Koyo

JTEKT
Koyo TOYODA

ϕ38 | Rotary Encoder | Output with 2-Phase Origin

New

TRD-SR/SHR

Open Collector / Totem-Pole / Line Driver

Small Body
Variety Mounting

TRD-SR
Shaft Type

Outer Diameter: 38mm
Outer Depth: 26mm
Shaft Diameter: 6mm
Mounting Pitch: 30/28mm

TRD-SHR
Hollow Shaft Type

Outer Diameter: 38mm
Outer Depth: 32mm
Other Shaft Diameter: 8mm
Mounting Pitch of Plate Spring: 40/45 mm

Model Overview

TRD- | SR | | A | 0

Series Classification
SR : Shaft Type
SHR : Hollow Shaft Type

Pulse Count

Output Form
A : Supply Voltage : 4.5 to 26.4V DC (Open Collector Output)
C : Supply Voltage : 10.8 to 26.4V DC (Totem-Pole/Push-Pull Output)
V : Supply Voltage : 4.75 to 5.25V DC (Line Driver Output)

Mounting Pitch (for TRD-SHR)
0 : 40mm
5 : 45mm

Specification

1. Small Body
2. Variety of Output Form
3. Use Ambient Temperature : -10 to +80℃
4. Mounting Pitch (TRD-SR) : ϕ30/28mm
   (TRD-SHR) : ϕ40/45mm
5. IP50 Protective, Dust Proof Type
6. Upto 2,500 pulses with Small Diameter

Pulse

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

■Electrical Specifications

New TRD-SR/SHR

			TRD-SR□A/SHR□A	TRD-SR□C/SHR□C	TRD-SR□V/SHR□V
Power Supply	Supply Voltage		4.5 to 26.4V DC	10.8 to 26.4V DC	4.75 to 5.25V DC
	Allowable Ripple		3 % rms of less		
	Consumption Current		50 mA or less		
Signal form			2-Phase Output + Home Position		
Maximum Response			200 KHz	100 kHz	200 kHZ
Duty Ratio			50 ± 25 %		
Phase Difference Width			25 ± 12.5 %		
Signal Width at Home Position			100 ± 50 %		
Output	Rise / Fall Time		Not more than 1 us (Cable length 1 m , maxmum load)	Not more than 3 us (Cable length 1 m , maxmum load)	Not more than 1 us (Cable length 1 m , maxmum load)
	Output Form		NPN Open Collector output	Totem-Pole/Push-Pull output	Line Driver output
	Output Voltage	H	--	[(Supply Voltage) - 2.5 V] or more	2.5 V or higher
		L	0.4 V or Less	0.4 V or Less	0.5 V or Less
	Output Current	Source "H"	--	Up to 10 mA	Up to 20 mA
		Sink "L"	Up to 30 mA	Up to 30 mA	
	Load Supply Voltage		30 V DC or Less	30 V DC or lower	

Note 1 : The electric maximum response frequency is specified by resolution (pulse munber) and the maximum number of revolutions.
Electrical maximum number of revolutions = [(Maximum response frequency / Resolution) x 60]
Therefore , if the encoder rotates at a speed greater than the electrical maximum number of revolutions, the signals do not electrically follow.

■Mechanical Specifications

Starting Torque	0.001 N-m or less (+20℃)
Moment of Inertia	0.6 x 10^{-6} kg-m^2
Shaft Allowable Load	Radial : 30 N , Thrust : 10 N
Maxium Allowable Number of	5,000 rpm
Cable	Outside diameter ϕ6 mm
	5-core shield oil-resistant PVC cable
	AWG 26
Weight	Approx 100 g (With 1 m cable)

Note 2 : Maximun munber of revolutions that can be mechanically endured.

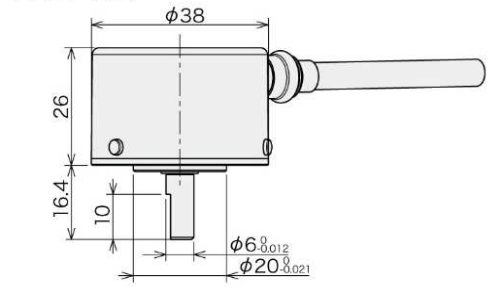
■Environmental Requirements

Use Ambient Temperature	-10 to +80℃
Storage Ambient Temperature	-25 to +85℃
Use Ambient Humidity	35 to 85 %RH (No condensation)
Withstand Voltage	Excluded due to capacitor grounding (Note 3)
Insulation Resistance	50 M-ohm or higher (Note 3)
Vibration Resistance (Endurance)	Displacement half amplitude : 0.75mm, 10 to 55 Hz, 3 axial directions, each
Impact Resistance (Endurance)	490 m/s^2 11ms, earch 3 times 3 axial directions
Protective Structure	Dustproof Type : IP50

Note 3 : The power signal lines, and shield between the cases are excluded.

■Dimensions

TRD-SR



TRD-SHR