

METRIC OEM SERIES TRD-J

INCREMENTAL SHAFT ENCODER

**WORLD
ENCODERS**

1-800-903-9093



Starting at US \$179.00 S.R.P. List Price
Linedriver, 1024 P/R US \$240.00

SPECIFICATIONS

Electrical

Pulse per Revolution	Up to 1024 P/R
Supply Voltage	5~30Vdc TTL & 5Vdc Line Driver
Output Format	Dual Square Wave in Quadrature with Index
Output Option	TTL Output, Line Driver
Current Requirement	TTL: 60mA Max. No Load Line Driver: 130mA Max. No Load
Frequency Response	200 KHz
Duty Ratio	50±25%
Phase Shift	25±12.5%
Index Signal Width	100±50%
Output Level	(H) ≥2.5V (L) ≤0.5V
Rise and Fall Time	≤1μs (When cable length is 1m)
Insulation Resistance	≥50MΩ

Mechanical

Shaft Diameter	8 mm (0.315")
Shaft Loading	Axial: 60N (14 lbs) Radial: 100N (23 lbs)
Shaft Scraper	Standard (Detachable, Repairable)
Starting Torque	1.4 oz. in (0.003N•m) at 20°C
Shaft Angular Acceleration	1000 rad/Sec ²
Moment of Inertia	2.0x10 ⁻³ Kg • m ²
Mech. Perm. Speed	6000 rpm Max.
Weight	0.5 lb

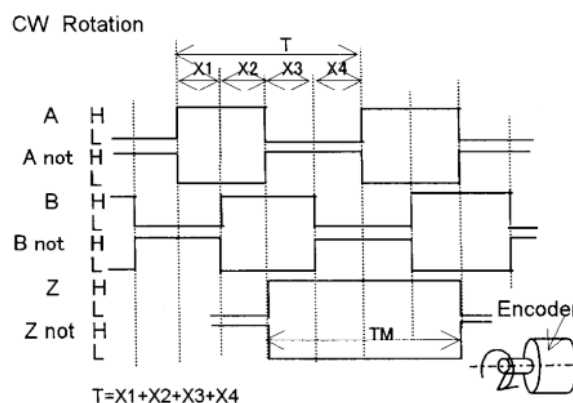
Environmental

Temperature	Operating: -10 ~ +70°C Storage: -25 ~ +85°C
Operation Humidity	35 ~ 85% without condensation
Vibration	Durable for one hour along 3 axes at 10 to 55 Hz 0.75mm amplitude
Shock	981 m/s ² (11ms 3 times, each X, Y, Z)
Withstand Voltage	500VAC
Construction	NEMA 12/IP-54

FEATURES

- 2.0" (50mm) O.D.m Medium-duty designed, NEMA 12/IP54
- .315"(8mm) Solid Shaft, Standard Shaft Protection Scraper
- Up to 1024 P/R
- Strong in vibration and shock using all Metal disks.
- 5-30Vdc TTL and 5Vdc Line Driver Output.
- Competitive Low Prices!

LINE DRIVER WAVE FORM



CW ROTATION AS VIEWED FROM ENCODER SHAFT

DIVISION ACCURACY

Symmetry (A,B)	$X1 + X2 = 0.5 \pm 0.25T$ $X2 + X3 = 0.5T \pm 0.25T$
Phase shift	$Xn = 0.25T \pm 0.125T$ (n=1, 2, 3, 4)
Signal width of Z ch.	$TM = 1T \pm 0.25T$

