Light Duty Incremental Encoders (SAE Dimension Encoders)

TRDA-2E series

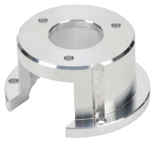
Accessories

Accessories for TRDA-2E Series Encoders		
Part Number	***Price***	***Description***
F-2D	$42.50	JTEKT round mounting flange, 1.86in bolt hole circle, (1.05in height), metal. For use with JTEKT TRDA-2E series encoders. Flange and encoder mounting hardware included.
F-3D	$75.00	JTEKT round mounting flange, 2.95in bolt hole circle (1.34in height), metal. For use with JTEKT TRDA-2E series encoders. Flange and encoder mounting hardware included.
F-6D	$57.50	JTEKT round mounting flange, 1.86in bolt hole circle, (1.34in height), metal. For use with JTEKT TRDA-2E series encoders. Flange and encoder mounting hardware included.
F-7D	$42.50	JTEKT round mounting flange, 1in bolt hole circle (0.20in height), metal. For use with JTEKT TRDA-2E series encoders. Flange and encoder mounting hardware included.
F-8D	$57.50	JTEKT round mounting flange, 2.95in bolt hole circle, (1.71in height), metal. For use with JTEKT TRDA-2E series encoders. Flange and encoder mounting hardware included.
2ET-035D	$60.00	JTEKT right angle bracket, metal. For use with JTEKT TRDA-2E series encoders. Bracket and encoder mounting hardware included.

Couplings
For encoders with a solid shaft, please select a coupling that fits your encoder. All couplings are in stock, ready to ship.

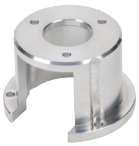
See the "Encoder Couplings" section for more information.

2ET-035D



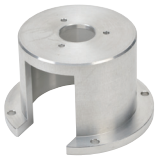
F-2D

F-3D



F-6D

F-7D



F-8D

Light Duty Incremental Encoders (SAE Dimension Encoders)

Specifications – TRDA-2E series

Electrical Specifications (SAE Dimension Light Duty)				
Model			***TRDA-2ExxxxBD (open collector)***	***TRDA-2ExxxxVD (line driver)***
Power Supply	***Operating Voltage ****		12–24 VDC (nominal) * Range: 10.8–26.4 VDC	5VDC (nominal) * Range: 4.75–5.25 VDC
	Allowable Ripple		3% rms max.	
	Current Consumption		50mA max. no load	
Output Waveform	***Signal Waveform***		Quadrature + home position	
	Max. Response Frequency		200kHz	
	Operating Speed		(max response frequency / resolution) x 60	
	Duty Ratio (Symmetry)		50% ±25%	
	Index Signal Width (at Home Position)		100% ±50%	
Output	***Rise/Fall Time *****		1µs max. **	100 ns max. **
	Output Type		Open collector (NPN sinking)	Line driver (26C31 or equivalent)
	Output Logic		Negative logic (active low)	Positive logic (active high)
	Output Current	***Inflow***	30mA max.	20mA max.
		Outflow	–	
	Output Voltage	***H***	–	2.5 V min.
		L	0.4 V max.	0.5 V max.
	Load Power Supply Voltage		30VDC max.	–
	Short-circuit Protection		Between eachoutput and 0V	–

** To be supplied by Class II source.*
*** With a cable of 2m or less; Max load.*

Mechanical Specifications	
Starting Torque	0.01 N·m [0.09 lb·in] max. @ 20 °C [68 °F]
Max. Allowable Shaft Load	Axial: 20N [4.5 lb]; Radial: 30N [6.7 lb]
Max. Allowable Speed	5000 rpm (highest speed that can support the mechanical integrity of encoder)
Wire Size	26 AWG, shielded, oil-resistant PVC
Mounting Orientation	can be mounted in any orientation
Weight	approx. 170g [6.0 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 (non-condensing)
Voltage Withstand	630V grounded through capacitor (a 630V cap is connected between 0V & FG lines)
Insulation Resistance	50 MΩ min. (excluding shield)
Vibration Resistance	durable for one hour along three axes @ 10 to 55 Hz with 0.75 mm half-amplitude
Shock Resistance	490 m/s^2 (11 ms applied three times along three axes)
Protection	IP50
Agency Approvals	$_cUL_{US}$ (E189395)

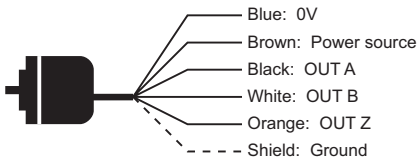
Light Duty Incremental Encoders (SAE Dimension Encoders)

Specifications – TRDA-2E series

Wiring Diagrams

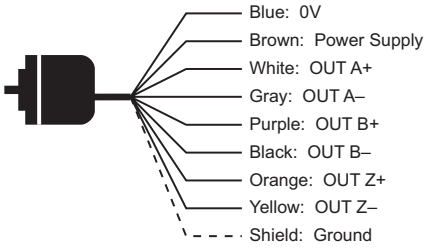
Open Collector Connections

Cable shield is connected to the encoder body (frame ground)



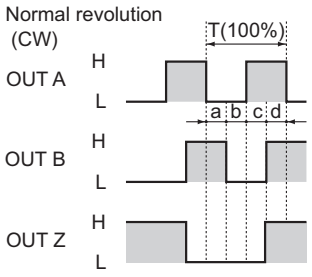
Line Driver Connections

Cable shield is connected to the encoder body (frame ground)



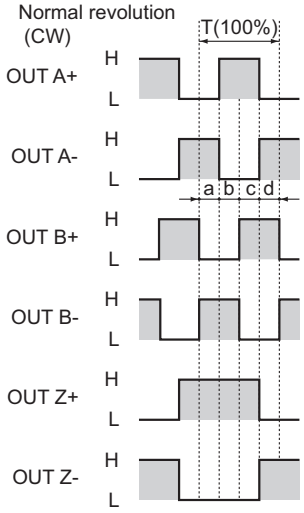
Channel Timing Charts

Open Collector Models (TRDA-2ExxxBD)



a, b, c, d = 1/4T±1/8T
"Normal" means clockwise revolution viewed from the shaft

Line Driver Models (TRDA-2ExxxVD)



a, b, c, d = 1/4T±1/8T
"Normal" means clockwise revolution viewed from the shaft

How to read the timing charts

Open Collector Models

Out A and Out B are 90 degrees out of phase. Like any quadrature encoder, four unique logic states are created internally to the encoder. This is based on the rising edge to rising edge (one cycle) on channel A or B that indicates one set of bars on the internal encoder disk has passed by the optical sensor.

