor

CT1 SERIES

CE
RoHS



CT1-□□□

| Unit | | Output Type | | Output Specifications (Non-contact Output only) | |
|--------|------|-------------|-------------------------------------------|----------------------------------------------------|-----------------------------------------------|
| 3:1 | 1m | Blank | Contact Output (3:1, 3:10 Only) | Blank | Voltage Output |
| 3:10 | 10cm | A | 1 Non-contact Output | C | Open collector Output |
| 3:100 | 1cm | R | 2 Non-contact Outputs (90° Quadrature) | CH | Open collector Output (24VDC power source) |
| 3:1000 | 1mm | | | | |

- For simple length measurement of textiles, papers, films, etc. in conjunction with electronic counters, electro-magnetic counters, and PLC
- Microswitch Type: increment only, no matter which direction its wheels rotate
CT1-A (One-Output) Type: increment only, no matter which direction its wheels rotate
CT1-R (Two-Outputs) Type: increment for positive rotation, decrement for negative rotation of the wheels (90° quadrature output)
- Resolution: 1m [yard], 0.1m [yard], 0.01m [yard], 0.001m [yard] depending on model number
- A pair of rubber pulleys(wheels) are included
Urethane pulleys(wheels) are available as an option per application
- Bearings are installed in all the CT1 models to improve vibration resistance

Models

| Models | Sensor | Resolution | Maximum Speed | Weight |
|-------------|-------------------------------------------------------------------------------------------------|--------------------|----------------------------------|--------------|
| CT1-3:1 | Microswitch | 1m [1yard] | 240m / minute [240yard / minute] | 700g [25oz.] |
| CT1-3:10 | | 0.1m [0.1yard] | 24m / minute [24yard / minute] | 710g [25oz.] |
| CT1-3:1A | Photoelectronic Sensor, 1 Non-contact Output (Voltage Output) | 1m [1yard] | 700m / minute [700yard / minute] | 730g [26oz.] |
| CT1-3:10A | | 0.1m [0.1yard] | 500m / minute [500yard / minute] | 730g [26oz.] |
| CT1-3:100A | | 0.01m [0.01yard] | 250m / minute [250yard / minute] | 740g [26oz.] |
| CT1-3:1000A | | 0.001m [0.001yard] | 100m / minute [100yard / minute] | 790g [28oz.] |
| CT1-3:1R | Photoelectronic Sensor, 2 Non-contact Outputs (Voltage Output / 90°Quadrature Output) | 1m [1yard] | 700m / minute [700yard / minute] | 740g [26oz.] |
| CT1-3:10R | | 0.1m [0.1yard] | 500m / minute [500yard / minute] | 740g [26oz.] |
| CT1-3:100R | | 0.01m [0.01yard] | 250m / minute [250yard / minute] | 750g [26oz.] |
| CT1-3:1000R | | 0.001m [0.001yard] | 100m / minute [100yard / minute] | 780g [28oz.] |

| Models | Sensor | Resolution | Maximum Speed | Weight |
|---------------|--------------------------------------------------------------------------------------------------------|--------------------|----------------------------------|--------------|
| CT1-3:1AC | Photoelectronic Sensor, 1 Non-contact Output (Open collector Output) | 1m [1yard] | 700m / minute [700yard / minute] | 730g [26oz.] |
| CT1-3:10AC | | 0.1m [0.1yard] | 500m / minute [500yard / minute] | 730g [26oz.] |
| CT1-3:100AC | | 0.01m [0.01yard] | 250m / minute [250yard / minute] | 740g [26oz.] |
| CT1-3:1000AC | | 0.001m [0.001yard] | 100m / minute [100yard / minute] | 790g [28oz.] |
| CT1-3:1000ACH | | 0.001m [0.001yard] | 100m / minute [100yard / minute] | 790g [28oz.] |
| CT1-3:1RC | Photoelectronic Sensor, 2 Non-contact Outputs (Open collector Output / 90°Quadrature Output) | 1m [1yard] | 700m / minute [700yard / minute] | 740g [26oz.] |
| CT1-3:10RC | | 0.1m [0.1yard] | 500m / minute [500yard / minute] | 740g [26oz.] |
| CT1-3:100RC | | 0.01m [0.01yard] | 250m / minute [250yard / minute] | 750g [26oz.] |
| CT1-3:1000RC | | 0.001m [0.001yard] | 100m / minute [100yard / minute] | 780g [28oz.] |
| CT1-3:1000RCH | | 0.001m [0.001yard] | 100m / minute [100yard / minute] | 780g [28oz.] |