$T = 360^\circ / N$ N: Pulse per revolution

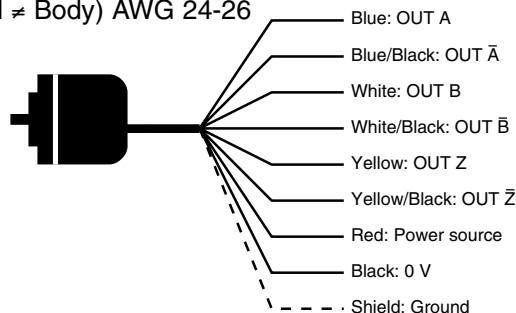
DIVISION ACCURACY OF SIGNAL

Pitch Error	±0.01T
Adjacent Pitch Error	±0.02T

WIRING DIAGRAMS

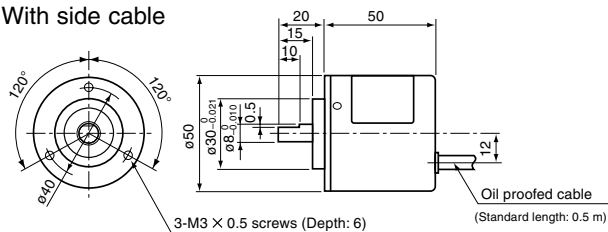
LINE DRIVER CONNECTIONS

(Shield ≠ Body) AWG 24-26

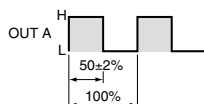


OUTSIDE DIMENSIONS

- With side cable

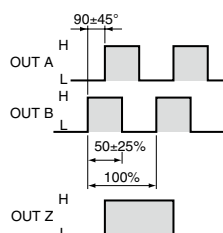
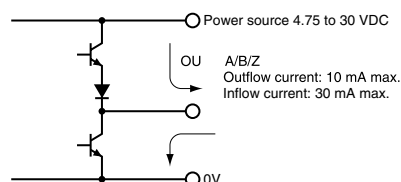


One-phase: TRD-JXX-S



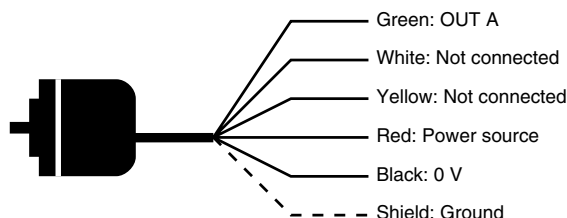
TTL OUTPUT circuit

Totem-pole output:

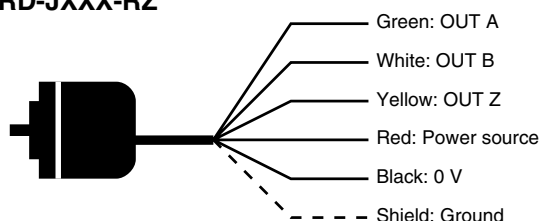


WIRING DIAGRAM (Shield ≠ Body) AWG 20-22

One-phase: TRD-JXXX-S



Two-phase with Index: AWG 20-22
TRD-JXXX-RZ



OPTIONAL PARTS: Order Separately

FLEXIBLE COUPLING

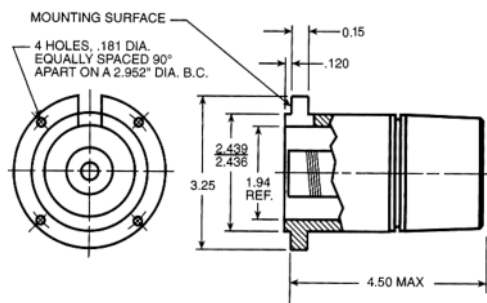
BT075-C.250-P8MM	\$45.00
BT100-C.375-P8MM	\$50.00
BT125-C.375-P8MM	\$58.00

(Refer to Page 20 for the detail specifications.)

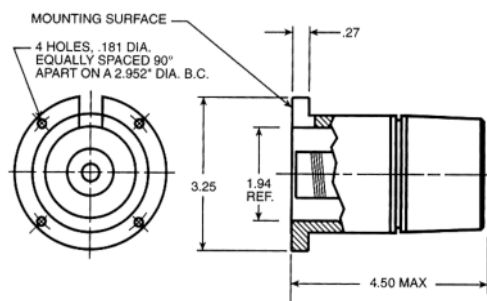
BELL FLANGES / For Servo / Round Flange Encoder

