

SIZE 25 SERIES TRDA-25N

INCREMENTAL SHAFT ENCODER



Nicely equipped MS Connector Model
US \$450.00
(up to 1024ppr)

FEATURES

- 2.5" O.D., heavy duty designed, NEMA4/IP65
- 3/8" shaft, shaft seal standard (Detachable and Repairable)
- Up to 5000 P/R Available
- 250 KHz frequency response
- Index gated 1/2, 1/4 channel cycle available
- Detachable Square flange or Servo/face flange mounting
- Super Linedriver OL7272 Compatible 5-30 Vdc available

SPECIFICATIONS

Electrical

Pulse per Revolution	Up to 5000 ppr, real direct count
Supply Voltage	5Vdc line driver, 5~30Vdc TTL & Super line driver
Output Format	Dual Square Wave in Quadrature with Index
Output Option	TTL Output Line Driver
Current Requirements	TTL: 40mA Max. No Load Line Driver: 60mA Max. No Load
Frequency Response	250 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

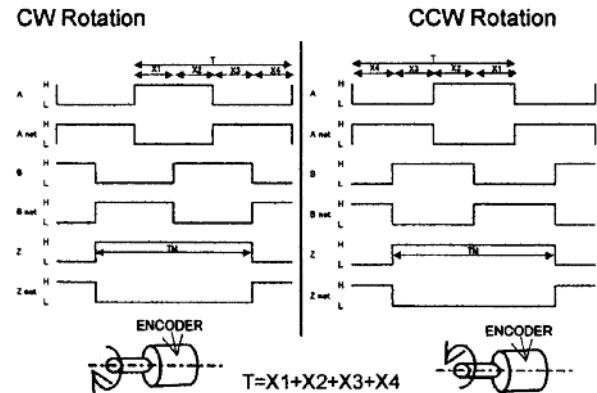
Mechanical

Shaft Diameter	.3747"/.3744"
Shaft Loading	Axial: 40 lbs. Max. Radial: 35 lbs. Max.
Shaft Seal	Standard (Detachable, Repairable)
Starting Torque	2.8 oz.-in at 77°F (25°C)
Shaft Angular Acceleration	1000 rad/sec ²
Moment of Inertia	2.0x10 ⁻⁶ Kg • m ²
Mech. Perm Speed	6000 RPM Max.
Weight	1 lb.

Environmental

Temperature	Operating: -10 ~ +70°C Storage: -25 ~ +85°C
Operating Humidity	35 ~ 85% without condensation
Vibration	Durable for one hour along 3 axes at 10 to 55 Hz 0.75mm amplitude
Shock	Metal Slit 981 m/s ² (11ms 3-times, each X, Y, Z) Glass Slit 490 m/s ² (11ms 3-times, each X, Y, Z)
Withstand Voltage	500VAC
Construction	NEMA4/IP-65

LINE DRIVER WAVE FORM



CW or CCW ROTATION AS VIEWED FROM ENCODER SHAFT

DIVISION ACCURACY

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

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

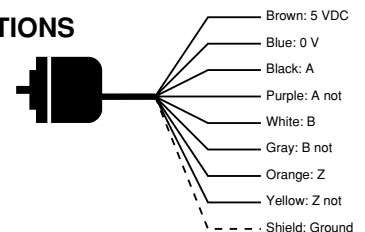
DIVISION ACCURACY OF SIGNAL

Pitch Error	±0.01T
Adjacent Pitch Error	±0.02T

WIRING DIAGRAMS

LINE DRIVER CONNECTIONS

(Shield = Body)



