

Heavy-duty Incremental Encoders (Metric-dimension Encoders)

TRD-GK series

Features

A heavy-duty encoder is the most rugged encoder you can buy. Top-of-the-line bearings allow a service life of 12 billion revolutions. Features include:

- 10 mm solid shaft
- Rugged body with 78 mm diameter and 60 mm depth
- Splash-proof IP65 rating
- Incremental operation from 30 pulses per revolution to 5,000 pulses per revolution
- 100 kHz maximum response frequency
- 10-30 VDC, Totem-pole output



Solid-shaft (TRD-GK) model

Heavy Duty Standard Shaft Incremental Encoders				
Model	Pulses per Revolution	Input Voltage	Output	Body Diameter
TRD-GK30-RZD	30	10-30 VDC	Totem-pole (sink/source)	78mm
TRD-GK100-RZD	100			
TRD-GK120-RZD	120			
TRD-GK200-RZD	200			
TRD-GK240-RZD	240			
TRD-GK250-RZD	250			
TRD-GK300-RZD	300			
TRD-GK360-RZD	360			
TRD-GK400-RZD	400			
TRD-GK500-RZD	500			
TRD-GK600-RZD	600			
TRD-GK800-RZD	800			
TRD-GK1000-RZD	1000			
TRD-GK1200-RZD	1000			
TRD-GK1500-RZD	1500			
TRD-GK1800-RZD	1800			
TRD-GK2000-RZD	2000			
TRD-GK2500-RZD	2500			
TRD-GK3600-RZD	3600			
TRD-GK5000-RZD	5000			

Electrical Specifications		
Model	TRD-GKxxx-RZD	
Power Supply	Operating Voltage	10-30 VDC (nominal) * Range: 9.7-30.9 VDC
	Allowable Ripple	3% rms max.
	Current Consumption	At less than 16VDC: 50 mA max. / at 16VDC or more: 70mA max.
Output Waveform	Output Signal	Quadrature + home position
	Duty Ratio	50% ±25%
	Max. Frequency Response	100kHz max.
	Operating Speed	(max response frequency / resolution) x 60
	Signal Width at Home Position	At 400P or less: 25 to 150%; at 500P or more: 1° at 30'
	Rise/Fall Time	2µs max. (when cable length is 2m or less)
Output	Output Type	Totem-pole
	Current: Outflow: H	30mA max.
	Voltage: H	(power source voltage - 4V) min.
	Voltage: L	2V max.
	Load Power Voltage	35VDC max.
* To be supplied by Class II source		
Mechanical Specifications		
Starting Torque	Max. 0.1 N·m (0.07 ft·lbs) max. at 20°C (68°F)	
Max. Allowable Shaft Load	Radial: 100N (22.48 lbs) Axial: 50N (11.24 lbs)	
Max. Allowable Speed	5,000 rpm	
Service Life of Bearing	12 billion revolutions (at max. allowable speed)	
Wire Size	AWG24	
Weight	Approx. 600g (21.16 oz) with 2m cable	
Environmental Specifications		
Ambient Temperature	-10 to 70 °C [14 to 158 °F]	
Storage Temperature	-25 to 85 °C [-13 to 185 °F]	
Operating Humidity	35-85% RH (with no condensation)	
Insulation Resistance	50MΩ min.	
Vibration Resistance	At 500P or less: Durable for one hour along three axes at 10 to 55 Hz with 0.75 mm amplitude At 600P or more: Durable for one hour along three axes at 10 to 55 Hz with 0.35 mm amplitude	
Shock Resistance	At 500P or less: 11 ms with 980 m/s ² applied three times along three axes At 600P or more: 11 ms with 294 m/s ² applied three times along three axes	
Protection	IP65	

