

RP-7400 Series Roller Encoder

Replaced by the RP-700 series

RP-7400 series Roller Encoder



● Overview

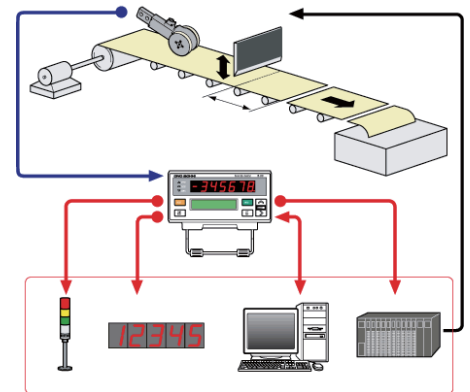
The Roller Encoders of Ono Sokki are highly precise and are well-received in line speed measurement or length measurement of film, paper, or steel plate produced at production line. This new RP-7400 series Roller Encoder, replaced by the RP-700 series, provide two-phase signal output as standard and 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.

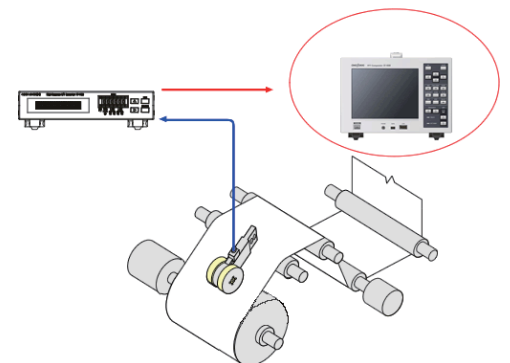
- RP-7400 200 P/R (Roller encoder)
- RV-3150 (Reversible Counter)
- RP-0182 (Signal cable)



- 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	DC12V ±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

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 (6 directions), 3 times each (18 times in total) Sine half-wave, 11 ms duration at 20 mm intervals
Mounting hole (position)	Φ10 mm x 2, 20 mm
Outer dimensions	approx. 180 mm (full length) x 47 mm (width)
Weight	approx. 400g