

Encoder Selection Chart

	Duty	Series	Encoder Diameter	Shaft Diameter	Shaft Type	Operating Voltage and Electrical Output	IP Rating	Cable	Max Radial Load (N)	Max Axial Load (N)	Available Resolutions (PPR)	Brand
Incremental	Modular/Kit	AMT	28mm, 42mm	2, 3, 4, 5, 6, 8mm, 3/16, 1/4, 3/8, 1/2, 5/8 inch	hollow	5V Line Driver (TTL) or 5V Push-Pull (Totem Pole)	IP20	Purchase custom cables separately	NA*	NA*	Programmable Up to 4096	same sky
		MTRA	31mm	5mm, 1/4", 3/8"	hollow	5V Line Driver (TTL) or 5V Push-Pull (Totem Pole)	IP20	Purchase custom cables separately	NA*	NA*	400, 1000	Sure-step®
	Light Duty	TRD-S(H)R	38 or 40mm	8mm	solid or hollow (H)	5-30VDC Universal output circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)	IP50 or IP65	Integral 2m pigtail cable	20	10	100, 200, 360, 500, 600, 1000, 1024, 2000, 2500	JTEKT
		A41	41mm	1/4"	solid or hollow		IP64	Integral 2m pigtail cable	20	20	100, 200, 360, 500, 1000, 1024, 200, 2048, 3600, 4096	lika®
	Medium Duty	A50	50mm	1/4", 3/8"	hollow		IP65	Purchase M12 cables separately	20	20	360, 1000, 1024, 2048	
		A80	80mm	30mm (reducer bushings available for 19, & 20 mm; 5/8, 7/8, 1, & 1 1/8 inch)	hollow		IP64	Purchase M23 cables separately	30	30	1024	
		AQ58/59	58 or 59mm	3/8" solid, 15mm hollow (reducer bushings available for 6, 8, 10, 11, 12mm; 1/4, 3/8, 1/2 inch)	solid or hollow		IP65	Purchase M12 cables separately	100	100	Programmable from 1 to 16,384 (default 1024)	
		AR01	58mm	15mm	solid dual-shaft		IP65	Purchase M12 cables separately	50	50	250 (linear res: 0.36 deg/cts) 1250 (linear res: 0.072 deg/cts)	
		TRDA-20	2"	3/8"	solid		IP50	Integral 2m pigtail cable	50	30	100, 360, 500, 1000, 1024, 2500	
		TRDA-25	2.5" flange (w/ 2.0" body)	3/8"	solid		IP65	Purchase Military Spec (MS) cables separately	50	30	100, 360, 500, 1000, 1024, 2500	
	TRD-N(H)	50mm	8mm	solid or hollow (H)	IP65		Integral 2m pigtail cable	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, 3000, 2600, 5000		
	Heavy Duty	TRD-GK	78mm	10mm	solid		10-30VDC Push-Pull (Totem Pole)	IP65	Integral 2m pigtail cable	100	50	30, 100, 120, 200, 240, 250, 300, 360, 400, 500, 600, 1000, 1200, 2000, 2500, 3600, 5000
		Medium Duty	TRD-NA	50mm	8mm	solid	10-30V NPN/PNP open collector (HTL)	IP65	Integral 2m pigtail cable	50	30	32, 64, 128, 180, 256, 360, 512, 720, 1024 (gray code)

* Modular kit encoders are direct mount, there are no load ratings

Draw Wire Encoder Selection Chart

	Duty	Series	Type	Draw Wire Material	Measuring Length	Operating Voltage	Electrical Output	Cable	IP Rating	Resolution	Brand
Draw Wire	Light Duty	DWP	Potentiometer-based	Stainless Steel	2 Meters	10-30 or 15-30VDC	Analog Voltage or Current: 0-10 V or 4-20 mA	Integral 2m Pigtail Cable	IP64	Potentiometer-based Smooth & Stepless 2mm/mV or 0.125mm/μA	
		DWI	Quadrature Encoder	Stainless Steel	2, 5, or 10 Meters	5-30VDC	Universal Circuit: Push-Pull (Totem Pole), or NPN/PNP Open Collector (HTL), or Line Driver (TTL)	Integral 2m Pigtail Cable		Quadrature Encoder Output 0.050 (2M model) 0.025 (5 & 10M models) mm/encoder count	
	Medium Duty	DWA	Encoder to Analog (16-bit conversion)	Stainless Steel	5 or 10 Meters	13-30VDC	Analog Voltage or Current: 0-10 V or 4-20 mA	Purchase M12 Cable Separately	IP65	Scalable Travel(mm)/10V or Travel(mm)/16mA (see example below)	

Resolution example: A specific application requires 1400mm of travel:

DWP: the analog scaling is fixed. The full range of the output is scaled across the full 2000mm of possible travel

Voltage: 2000mm/10V = 2mm/mV

Current: 2000mm/16mA = 0.125mm/μA

DWI: the encoder PPR output is fixed - based on the model

2M model: 0.050 mm/encoder count

5M or 10M models: 0.025 mm/encoder count

DWA: the analog output can be scaled to the exact 1400mm of travel required by the application.

Voltage: 1400mm/10V = 0.14mm/mV

Current: 1400mm/16mA = 0.0875mm/μA