OUT Z is the absolute reference added to an incremental encoder and is also known as home position. It signifies a full rotation of the encoder shaft.

Line Driver Models

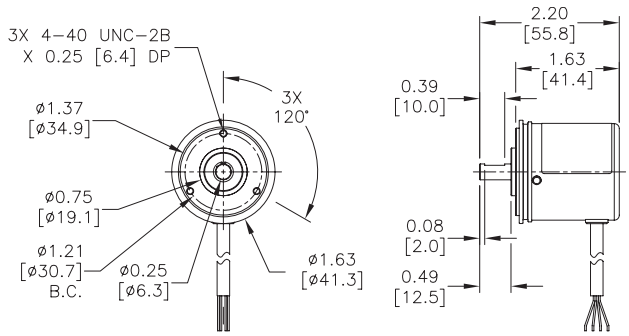
Channel A (OUT A and A-not) and Channel B (OUT B and B-not) are also 90 degrees out of phase on line driver encoders. OUT Z is the same as on open collector models, and is the absolute reference (home position). It signifies one full rotation of the encoder shaft.

Light Duty Incremental Encoders (SAE Dimension Encoders)

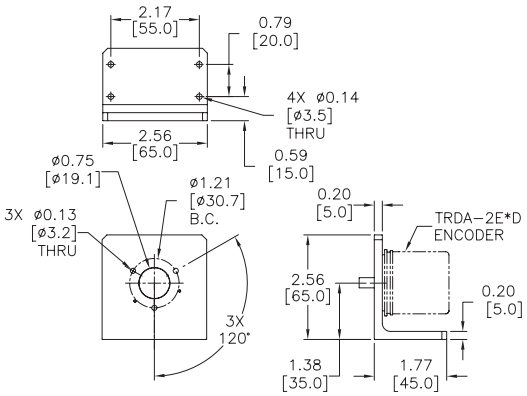
Dimensions – TRDA-2E series

Dimensions = in [mm]

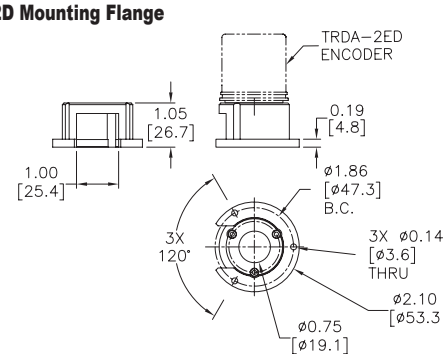
TRDA-2ExxxxD



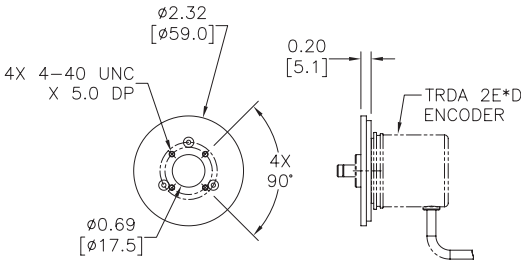
2ET-035D Mounting Bracket



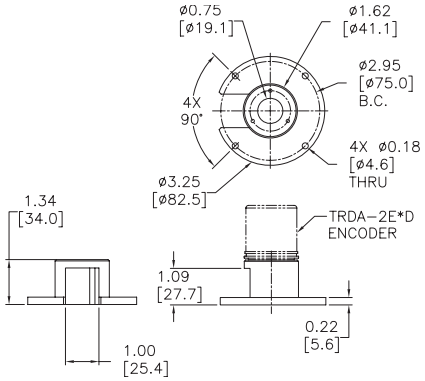
F-2D Mounting Flange



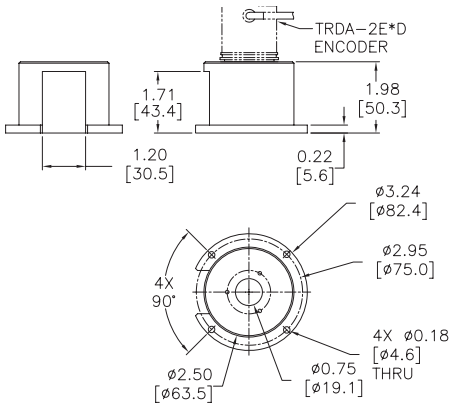
F-7D Mounting Flange



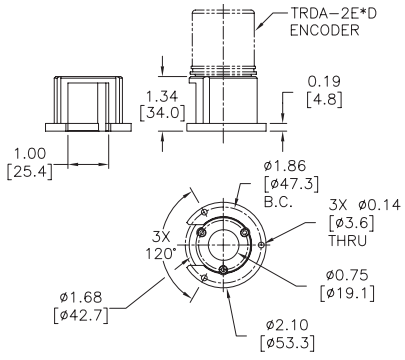
F-3D Mounting Flange



F-8D Mounting Flange



F-6D Mounting Flange



Light Duty Incremental Encoders (Metric Dimension Encoders)