Note : Yard unit is applied in this table when measuring wheels for yard are used.

| | | | |
|----------------------------------|-------------------------------------------------|-----------------------------------|---------------------------|
| Ambient temp. : Operating | -10 - +50°C [14 - 122°F] (Should not be Frozen) | Ambient Humid. : Operating | 35 - 85% (Non-Condensing) |
| Compliance | CE, RoHS | Operation Torque | 15mN.m |

Specifications

| Models | Output | Power source | Current consumption | Output voltage | Maximum load current | Residual voltage | Output impedance |
|---------------|-----------------------------------------------------------------|----------------|----------------------------------------|---------------------------------------------------|----------------------|------------------|------------------|
| CT1-3:1 | Contact | - | Microswitch Contact output, Capacity : | AC250V 5A DC125V 0.5A (Load) | 100mA | - | 3.9KΩ |
| CT1-3:10 | | | | | | | |
| CT1-3:1A | 1 Non-contact / Voltage Output | DC5 - 24V ±10% | 35mA | H : Power-supply voltage-1V min. L : 0.8V max. | 100mA | - | 3.9KΩ |
| CT1-3:10A | | | | | | | |
| CT1-3:100A | | DC5 - 12V ±10% | 40mA | H : Power-supply voltage-1V min. L : 0.5V max. | 20mA | - | 2KΩ |
| CT1-3:1000A | | | | | | | |
| CT1-3:1R | 2 Non-contact / (90°Quadrature) Voltage Outputs | DC5 - 24V ±10% | 70mA | H : Power-supply voltage-1V min. L : 0.8V max. | 100mA | - | 3.9KΩ |
| CT1-3:10R | | | | | | | |
| CT1-3:100R | | DC5 - 12V ±10% | 40mA | H : Power-supply voltage-1V min. L : 0.5V max. | 20mA | - | 2KΩ |
| CT1-3:1000R | | | | | | | |
| CT1-3:1AC | 1 Non-contact / Open collector Output | DC5 - 24V ±10% | 35mA | - | 100mA | 0.8V max. | - |
| CT1-3:10AC | | | | | | | |
| CT1-3:100AC | | DC5 - 12V ±10% | 40mA | - | 20mA | 0.5V max. | - |
| CT1-3:1000AC | | | | | | | |
| CT1-3:1000ACH | | DC24V ±10% | 60mA | - | 20mA | 0.5V max. | - |
| CT1-3:1RC | 2 Non-contact / (90°Quadrature) Open collector Outputs | DC5 - 24V ±10% | 70mA | - | 100mA | 0.8V max. | - |
| CT1-3:10RC | | | | | | | |
| CT1-3:100RC | | DC5 - 12V ±10% | 40mA | - | 20mA | 0.5V max. | - |
| CT1-3:1000RC | | | | | | | |
| CT1-3:1000RCH | | DC24V ±10% | 60mA | - | 20mA | 0.5V max. | - |

■ Hi Level Voltage at Input Device in conjunction with CT1 of Voltage Output Model

Input voltage [V in] (High Level) is determined by the following factors:

- Power Source Voltage of CT1 [V]
- Output Impedance of CT1 [R1]
- Input Impedance of Input Device [R2]

$$V_{in} = V \times \frac{R2}{R1 + R2}$$

* V,R1 : Refer to Specifications

■ Option (Sold separately from 1 unit)

Meter Rubber Wheel of High Precision

Circumference adjusted
Comes with Certificate of Inspection



With extra charges, additional documents can be issued, such as Traceability System Diagram, and Certificate of Calibration Tool.

Meter Urethane Wheel MRM110

Diameter of measuring part: 106.1 mm
(1/3 m in circumference)
Outer circumference finished with urethane resin coating
Abrasion resistance



■ Accessories

| | | |
|----------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model : CT1 | Measuring wheel for meter x 2 | 2 pieces of measuring wheel for meter are equipped as standard accessories. Instead of those, 2 pieces of measuring wheel for yard are available. Please order type of measuring wheel. "-YP" should be added to the model number. (Ex.) CT1-3:10A-YP |
| Model : CT1-A | Measuring wheel for meter x 2, 3P connector x 1 | |
| Model : CT1-R | Measuring wheel for meter x 2, 4P connector x 1 | |

Measuring wheel for meter MRM096

Diameter 106.1mm (Circumference 1/3 meter)
Surface material is Thermoplastic Rubber.



