


Rotary Encoder Selection Chart

	Duty	Series	Encoder Diameter	Shaft Diameter	Shaft Type	Operating Voltage and Electrical Output or Comm Protocol	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	Custom cables sold separately	N/A	N/A	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	Custom cables sold separately	N/A	N/A	400, 1000	Sure-step
	Light Duty	TRD-S(H)R	38 or 40mm	8mm	solid or hollow (H)	5V Line Driver (TTL) or 5-26V NPN/PNP open collector (HTL)	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	5-30VDC Universal output circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)	IP64	Integral 2m pigtail cable	20	20	100, 200, 360, 500, 1000, 1024, 200, 2048, 3600, 4096	lika
	A50	50mm	1/4", 3/8"	hollow	IP65		M12 cables sold separately	20	20	360, 1000, 1024, 2048		
	A80	80mm	30mm (reducer bushings available for 19, & 20mm; 5/8, 7/8, 1, & 1 1/8 inch)	hollow	IP64		M12 cables sold 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		M12 cables sold separately	100	100	Programmable from 1 to 16,384 (default 1024)		
	Medium Duty	AR01	58mm	15mm	solid dual-shaft	IP65	M12 cables sold separately	50	50	250 (linear res: 0.36 deg/cts) 1250 (linear res: 0.072 deg/cts)	JTEKT	
		TRDA-20	2"	3/8"	solid	5VDC Line Driver (TTL) or 5-30VDC Push-Pull (Totem Pole)	IP50	Integral 2m pigtail cable	50	30		100, 360, 500, 1000, 1024, 2500
		TRDA-25	2.5" flange (2" body)	3/8"	solid	5VDC Line Driver (TTL) or 5-30VDC Push-Pull (Totem Pole)	IP65	Military Spec (MS) cables sold separately	50	30		100, 360, 500, 1000, 1024, 2500
TRD-N(H)		50mm	8mm	solid or hollow (H)	5VDC Line Driver (TTL) or 5-30VDC Push-Pull (Totem Pole)	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	58V	58mm	10mm	solid	5-30VDC Universal output circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)	IP67 & IP69K	Integral 2m pigtail cable	300	300	60, 100, 360, 500, 1000, 1024, 2000, 2500, 4096, 5000	WACHENDORFF	
	36J	36mm	10mm	solid		IP67 & IP69K	M12 cables sold separately	100	100	60, 100, 360, 500, 1000, 1024, 2000, 2500, 4096, 5000		
	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		
Absolute	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)	JTEKT
		AMS	58mm	3/8" solid, 15mm hollow (reducer bushings available for 6, 8, 10, 11, 12mm; 1/4, 3/8, 1/2 inch)	solid or hollow	5-30 VDC (EtherNet/IP, EtherCAT, Modbus TCP) 10-30 VDC (Modbus RTU)	IP65	M12 cables sold separately	40	40	Programmable up to 8192 (13 bit) Multi-turn up to 16384 turns (14 bit)	lika

Draw Wire Encoder Selection Chart

4/23/2025

		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: $2000\text{mm}/10\text{V} = 2\text{mm}/\text{mV}$
 Current: $2000\text{mm}/16\text{mA} = 0.125\text{mm}/\mu\text{A}$



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: $1400\text{mm}/10\text{V} = 0.14\text{mm}/\text{mV}$
 Current: $1400\text{mm}/16\text{mA} = 0.0875\text{mm}/\mu\text{A}$

Measuring Wheel Encoder Selection Chart

		Duty	Series	Sold As	Encoder Diameter	Shaft Diameter	Shaft Type	Operating Voltage and Electrical Output or Comm Protocol	IP Rating	Cable	Max Radial Load (N)	Max Axial Load (N)	Linear Resolution	Brand
Incremental	Medium Duty		AR01	Preassembled unit	58mm	15mm	solid dual-shaft	5-30VDC Universal output circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)	IP65	M12 cables sold separately	50	50	up to 0.0025" (1250ppr encoder with 12.5" wheels) up to 0.05mm (1250ppr encoder with 250mm wheels)	
	Heavy Duty		58V encoder+ MR wheel+ WDGM spring mount	Components (encoder, wheel, spring mount sold separately)	58mm	10mm	solid	5-30VDC Universal output circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)	IP67 and IP69K	Integral 2m pigtail cable	300	300	up to 0.01mm (5000ppr encoder with 200mm wheels)	
			36J encoder+ MR Wheel+ WDGM spring mount	Components (encoder, wheel, spring mount sold separately)	36mm	10mm	solid		IP67 and IP69K	M12 cables sold separately	100	100	up to 0.01mm (5000ppr encoder with 200mm wheels)	