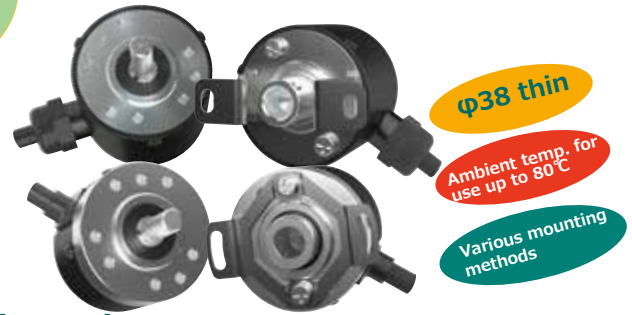


TRD-SR/SHR

NPN open collector/totem pole/line driver output

Series



φ38 thin

Ambient temp. for
use up to 80°C

Various mounting
methods

Feature

- ① Thin design Depth minimum 26mm~
 - ② Can be used in high temperature environments of 80°C
 - ③ Various mounting methods
- Shaft type Mounting pitch φ28/30mm
- Hollow shaft type Leaf spring mounting pitch φ40/45.5 (45-46) mm
- ④ Although small, lineup up to 3600 P/R
 - ⑤ Protective structure IP50 / IP65
 - ⑥ Compliant standards: UL and CE

Main spec

	Shaft type		Hollow shaft type	
Protection class	IP50	IP65	IP50	IP65
External size (mm)	φ38	φ40	φ38	φ40
Depth(mm)	26	35	32	52
Mounting pitch(mm)	φ28/30		φ40/45.5	φ40
Operating ambient temperature	-10~+80°C			

Model number system

TRD - SR A W E

Series classification

SR : Shaft type
SHR : Hollow shaft type

Type

A : NPN open collector output
C : Totem pole output
V : Line driver output

Protective structure

None : IP50
W : IP65

No. of pulses

Shaft length (shaft type only)

None : 15mm
E : 18.6mm

Leaf spring mounting pitch (hollow shaft type only)

0 : 40mm
5 : 45~46mm *No IP65 specification

Number of pulses/1 revolution

10	20	30	40	50	60
100	200	240	250	300	360
400	500	512	600	800	1000
1024	1200	2000	2400	2500	3600

Electrical specifications

	TRD-SR□A/SHR□A	TRD-SR□C/SHR□C	TRD-SR□V/SHR□V
Power supply	Power voltage	4.5 ~ 26.4 V DC	10.8 ~ 26.4 V DC
	Allowable ripple	3%rms or less	
	Current consumption	50 mA or less (at no load)	
Signal waveform		Two-phase output + origin	
Maximum response frequency *1		200 kHz	100 kHz
Duty ratio		50 % ± 25 %	
Phase difference width		25 % ± 12.5 %	
Origin signal width		100 % ± 50 %	
Out put	Rise/fall time	1μs or less (cable 1m or less, at maximum load)	3μs or less (cable 1m or less, at maximum load)
	Output format	NPN open collector output	Totem pole output
	Output voltage	H - L 0.4 V or less	((Power supply voltage) -2.5 V or more) 0.4 V or less
	Output current	Source H - Sink L Up to 30 mA	Up to 10 mA Up to 30 mA
	Load power supply voltage	30V DC or less	30V DC or less

*1: The maximum electrical response speed is determined by the resolution (number of pulses) and the maximum response frequency.

Electrical maximum response rotation speed = {(Maximum response frequency/resolution) × 60} If the rotation exceeds the maximum response rotation speed, the signal will not follow electrically.

Machine specifications

Starting torque	0.001 N·m or less (at +20 °C)
Axial moment of inertia	0.6 × 10 ⁻⁶ kg·m ²
Shaft allowable load	Radial: 30 N, Thrust: 20 N
Maximum allowable rotation speed	6000 min ⁻¹ *2
Cable	Outer diameter φ6 mm, standard 1 m 5-core shielded oil-resistant PVC cable Core wire nominal cross-sectional area 0.14 mm ² (Line driver output is 8 cores 0.14 mm ²)
Mass	Approx. 100 g (with 1m cable)

*2: Maximum rotational speed that can be mechanically withstood

Environmental condition

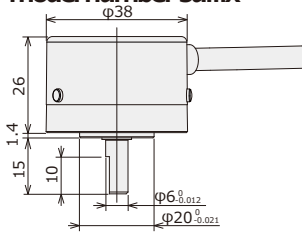
Ambient temperature	-10 ~ + 80 °C
Storage ambient temperature	-25 ~ + 85 °C
Ambient humidity	35 ~ 85 % RH (No condensation)
Withstand voltage	Excluded due to capacitor ground *3
Insulation resistance	50 MΩ or more *3
Vibration resistance (durability)	Single displacement amplitude 0.75mm 10 to 55 Hz 1 h each in 3 axis directions
Impact resistance (durability)	490 m/s ² 11 ms 3 times each in 3 axis directions
Protective structure	IP50 (dust-proof type), IP65 (dust-proof/jet-proof type)