ELECTRICAL CONNECTIONS/ORDER SEPARATELY

#DMS3102E18-1P (10 Pin)/MATING# DMS3106E18-1S

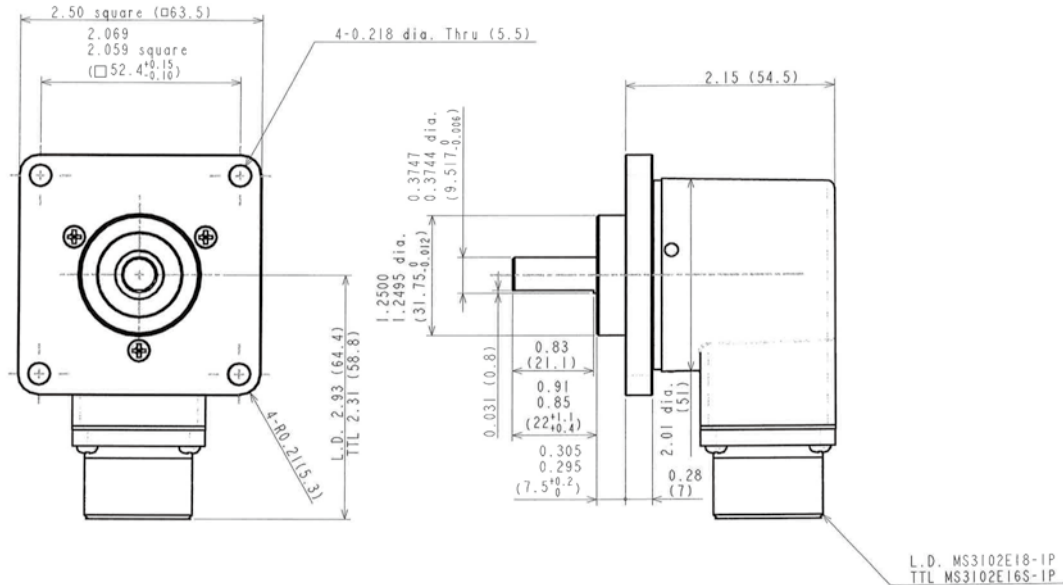
Pin Code	Line Driver
A	Channel A
B	Channel B
C	Index Z
D	Vcc
E	-
F	0V, Common
G	Case Ground
H	Channel A not
I	Channel B not
J	Index Z not

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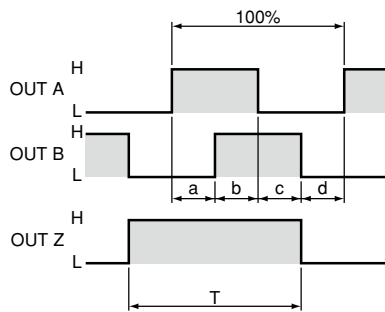
INCREMENTAL SHAFT ENCODER

OUTSIDE DIMENSIONS

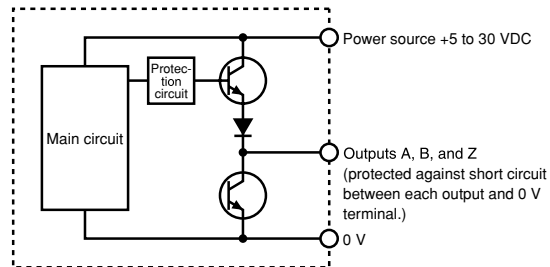
TRDA-25SNXXXX □ W-MS



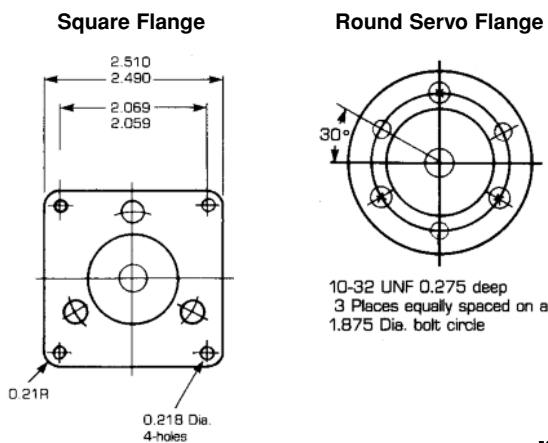
TTL (Totem Pole) Wave Form (viewed from shaft side)