TRD-MX series Features

A light duty incremental rotary encoder that is cost-effective for small applications; has the following features:

- Small body with 25 mm diameter and 29 mm depth
- 4 mm diameter solid shaft
- Resolution available from 100 pulses per revolution to 1024 pulses per revolution
- Open collector output (4.5–13.2 or 10.8–26.4 VDC), or line driver output (4.75–5.25 VDC)
- Up to 100 kHz response frequency
- Two-meter cable with tinned ends
- IP50 environmental rating
- Mounting bracket and couplings are available

TRD-MXxxxx-AD/BD models

TRD-MXxxxx-VD models

Light Duty Solid-shaft Incremental Encoders (NPN Open-collector Output, TRD-MXxxxAD/BD)

Part Number	Price	Pulses per Revolution	Input Voltage	Output	Body Dia.
TRD-MX100AD	$96.00	100	4.5–13.2 VDC	NPN Open Collector	25 mm
TRD-MX360AD	Retired	360			
TRD-MX500BD	Retired	500	10.8–26.4 VDC		

Light Duty Solid-shaft Incremental Encoders (Line Driver Output, TRD-MXxxxVD)

Part Number	Price	Pulses per Revolution	Input Voltage	Output	Body Dia.
TRD-MX100VD	$96.00	100	4.75–5.25 VDC	Line Driver	25 mm
TRD-MX360VD	$96.00	360			
TRD-MX500VD	$96.00	500			

Accessories

Accessories for TRD-MX Series Encoders

Part Number	Price	Description
MM-4D	Retired	Servo mounting clamp for TRD-MX series encoders
MT-030D	$39.00	Right-angle mounting bracket for TRD-MX series encoders

Couplings

For encoders with a solid shaft, please select a coupling that fits your encoder. All couplings are typically in stock, and ready to ship.

See the "Encoder Couplings" section for more information.

MM-4D

MT-030D

Couplings

Light Duty Incremental Encoders (Metric Dimension Encoders)

Specifications – TRD-MX series

Electrical Specifications (Metric Dimension Light Duty TRD-MX)					
Model			**TRD-MXxxxAD (open collector)**	**TRD-MXxxxBD (open collector)**	**TRD-MXxxxVD (line driver)**
Power Supply	**Operating Voltage ***		5–12 VDC (nominal) * 4.5–13.2 VDC	12–24 VDC (nominal) * 10.8–26.4 VDC	5VDC (nominal) * 4.75–5.25 VDC
	Allowable Ripple		3% rms max		
	Current Consumption		50 mA max (no load)		
	Circuit Protection Required		Limit current to 100 mA or less		–
Output Waveform	**Signal Waveform**		Quadrature + home position		
	Max. Response Frequency		100 kHz		
	Operating Speed		(max response frequency / resolution) x 60 Hz		
	Duty Ratio (Symmetry)		50% ±25%		
	Index Signal Width (at Home Position)		100% ±50%		
Output	**Rise/Fall Time ******		2µs ** (sink current < 30 mA)		0.1 µs max ** (source current < 20 mA)
	Output Type		Open collector (NPN sinking)		Line driver (26C31 or equivalent)
	Output Logic		Negative logic (active low)		Positive logic (active high)
	Output Current	**Inflow**	30 mA max		20 mA max
		Outflow	–		
	Output Voltage	**H**	–		2.5V min (source current < 20 mA)
		L	0.4V max (sink current < 30 mA)		0.5V max (source current < 20 mA)
	Load Power Voltage		30 VDC max		–
	Short-circuit Protection		–		–

** To be supplied by Class II source.*
*** Cable length ≤2m or less. Maximum load.*

Mechanical Specifications (Metric Dimension Light Duty TRD-MX)	
Starting Torque	0.001 N·m [0.009 lb·in] max @ 20 °C [68 °F]
Max. Allowable Shaft Load	Axial: 5N [1.1 lb]; Radial: 10N [2.2 lb]
Max. Allowable Speed	6000 rpm (highest speed that can support the mechanical integrity of encoder)
Wire Size	26 AWG, shielded, oil-resistant PVC
Weight	approx 120g [0.3 lb]

Environmental Specifications (Metric Dimension Light Duty TRD-MX)	
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 (non-condensing)
Withstand Voltage *	630V grounded through capacitor (a 630V cap is connected between 0V & FG lines)
Insulation Resistance	20 MΩ min
Vibration Resistance	durable for one hour along three axes @ 10 to 55 Hz with 0.75 mm half-amplitude
Shock Resistance	490 m/s^2 (11 ms applied 3-times, each X, Y, Z)
Mounting Orientation	can be mounted in any orientation
Protection	IP50
Agency Approvals	CE, RoHS, $_{C}UL_{US}$ (E189395)

** Withstand voltage is good for power supply, signal, and case; not good for shield wire.*

Light Duty Incremental Encoders (Metric Dimension Encoders)

Specifications – TRD-MX series

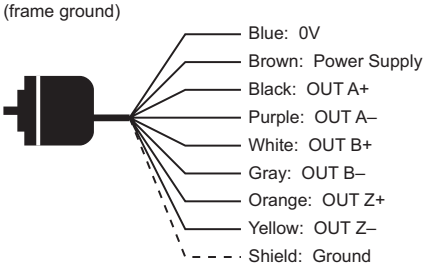
Wiring Diagrams

Open Collector Connections

Cable shield is connected to the encoder body (frame ground)

Line Driver Connections

Cable shield is connected to the encoder body (frame ground)



How to read the timing charts

Open Collector Models

Out A and Out B are 90 degrees out of phase. Like any quadrature encoder, four unique logic states are created internally to the encoder. This is based on the rising edge to rising edge (one cycle) on channel A or B that indicates one set of bars on the internal encoder disk has passed by the optical sensor.