Measuring wheel for yard MRM097

Diameter 97.0mm (Circumference 1/3 yard)
Surface material is Thermoplastic Rubber.

Measuring wheels are subject to slip due to wear after prolonged usage. They may cause measurement errors if not replaced on time. Please periodically check the wheels for signs of deterioration.

■ Connection

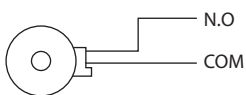
Cable does not come with either CT1-A or CT1-R model.

Procure the cable that is appropriate for your installation environment, and the cable should be based on the specifications below:

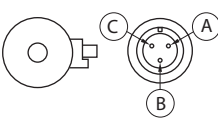
For CT1-A models, 3-Pin cable equivalent to AWG16. For CT1-R models, 4-Pin cable equivalent to AWG20-22.

• Model : CT1

(Micro Switch output)

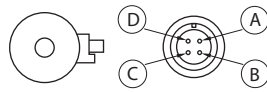


• Model : CT1-A (Photoelectric sensor 1 output) 3P connector



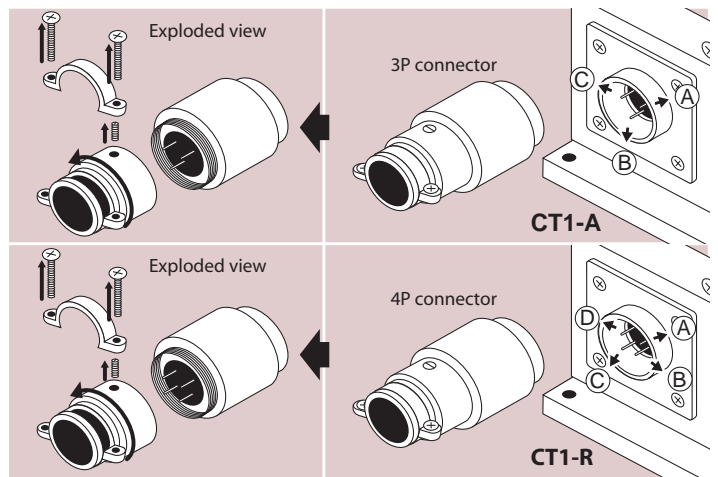
| | |
|---|-----------------|
| A | Output |
| B | GND |
| C | DC Power Source |

• Model : CT1-R (Photoelectric sensor 2 outputs) 4P connector



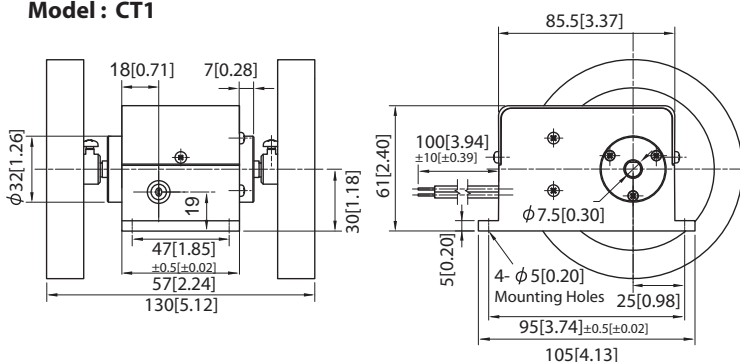
| | |
|---|-----------------|
| A | DC Power Source |
| B | Output A |
| C | GND |
| D | Output B |

* 3P·4P connector (Please wire to terminal pins after disassembling.)