NEMA 42-Flat Bottom	F-20	\$60.00
NEMA 42-Pilot@Bottom	F-21	\$60.00

F-21

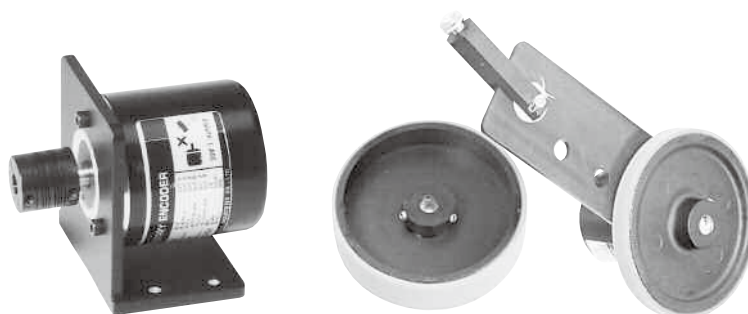


F-20



35mm CENTER HEIGHT FOOT MOUNTING BRACKET

65mmHx65mmWx45mmL	JT-035	\$16.00
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12" CIRCUMFERENCE MEASURING WHEEL (3.82" dia)

Material	Hub x Width		
Urethane	8mm x 3/8"	MW-1-8MM	\$45.00
Urethane	8mm x 1"	MW-1W-8MM	\$50.00

Urethane Rubber: 83A Shore Hardness

Operating Temperature: -25° to 65° C, -20° to 150° F

Metric OEM Series TRD-J / Size 20 Shaft Encoder

1-800-903-9093

Model	Resolution		Output Signal	Output Type	Termination	Options
TRD-J	☐	☐ ☐ ☐	☐	☐	☐	☐
ORDERING INFORMATION						
TRD-J Size 20 Shaft Encoder	10	300	S: One-Phase Channel A Only	Blank: Totem-pole TTL (5 - 30V)	Blank: Rear Cable (Length=0.5m)	W: Water Proof
	30	360				
	40	400				
	50	500	RZ: Quadrature A & B with Index Z	V: Line Driver 5V		
	60	600				
	100	750				
	120	1000				
	200	1024				
240						

PRICING INFORMATION					
	RESOLUTION		ELECTRICAL	TERMINATION	OPTIONAL
TRD-J Base price \$169.00	100 Thru 200	N/C	S: TTL Single Phase 5 - 30V Add \$10.00 RZ: TTL Quadrature A & B w/ Index Z 5 - 30V Add \$40.00 V: Linedriver Quadrature A & B w/ Index Z 5V Add \$45.00	Std. 1.5ft. Shielded Cable	W: Water Proof Add \$60.00
	240 Thru 600	Add \$21.00			
	750 Thru 1024	Add \$26.00			

PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE
TRD-J100-S	\$179.00	TRD-J500-RZV	\$225.00
TRD-J120-S	\$179.00	TRD-J600-RZ	\$220.00
TRD-J200-S	\$179.00	TRD-J1000-RZ	\$235.00
TRD-J400-S	\$200.00	TRD-J1000-RZV	\$245.00
TRD-J500-S	\$200.00	TRD-J1000-RZW	\$295.00
TRD-J1000-S	\$205.00	TRD-J1024-RZ	\$235.00
TRD-J360-SW	\$260.00	TRD-J1024-RZV	\$240.00
TRD-J1000-SW	\$365.00	TRD-J1024-RZVW	\$300.00
TRD-J50-RZ	\$209.00	Retired Model Numbers	
TRD-J60-RZ	\$209.00	Not Available	Direct Replacement
TRD-J100-RZ	\$209.00	TRD-J100-RZ-1664	TRD-J100-RZ
TRD-J100-RZW	\$269.00	TRD-J1000-1472D	TRD-J1000-RZ
TRD-J200-RZ	\$209.00	TRD-J400-RZ-2306	TRD-J400-RZ
TRD-J200-RZ-2M	\$224.00	Foot Mtg. Bracket (Center Height: 35mm)	
TRD-J300-RZ	\$220.00	JT-035	\$20.00
TRD-J300-RZW	\$295.00		
TRD-J300-RZW-3M	\$305.00		
TRD-J360-RZ	\$220.00		
TRD-J400-RZ	\$220.00		
TRD-J500-RZ	\$220.00		