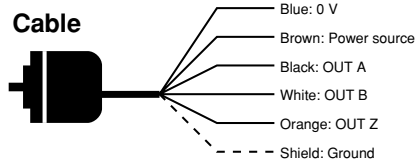
TTL Output circuit



Detachable Flanges (You may choose and change)



WIRING DIAGRAMS (TTL) AWG 20-22



TTL Connections (7 pin)/
Order Separately
#DMS3102E16-P
Mating# DMS3106E16-1S
(Shield = Body)

Pin Code	Function
A	Channel A
B	Channel B
C	Index Z
D	Vcc
E	-
F	0V, Common
G	Case, GRD

Series TRDA-25N / Size 25 Shaft Encoder

Model	Flange	N	Resolution	Output	W	Termination
TRDA-25	<input type="checkbox"/>	N	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	W	<input type="checkbox"/>

ORDERING INFORMATION

TRDA-25 Size 25 Shaft Encoder	S: Square Flange	N	Metal Disks	RZ: 5 - 30V TTL (single ended)	W	Blank: Cable (3.3 ft.)
	R: Round Flange (3) #10-32 @1.875" BC		3 4 5 10 30 40 50 60 100 120 192 200 240 250 300 360 400 480 500			
	Glass Disks	S: 5 - 30V Super Line Driver (0L7272 Compatible)	ME: End Mount MS Connector			
				600 750 1000 1024 1200 2000 2048 2500 5000		

PRICING INFORMATION

	FLANGE:	RESOLUTION	ELECTRICAL	MECHANICAL	TERMINATION
TRDA-25 Base Price \$340.00	Detachable Flanges	3	TTL 5-30V (Single Ended) - Quadrature A & B with Index Z Add \$20.00	Shaft Seal Standard N/C	MS Conn.–Diecast Body NEMA4 IP-65 - Side Mount Add \$55.00
		Thru 500			
	Square Flange #TRDA-25SN Add \$10.00	1000	Linedriver 5V Quadrature A & B with Index Z Add \$20.00	3 ft. cable/Diecast Body NEMA4, IP-65 N/C	
		Thru 2048			Add \$25.00
Round Flange #TRDA-25RN Add \$10.00	2500	Add \$40.00	Super Linedriver 5-30V Quadrature A & B with Index Z Add \$30.00	MS 10 pin Mating-Part #DMS3106E18-1S \$38.00 (order separately) MS 7 pin Mating-Part #DMS3106E16-1S \$30.00 (order separately)	
					5000

PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE	Flanges	
TRDA-25SN100RZW-MS	\$425.00	TRDA-25SN1024RZW-MS	\$450.00	TRDA-25RN	\$10.00
TRDA-25SN100SW-MS	\$435.00	TRDA-25SN1024SW-MS	\$460.00	TRDA-25SN	\$10.00
TRDA-25SN100VW-MS	\$425.00	TRDA-25SN1024VW-MS	\$450.00	Mating Connector	
TRDA-25SN192RZW-MS	\$830.00	TRDA-25SN2000RZW-MS	\$450.00	DMS3106E18-1S (10pin Linedriver)	\$45.00
TRDA-25SN250SW-MS	\$435.00	TRDA-25SN2000SW-MS	\$460.00	DMS3106E16-1S (7pin TTL)	\$35.00
TRDA-25SN250VW-MS	\$425.00	TRDA-25SN2000VW-MS	\$450.00	MS mating conn. w/10ft cable assemblies	
TRDA-25SN360SW-MS	\$435.00	TRDA-25SN2048SW-MS	\$460.00	C10-9-10 LD (Linedriver)	\$85.00
TRDA-25SN360VW-MS	\$425.00	TRDA-25SN2048VW-MS	\$450.00	MS10 pin mating w/10ft cable (9 wires)	
TRDA-25SN500RZW-MS	\$425.00	TRDA-25SN2500RZW-MS	\$465.00	C7-5-10 RC (TTL)	\$75.00
TRDA-25SN500SW-MS	\$435.00	TRDA-25SN2500SW-MS	\$475.00	MS7 pin mating w/10ft cable (5 wires)	
TRDA-25SN500VW-MS	\$425.00	TRDA-25SN2500VW-MS	\$465.00	Cables	
TRDA-25SN1000RZW-MS	\$450.00	TRDA-25SN5000RZW-MS	\$830.00	CBL-2025N-XXX FT	\$3.00 per Ft.
TRDA-25SN1000SW-MS	\$460.00			Bell Flanges	
TRDA-25SN1000VW-MS	\$450.00			F-20	\$60.00
				F-21	\$60.00
				3.5" Center Height Foot Mounting Bracket	
				LM-001	\$90.00