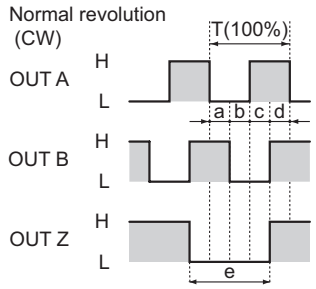
OUT Z is the absolute reference added to an incremental encoder and is also known as home position. It signifies a full rotation of the encoder shaft. It pulses once per revolution.

Line Driver Models

Channel A (OUT A and A-not) and Channel B (OUT B and B-not) are also 90 degrees out of phase on line driver encoders. OUT Z is the same as on open collector models, and is the absolute reference (home position). It signifies one full rotation of the encoder shaft. It pulses once per revolution.

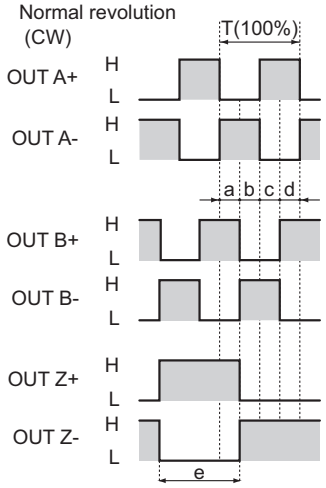
Channel Timing Charts

Open Collector Models (TRD-MXxxxAD/BD)



a, b, c, d = 0.25T ±0.125T; e = 1T ±0.125T
"Normal" means clockwise revolution viewed from the shaft

Line Driver Models (TRD-MXxxxVD)

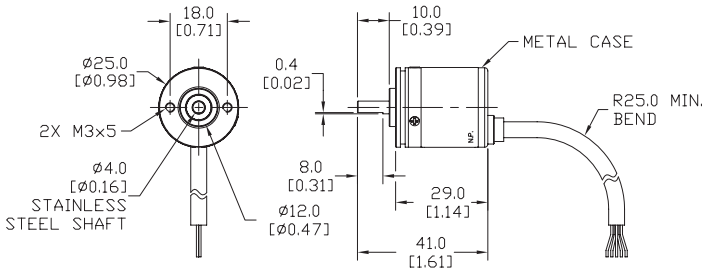


a, b, c, d = 0.25T ±0.125T; e = 1T ±0.125T
"Normal" means clockwise revolution viewed from the shaft

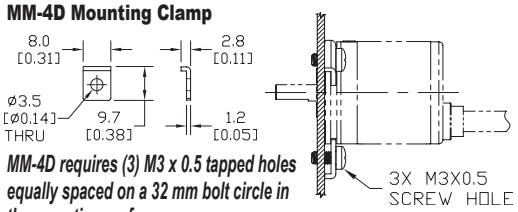
Dimensions – TRD-MX series

Dimensions = mm [in]

TRD-MXxxxxD

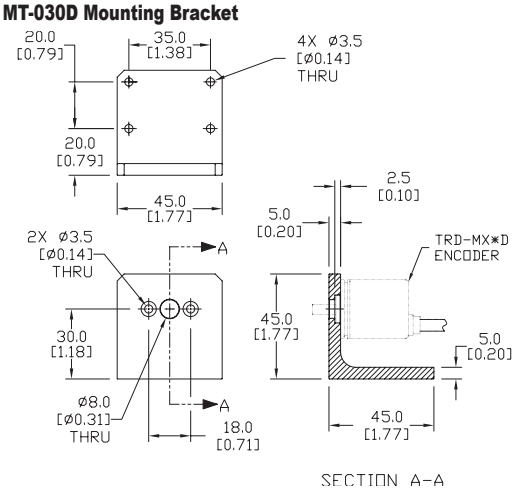


MM-4D Mounting Clamp



MM-4D requires (3) M3 x 0.5 tapped holes equally spaced on a 32 mm bolt circle in the mounting surface.

MT-030D Mounting Bracket



Light Duty Incremental Encoders (Metric Dimension Encoders)

TRD-S(H) series

Features

A light duty encoder that is cost-effective for small applications and has the following features:

- Small body with 38 mm diameter and 30 mm depth
- Dust proof (IP40 rating)
- 6 mm solid shaft or 8 mm hollow shaft
- Resolution available from 100 pulses per revolution to 2500 pulses per revolution
- Open collector or line driver output
- Up to 200 kHz response frequency
- Two-meter cable, tinned ends

Solid-shaft (TRD-S) model

Hollow-shaft (TRD-SH) model

Light Duty Solid Shaft Incremental Encoders (NPN Open Collector and Line Driver models)

Part Number	Price	Pulses per Revolution	Input Voltage	Output	Body Diameter
TRD-S100AD	$111.00	100	5-12 VDC	NPN open collector	38mm
TRD-S360AD	Retired	360			
TRD-S500AD	$111.00	500			
TRD-S1000AD	$111.00	1000			
TRD-S1024AD	$111.00	1024			
TRD-S2500AD	Retired	2500			
TRD-S250BD	Retired	250	12–24 VDC	NPN open collector	
TRD-S300BD	Retired	300			
TRD-S600BD	Retired	600			
TRD-S1000-BD	Retired	1000			
TRD-S1024-BD	Retired	1024			
TRD-S1200BD	Retired	1200			
TRD-S100-VD	$111.00	100	5VDC	Line driver (differential)	
TRD-S250VD	Retired	250			
TRD-S300VD	$111.00	300			
TRD-S400VD	Retired	400			
TRD-S800VD	$111.00	800			
TRD-S1000-VD	Retired	1000			
TRD-S1200VD	$111.00	1200			
TRD-S2500-VD	Retired	2500			

Light Duty Hollow Shaft Incremental Encoders (NPN Open Collector and Line Driver models)

