

RP-7400 Series Roller Encoder

Replaced by the RP-700 series

RP-7400 series Roller Encoder



● Overview

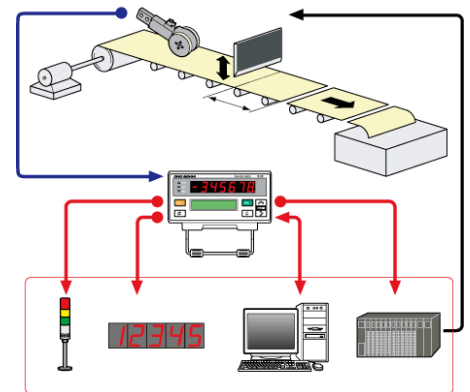
The Roller Encoders of Ono Sokki are highly precise and are well-received in line speed measurement or length measurement of film, paper, or steel plate produced at production line. This new RP-7400 series Roller Encoder, replaced by the RP-700 series, provide two-phase signal output as standard and are available for both clockwise pulse and counterclockwise pulse. Output type is selectable from emitter, collector, or open collector depending on your needs. Easy replacement from RP-721 series to RP-7400 series.

● Application

- Cutting film, paper, steel plate in same size (length measurement)

The RP-7400 series Roller encoder precisely measure length of object moving along the continual cutting line. Pulses measured by the PR-7400 series are calculated in the PLC to cut the object in same size. In this example, the RV-3150 Reversible Counter is used to calculate the pulses.

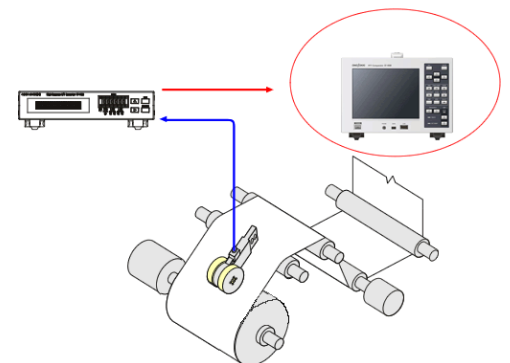
- RP-7400 200 P/R (Roller encoder)
- RV-3150 (Reversible Counter)
- RP-0182 (Signal cable)



- Analyzing line speed fluctuation (speed measurement)

Contact the RP-7400 series directly to the object and measure the line speed. Convert the measured line speed to voltage (10 V/F.S.) by the FV-1400. And then analyze the speed fluctuation by the CF-4500 (FFT Comparator) to obtain the speed fluctuation rate.

- RP-7400 1200 P/R (Roller encoder)
- FV-1400 (F/V Convertor)
- CF-4500 (FFT Comparator)
- MX-105 (Signal cable 5 m)
- RP-0182 (Signal cable 5 m)



● Feature

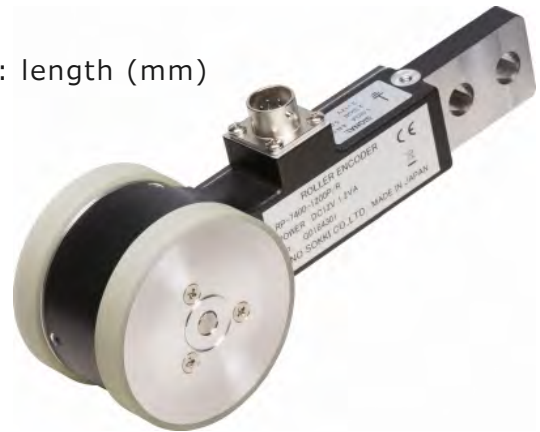
● RoHS,CE marking

● Selectable pulse number (120, 200 or 1200 P/R)

→ 120, 1200 P/R:rotation speed (m/min) 200 P/R: length (mm)

● 4 output formats

→ Totem pole output (standard)
 Emitter output (RP-0701:option)
 Collector output (RP-0702:option)
 Open collector (RP-0703:option)



● Specification

● Electrical

| | |
|-------------------------|---|
| Number of output pulses | For rotation speed measurement: 120, 1200 For length measurement: 200 |
| Output waveform | 2-phase square waveform |
| Duty | 50 ± 25% |
| Phase difference | 90 ± 45° |
| Output voltage | Hi level: 10 V or more Lo level: 0.5 V or less |
| Output format | Totem pole (load resistance: 470 Ω or more) * option RP-0701 Emitter output RP-0702 Collector output RP-0703 Open collector output |
| Power supply | DC 12V ±5%, 100mA or less |

● General

| | |
|--------------------------|---|
| Operating temperature | 0 to 50 °C (with no icing or condensation) |
| Storage temperature | -10 to 65 °C (with no icing or condensation) |
| Operating humidity range | 35 to 90 % RH (with no icing or condensation) |
| Protection class | IP40 (when optional cable RP-0181, RP-0182 used.) |
| Accessory | Instruction manual: 1 copy Connector: 1 piece (RM12BPE-5S, HIROSE) |
| Option | RP-0181: cable for RP-7400 series (5m, crimped terminal (M3)) RP-0182: cable for RP-7400 series (5m, one-end open) |

● Mechanical

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|-------------------------------|--|
| Measurement range | 0 to 600 m/min *Measurement speed range varies depending on a measurement object |
| Measurement unit | 120 P/R: 0.1 m/min 1200 P/R: 0.01 m/min 200 P/R: 1 mm |
| Roller material | Cored bar: aluminium Rubber: urethan printing (shore A90) |
| Roller circumferential length | 200 mm |
| Allowable shaft load | radial: 20 N |
| Starting torque | 1 mN·m ² |
| Vibration resistance | 19.6 m/s ² X/Y/Z each direction (150 minutes each), 10 to 150 Hz sweep, 20-cycle |
| Shock resistance | 19.6 m/s ² X/Y/Z each ± both directions (8 directions), 3 times each (18 times in total) Sine half-wave, 11 ms duration at 20 mm intervals |
| Mounting hole (position) | Φ 10 mm x 2, 20 mm |
| Outer dimensions | approx. 180 mm (full length) x 47 mm (width) |
| Weight | approx. 400g |