NOTE: Above stock items show Square Flange. Round Flange Models 1 & 2 are also stock items.

OPTIONAL PARTS:

Order Separately

DETACHABLE FLANGE

	Part No.	List Price
Square Flange	TRDA-25SN	\$10.00
Round Flange	TRDA-25RN	\$10.00

MATING CONNECTOR KIT

LD 10 Pin	DMS3106E18-1S	\$45.00
TTL 7 Pin	DMS3106E16-1S	\$35.00
(Including Straight Plug w/Cable Clamp, Insertion & Bushing)		
Cable	CBL-2025N-XXXFT	\$ 3.00/Ft.

BELL FLANGES / For Servo / Round Flange Encoder

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

FLEXIBLE COUPLING

BT100-C.250-C.375	\$90.00
BT125-C.375-C.250	\$100.00
BT100-C.375-C.375	\$90.00
BT125-C.375-C.375	\$100.00
BT125-C.375-C.500	\$100.00
BT125-C.375-P8MM	\$100.00
BT125-C.375-P10MM	\$100.00

(Refer to Page 20 for the detail specifications.)

3.5" CENTER HEIGHT FOOT MOUNTING BRACKET

5.25"Hx3.2"Wx2.5"L	LM-001	\$90.00
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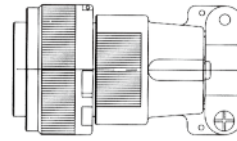
12" CIRCUMFERENCE MEASURING WHEEL (3.82" dia)

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

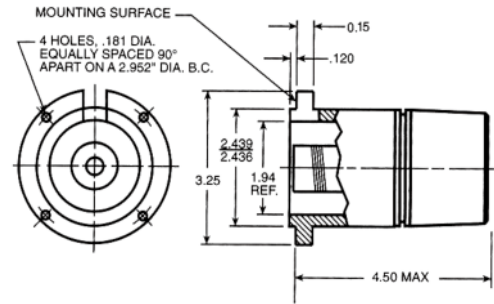
Urethane Rubber: 83A Shore Hardness

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

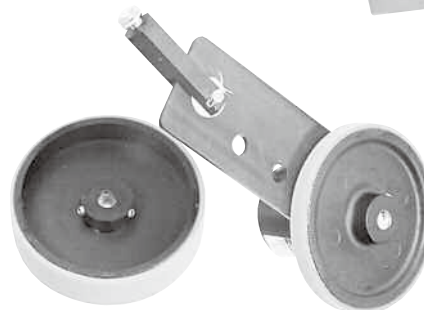
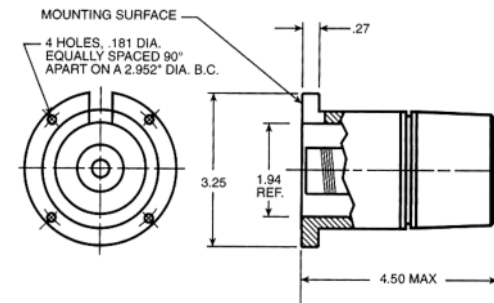
Plug Connector