Part Number	Price	Pulses per Revolution	Input Voltage	Output	Body Diameter
TRD-SH100AD	$113.00	100	5-12 VDC	NPN open collector	38mm
TRD-SH360AD	$113.00	360			
TRD-SH500AD	$113.00	500			
TRD-SH1000AD	$113.00	1000			
TRD-SH1024AD	Retired	1024			
TRD-SH2500AD	$119.00	2500			
TRD-SH400BD	Retired	400	12–24 VDC	NPN open collector	
TRD-SH500-BD	Retired	500			
TRD-SH600BD	Retired	600			
TRD-SH1000-BD	$113.00	1000			
TRD-SH1200BD	Retired	1200			
TRD-SH2000BD	Retired	2000			
TRD-SH2500-BD	Retired	2500			
TRD-SH100-VD	$113.00	100	5VDC	Line driver (differential)	
TRD-SH200VD	$113.00	200			
TRD-SH250VD	$113.00	250			
TRD-SH300VD	$113.00	300			
TRD-SH360-VD	$113.00	360			
TRD-SH400VD	$113.00	400			
TRD-SH500-VD	$113.00	500			
TRD-SH600VD	Retired	600			
TRD-SH800VD	$113.00	800			
TRD-SH1000-VD	Retired	1000			
TRD-SH1200VD	$119.00	1200			
TRD-SH2000VD	Retired	2000			
TRD-SH2500-VD	Retired	2500			

Light Duty Incremental Encoders (Metric Dimension Encoders)

Specifications – TRD-S(H) series

Electrical Specifications					
Model			**TRD-SxxxxAD TRD-SHxxxxAD (open collector)**	**TRD-Sxxxx-BD TRD-SHxxxxBD (open collector)**	**TRD-Sxxxx-VD TRD-SHxxxxVD (line driver)**
Power Supply	**Operating Voltage ***		5–12 VDC (nominal) * Range: 4.75–13.2 VDC	12–24 VDC (nominal) * Range: 10.8–26.4 VDC	5VDC (nominal) * Range: 4.75–5.25 VDC
	Allowable Ripple		3% max.		
	Current Consumption		50 mA max.		
Signal Waveform			Quadrature + home position		
Max. Response Frequency			200kHz		
Operating Speed			(max response frequency / resolution) x 60		
Duty Ratio			50% ±25%		
Phase Difference Width			25% ±12.5%		
Signal Width at Home Position			100 ±50%		
Output	**Rise/Fall Time**		1µs max. (when cable length is 1m)		–
	Output Type		NPN open collector output, sinking		Line driver output (26C31 or equivalent)
	Output Logic		Negative logic (active low)		Negative logic (active high)
	Output Voltage	**H**	–		2.5 V min.
		L	0.4 V max.		0.5 V max.
	Current		30mA max.		20 mA max.
	Load Power Voltage		35 VDC max.		–
	Short-Circuit Protection		Between output and power supply		–
** To be supplied by Class II source*					

Mechanical Specifications	
Starting Torque	0.001 Nm (0.00074 ft/lb) max
Max. Allowable Shaft Load	Radial: 20N (4.5 lb); Axial: 10N (2.25 lb)
Max. Allowable Speed	6000 rpm (highest speed that can support the mechanical integrity of encoder)
Wire Size	AWG26
Mounting Orientation	can be mounted in any orientation
Weight	approx. 150g (5.3 oz) with 2m cable

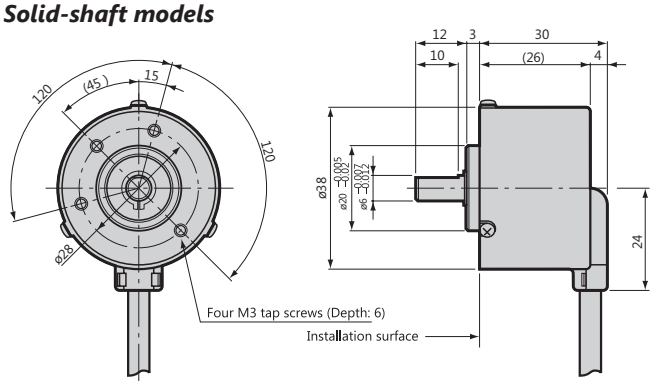
Environmental Specifications	
Ambient Temperature	-10 to 70°C; 14 to 158°F
Storage Temperature	-25 to 85°C; -13 to 185°F
Operating Humidity	35–85% RH
Withstand Voltage	500VAC (50/60Hz) for one minute
Insulation Resistance	50MΩ min.
Vibration Resistance	durable for one hour along three axes at 10 to 55 Hz with 0.75 amplitude
Shock Resistance	11 ms with 490 m/s^2 applied three times along three axes
Protection	IP40

Light Duty Incremental Encoders (Metric Dimension Encoders)

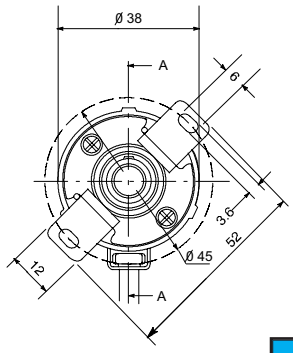
Dimensions – TRD-S(H) series

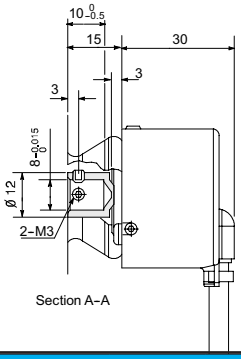
All dimensions in mm
1mm = 0.03937in

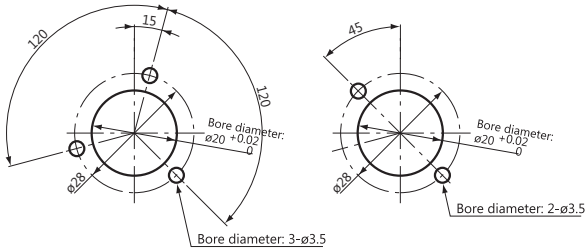
Solid-shaft models



Hollow-shaft models



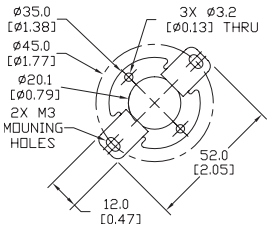


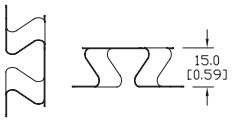


Mounting hole panel cutout (3 holes)