*3: Between power supply/signal line and case (excluding shield)

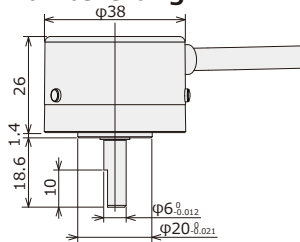
■ Dimensions Unit : mm

TRD-SR Series

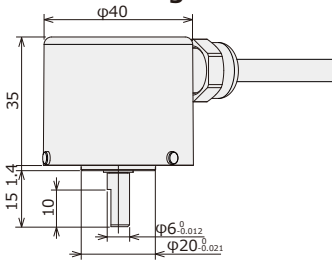
Type without
model number suffix



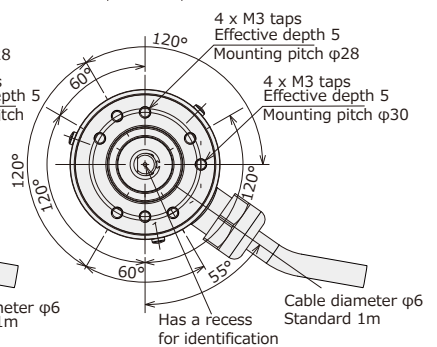
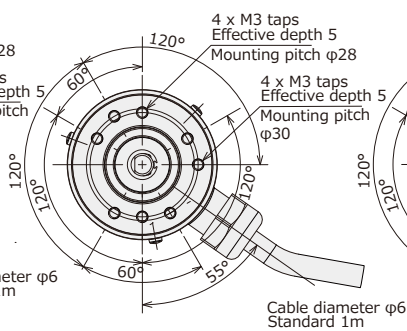
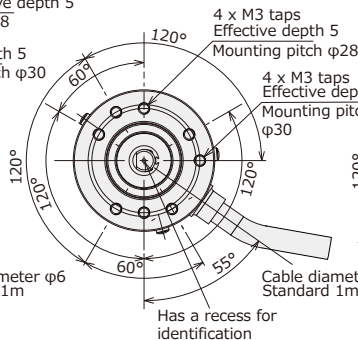
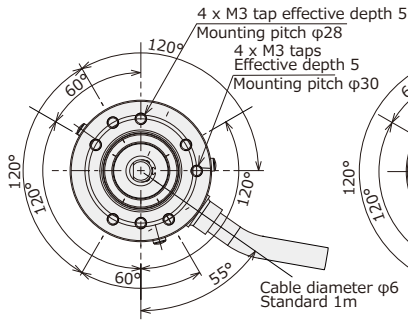
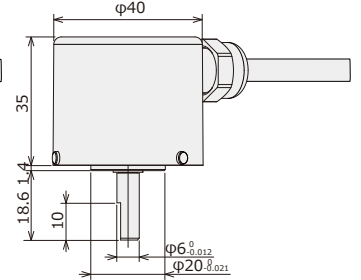
Type with model
number ending in E



Type with model
number ending in W

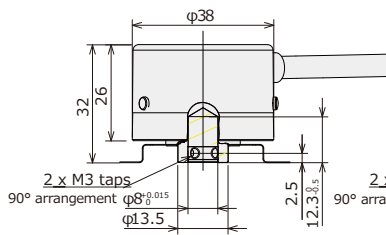


Type with model
number ending in WE

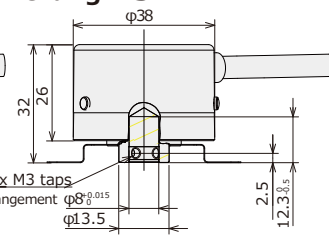


TRD-SHR Series

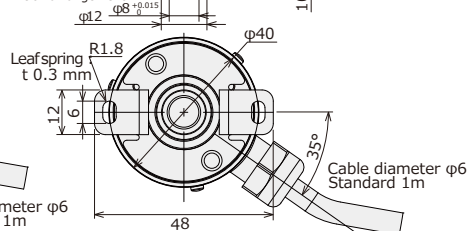
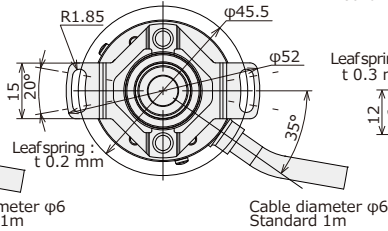
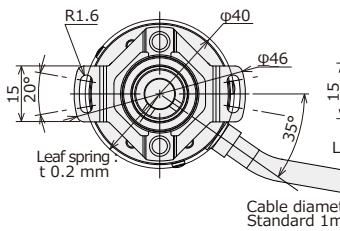
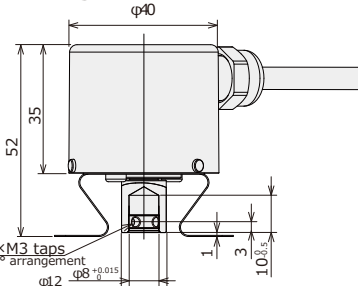
Type with model number
ending in 0



Type with model number
ending in 5



Type with model number
ending in W0



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