F-21



F-20



OPTIONAL PARTS:

Order Separately

● Measuring Wheel Mounting Adapter & Yoke Assembly Kit

Mt. Beam Size	Part No.	List Price
1/4" - 28	MTA/Y-1	\$30.00
3/8" - 16	MTA/Y-3	\$30.00

Measuring Wheel Mounting Adapter

Size	Part No.	List Price
6"x2.25"x1/8" Thickness	MTA-001	\$15.00

Yoke Assembly

Size	Mt. Beam Size	Part No.	List Price
2.25"L x 5/8"	1/4" - 28	Y-1	\$15.00
2.25"L x 5/8"	3/8" - 16	Y-3	\$15.00

● Measuring Wheel Mounting Adapter & Offset Foot Bracket Assembly Kit

Arm Length	Part No.	List Price
7.00"	MTA/MB-UB2	\$90.00
11.25"	MTA/MB-UB2A	\$100.00

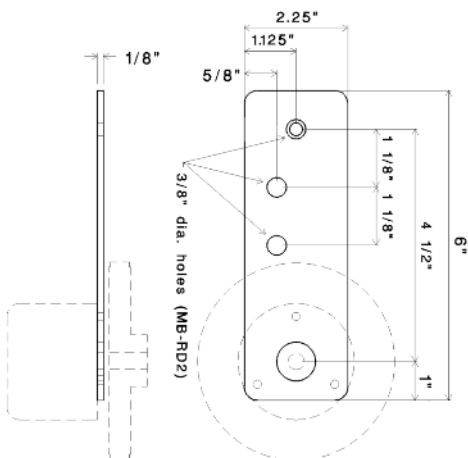
Measuring Wheel Mounting Adapter

Size	Part No.	List Price
6"x2.25"x1/8" Thickness	MTA-001	\$15.00

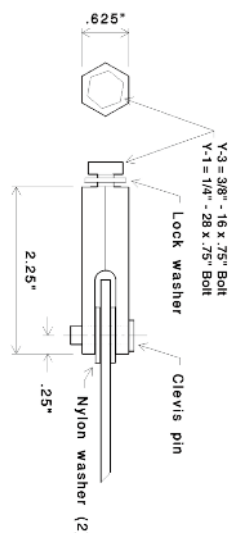
Offset Foot Bracket

Size	Part No.	List Price
3.125"H x 7.00" Arm	MB-UB2	\$60.00
3.125"H x 11.25" Arm	MB-UB2A	\$70.00

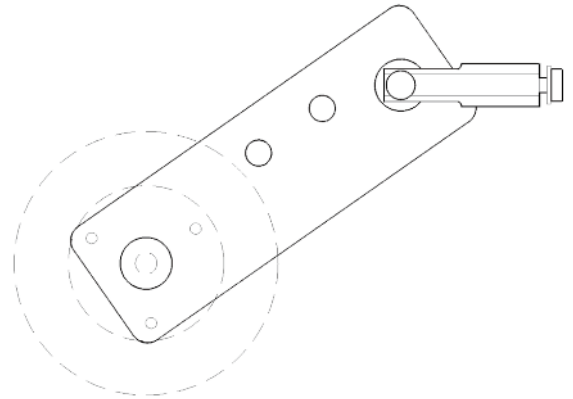
Measuring Wheel Mounting Adapter



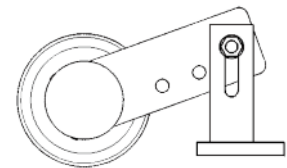
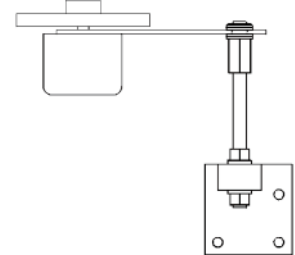
Yoke Assembly



Mounting Adapter & Yoke Assembly Kit



Mounting Adapter & Offset Foot Bracket Assembly Kit



Offset Foot Bracket