Mounting hole panel cutout (2 holes)

TRD-SH-BKT (bracket)



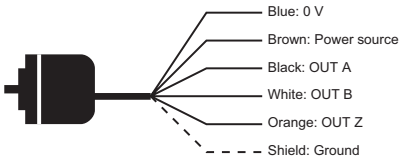


Mounting Accessories		
Part #	***Price***	***Description***
TRD-SH-BKT	$7.00	JTEKT flexible mounting bracket, replacement, metal. For use with JTEKT TRD-SH series hollow shaft encoders.

Wiring diagrams

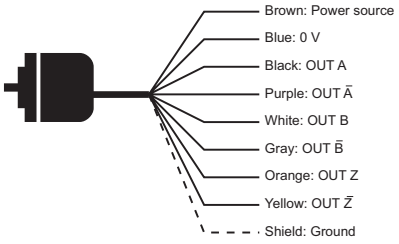
Open collector connections

Cable shield is not connected to the encoder body; enclosure is grounded through the 0V wire



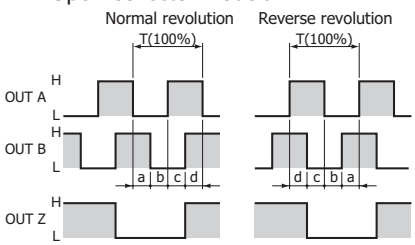
Line driver connections

Cable shield is not connected to the encoder body; enclosure is grounded through the 0V wire

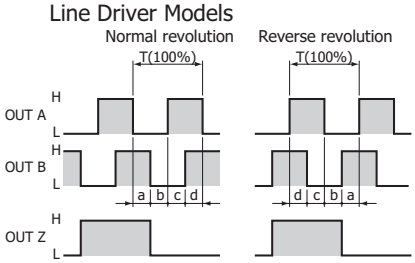


Channel timing charts

Open Collector Models



Line Driver Models



a, b, c, =1/4T±1/8T
"Normal" means clockwise revolution viewed from the shaft.

How to read the timing charts

Open Collector Models

Out A and Out B are 90 degrees out of phase. Like any quadrature encoder, four unique logic states are created internally to the encoder. This is based on the rising edge to rising edge (one cycle) on channel A or B that indicates one set of bars on the internal encoder disk has passed by the optical sensor.

OUT Z is the absolute reference added to an incremental encoder and is also known as home position. It signifies a full rotation of the encoder shaft.

Line Driver Models

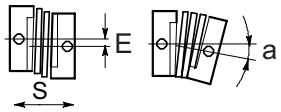
Channel A (OUT A and A-not) and Channel B (OUT B and B-not) are also 90 degrees out of phase on line driver encoders. OUT Z is the same as on open collector models, and is the absolute reference (home position). It signifies one full rotation of the encoder shaft.

Encoder Accessories – Couplings

Encoder Couplings

Couplings provide a connection between solid-shaft encoders and solid shafts. We offer aluminum, fiberglass, and polymer couplings for metric, S.A.E. and metric-to-S.A.E. applications.