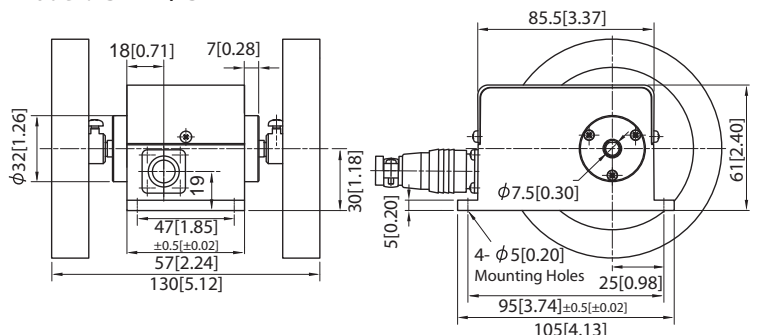


■ Dimensions : mm [inch]

Model : CT1



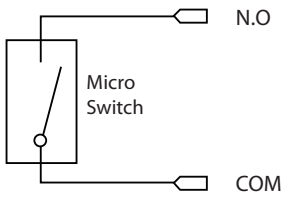
Model : CT1-A / CT1-R



Output Circuit

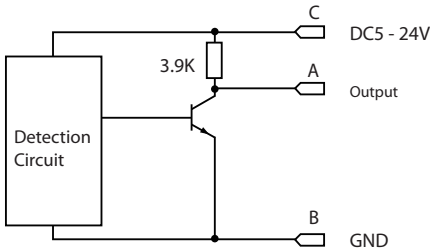
Model : CT1

CT1-3:1 / CT-3:10

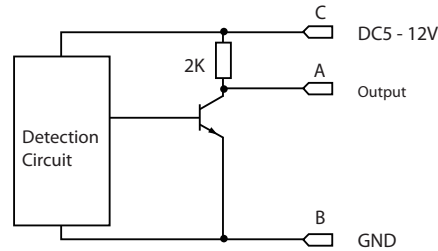


Model : CT1-A

CT1-3:1A / CT1-3:10A / CT1-3:100A

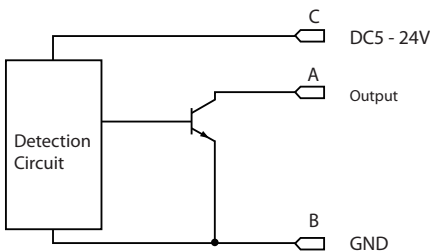


CT1-3:1000A

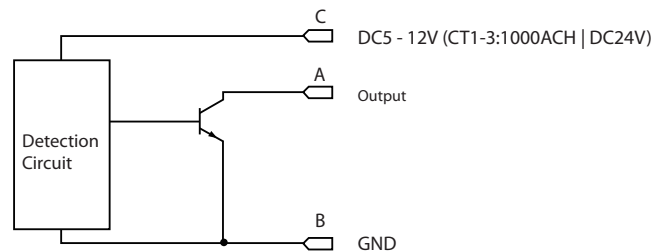


Model : CT1-AC

CT1-3:1AC / CT1-3:10AC / CT1-3:100AC

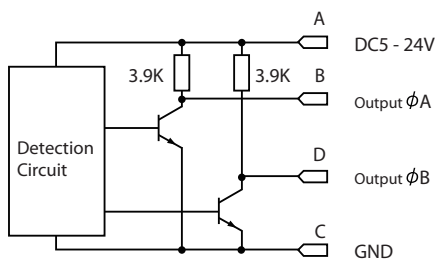


CT1-3:1000AC / CT1-3:1000ACH

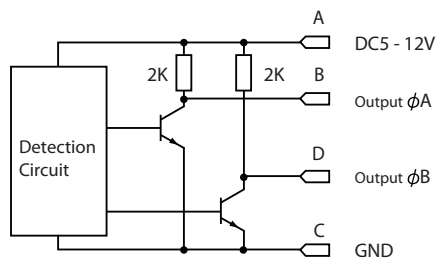


Model : CT1-R

CT1-3:1R / CT1-3:10R / CT1-3:100R

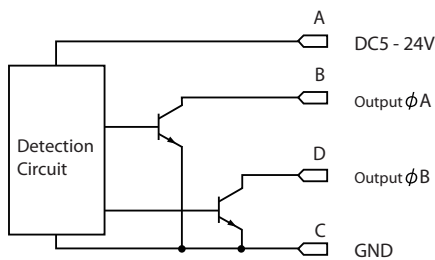


CT1-3:1000R



Model : CT1-RC

CT1-3:1RC / CT1-3:10RC / CT1-3:100RC



CT1-3:1000RC / CT1-3:1000RCH