Misalignment compensation



Couplings Selection Guide and Dimensions

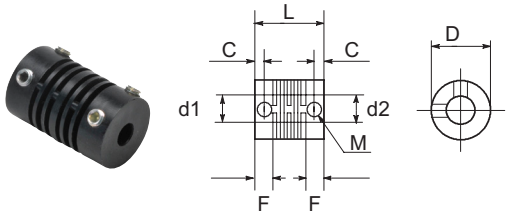
Type	Part Number	Price	Applicable Encoders (shaft size)	Shaft Diameter		D	L	F	C	M	a	E	S	Working Torque	Torsional Rigidity	Material
												max				
				d1	d2	(mm [in])						(mm [in])		(N·m)		
Fiberglass (metric)	GJ-4D	$12.00	TRD-MX (4mm)	4mm	4mm	13 [0.51]	21 [0.83]	5.3 [0.21]	3 [0.12]	M3 set screw	5°	0.4 [0.02]	0.4 [0.02]	0.6 N·m	6 N·m/rad	Glass-fiber reinforced resin
	GJ-6D	$9.25	TRD-S/SR (6mm)	6mm	6mm	15 [0.59]	22 [0.87]	5.2 [0.20]	3 [0.12]	M3 set screw	6°	0.5 [0.02]	0.12 [0.005]	0.8 N·m	10 N·m/rad	
	GJ-8D	$11.00	TRD-N/NA (8mm)	8mm	8mm	19 [0.75]	24 [0.94]	6.8 [0.27]	3.5 [0.14]	M4 set screw	5°	0.5 [0.02]	0.4 [0.016]	1.5 N·m	20 N·m/rad	
	GJ-10D	$12.00	TRD-GK (10 mm)	10 mm	10 mm	22 [0.87]	26 [1.02]	7.1 [0.28]	4 [0.16]	M4 set screw	5°	0.5 [0.02]	0.12 [0.005]	2.0 N·m	32 N·m/rad	
Fiberglass (SAE)	GJ-635D	$22.00	TRDA-2E (0.25 in)	0.25 in	0.25 in	15 [0.59]	22 [0.87]	5.2 [0.20]	3 [0.12]	M3 set screw	5°	0.5 [0.02]	0.12 [0.005]	0.8 N·m	10 N·m/rad	
	GJK-953D	$27.00	TRDA-20/25 (0.375 in)	0.375 in	0.375 in	25 [0.98]	32 [1.26]	7.3 [0.29]	3.5 [0.14]	M4 set screw	5°	0.5 [0.02]	0.12 [0.005]	2.0 N·m	32 N·m/rad	
Polymer (SAE)	STP-MTRA-SC-1412	$30.00	TRDA-2E (0.25 in)	0.25 in	0.50 in	25 [0.98]	38 [1.50]	9.9 [0.39]	5.4 [0.21]	M3 cap screw	5°	0.3 [0.01]	0.12 [0.005]	3.7 N·m	0.36 °/lb·in	Engineered polymer
	STP-MTRA-SC-3812	$30.00	TRDA-20/25 (0.375 in)	0.375 in	0.50 in	25 [0.98]	38 [1.50]	9.9 [0.39]	5.4 [0.21]	M3 cap screw	5°	0.3 [0.01]	0.12 [0.005]	3.7 N·m	0.36 °/lb·in	
Aluminum (metric)	ARM-075-5-4D	$51.50	TRD-MX (4mm)	4mm	5mm	19.1 [0.75]	19.1 [0.75]	4.6 [0.18]	2.4 [0.09]	M3 set screw	5°	0.25 [0.01]	0.25 [0.01]	2.3 N·m	8.2 N·m/rad	Aluminum alloy
	RU-075D	$58.00	TRD-S/SR (6mm)	6mm	6mm	19.1 [0.75]	19.1 [0.75]	4.6 [0.18]	2.4 [0.09]	M3 set screw	5°	0.25 [0.01]	0.12 [0.005]	1.0 N·m	8.2 N·m/rad	
	JU-100D	$51.50	TRD-N/NA (8mm)	8mm	8mm	25.4 [1.00]	25.4 [1.00]	6.6 [0.26]	3.8 [0.15]	M5 set screw	5°	0.25 [0.01]	0.25 [0.01]	1.6 N·m	14.3 N·m/rad	
	RU-100D	$60.00	TRD-GK (10 mm)	10 mm	10 mm	25.4 [1.00]	25.4 [1.00]	6.6 [0.26]	3.8 [0.15]	M5 set screw	5°	0.25 [0.01]	0.12 [0.005]	1.6 N·m	14.3 N·m/rad	
Aluminum (metric-to-SAE)	ML13P-4-476D	$51.50	TRD-MX (4mm)	4mm	0.1875 in	13 [0.51]	19 [0.75]	5.5 [0.22]	2.5 [0.10]	M2 set screw	5°	0.4 [0.02]	0.2 [0.01]	0.25 N·m	44 N·m/rad	Aluminum alloy (Bent plate: Polyimide)
	ML16P-4-635D	$51.50	TRD-MX (4mm) TRDA-2E (0.25 in)	4mm	0.25 in	16 [0.63]	23 [0.91]	7 [0.28]	3 [0.12]	M3 set screw	5°	0.6 [0.02]	0.3 [0.01]	0.4 N·m	70 N·m/rad	
	MCGL16-6-635	$33.00	TRD-S/SR (6mm) TRDA-2E (0.25 in)	6mm	0.25 in	16 [0.63]	23.2 [0.91]	7 [0.28]	3 [0.12]	M3 set screw	3.5°	0.3 [0.01]	0.3 [0.01]	0.4 N·m	70 N·m/rad	
	MCGL20-8-635	$43.00	TRD-N/NA (8mm) TRDA-2E (0.25 in)	8mm	0.25 in	20 [0.79]	26 [1.02]	7.5 [0.30]	3.7 [0.15]	M3 set screw	3.5°	0.3 [0.01]	0.4 [0.02]	0.6 N·m	130 N·m/rad	
	MCGL20-8-952	$44.00	TRD-N/NA (8mm) TRDA-20/25 (0.375 in)	8mm	0.375 in	20 [0.79]	26 [1.02]	7.5 [0.30]	3.7 [0.15]	M3 set screw	3.5°	0.3 [0.01]	0.4 [0.02]	0.6 N·m	130 N·m/rad	
	MCGL25-10-635	$54.00	TRD-GK (10 mm) TRDA-2E (0.25 in)	10 mm	0.25 in	25 [0.98]	30.2 [1.19]	9 [0.35]	4 [0.16]	M4 set screw	3.5°	0.3 [0.01]	0.5 [0.02]	1.4 N·m	240 N·m/rad	
	MCGL25-10-952	$55.00	TRD-GK (10 mm) TRDA-20/25 (0.375 in)	10 mm	0.375 in	25 [0.98]	30.2 [1.19]	9 [0.35]	4 [0.16]	M4 set screw	3.5°	0.3 [0.01]	0.5 [0.02]	1.4 N·m	240 N·m/rad	
Aluminum (SAE)	ARM-075-635-635D	$52.00	TRDA-2E (0.25 in)	0.25 in	0.25 in	19.1 [0.75]	19.1 [0.75]	4.6 [0.18]	2.4 [0.09]	M3 set screw	5°	0.25 [0.01]	0.25 [0.01]	1.0 N·m	8.2 N·m/rad	Aluminum alloy
	ARM-100-9525-9525D	$50.00	TRDA-20/25 (0.375 in)	0.375 in	0.375 in	25.4 [1.00]	25.4 [1.00]	6.6 [0.26]	3.8 [0.15]	M5 set screw	5°	0.25 [0.01]	0.25 [0.01]	1.6 N·m	14.3 N·m/rad	

** mm ÷ 25.4 = inches*

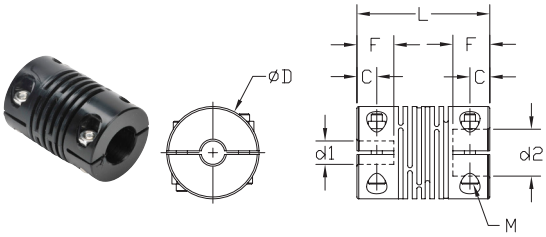
Encoder Accessories – Couplings

Encoder Couplings – Dimensions

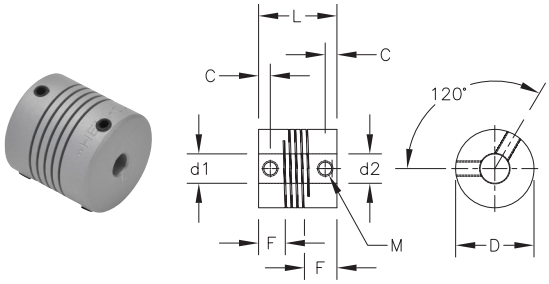
GJ-xxD Fiberglass Couplings (metric) &
GJx-xxxD Fiberglass Couplings (SAE)



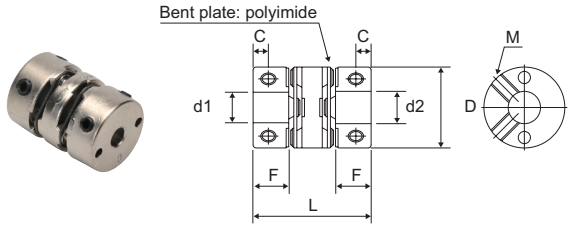
STP-MTRA-SC-xxxx Polymer Couplings



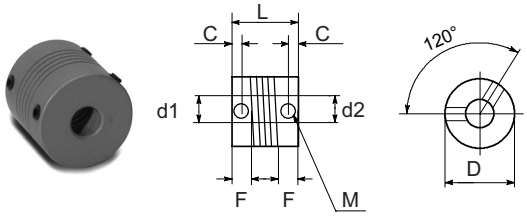
ARM-xxxxxxD Aluminum Couplings (metric & SAE)



MCGLxx Aluminum Couplings &
ML1xP-4-xxxD Aluminum Couplings



RU-075D, RU-100D, and JU-100D Aluminum Couplings

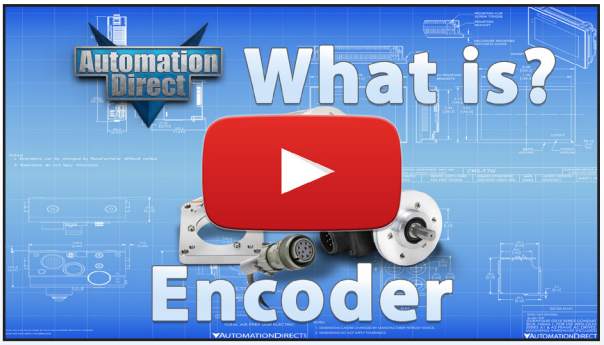


s

ax Radial oad (N)	Max Axial Load (N)	Available Resolutions (PPR)	Brand
NA*	NA*	Programmable Up to 4096	same sky
NA*	NA*	400, 1000	Sure step
20	10	100, 200, 360, 500, 600, 1000, 1024, 2000, 2500	JTEKT
20	20	100, 200, 360, 500, 1000, 1024, 200, 2048, 3600, 4096	lika
20	20	360, 1000, 1024, 2048	
30	30	1024	
100	100	Programmable from 1 to 16,384 (default 1024)	
50	50	250 (linear res: 0.36 deg/cts) 1250 (linear res: 0.072 deg/cts)	
50	30	100, 360, 500, 1000, 1024, 2500	JTEKT
50	30	100, 360, 500, 1000, 1024, 2500	
50	30	3, 4, 5, 10, 30, 40, 50, 60, 100, 120, 200, 240, 250, 300, 360, 400, 480, 500, 600, 750, 1000, 1024, 1200, 2000, 2500	
100	50	30, 100, 120, 200, 240, 250, 300, 360, 400, 500, 600, 1000, 1200, 2000, 2500, 3600, 5000	
50	30	32, 64, 128, 180, 256, 360, 512, 720, 1024 (gray code)	

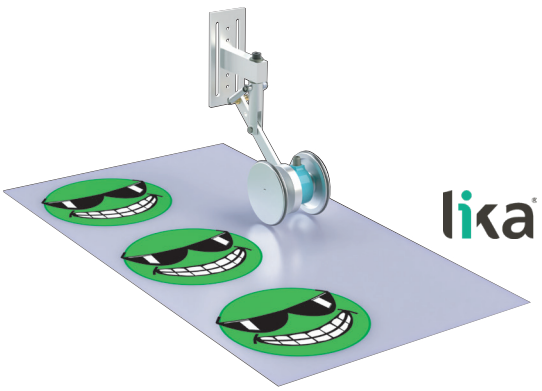
dular/Kit encoders are direct mount, there are no load ratings

Learn more about encoders



Click above or go to http://go2adc.com/encoder to view

Need a Measuring Wheel Encoder?



AR01 Series (Priced at $299.00)

Medium-duty measuring wheels ride directly on the product (above or below) or a conveyor to measure or provide speed control feedback. These can also be used for cut-to-length and positioning applications.

- Metric and US/imperial wheel sizes
  - Standard 4" wheel (12.5" circumference)
  - Optional 80mm wheel (250mm circumference)
- Spring loaded arm with up to 30mm deflection
- IP65 environmental rating

Mounting Brackets

Simplify your installation with a ready-to-use right-angle mounting bracket for light, medium and heavy-duty encoders.

Flanges

Flanges are available to ease encoder mounting to round or square faces along with miscellaneous mounting options.