

DWx Series Light and Medium Duty Draw Wire Encoders

Smart encoders & actuators

Draw Wire Encoders, also known as string encoders or string potentiometers, use a spring-loaded cable reel that is wrapped with a steel cable. The reel is connected to a rotary encoder or potentiometer that can provide very accurate feedback of how far the steel cable has been pulled out. Our Draw Wire Encoders provide encoder (quadrature) and analog (0-10V, 4-20mA) outputs and are available from 2 meter pull lengths up to 10 meter lengths.

Typical applications include linear measuring, vertical lift measurement, cylinder stroke measurement, or any application where accurate, inexpensive, and easy to install measurement of a linear distance is required.



Features

DWI Series

- Encoder (quadrature) output 0.025–0.050 mm/count resolution
- · Cost effective
- Miniature size (DWI-2M), robust and space saving construction
- Universal electrical output (line driver, open collector, etc.)
- · Stainless steel draw wire
- Measuring lengths of 2000mm, 5000mm, and 10000mm
- Light duty IP64 and medium duty IP65 encoders available

DWP Series

- Analog voltage or current output: 0-10 V or 4-20 mA
- · Robust design
- Smooth, stepless analog incrementing (potentiometer-based)
- Stainless steel draw wire
- Measuring lengths of 2000mm
- IP64

DWA Series

- Programmable Analog out: 0-10 V or 4-20 mA
- Easy to use Teach Mode (use pushbuttons on the back of the encoder or use digital inputs)
- Status LEDs
- Overrun function (alarm if wire is pulled outside the Teach limits)
- Convenient M12 cable connection
- Stainless steel draw wire
- Measuring lengths of 5000mm and 10000mm
- IP65

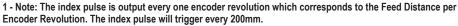
	DWx	Series I	ight and	Medium	Duty Draw V	Vire Enco	ders			
Part Number	Price	Duty Type	Measuring Length	Measuring Speed	Feed Distance per Encoder Revolution	Resolution	Dimensional Drawing	Input Voltage	Output	
DWI-2M-H0500-RL2	\$249.00	Light	2000mm	1m/sec max	100mm	0.050 mm/count (quadrature)	PDF	F 20	Universal output circuit: Push-Pull (Totem Pole) or NPN/PNP open collector (HTL), or Line Driver (TTL) Quadrature (AB,/AB)	
DWI-5M-H2000-RL2	\$405.00		5000mm	0/	000	0.025 mm/count	PDF	5–30 VDC	Universal output circuit: Push-Pull (Totem Pole) or NPN/PNP open collector (HTL), or Line Driver (TTL) Quadrature with index (ABZ, /ABZ)	
DWI-10M-H2000-RL2	\$470.00		10000mm	2m/sec max	200mm	(quadrature)	PDF			
DWP-2M-4A-RL2	\$299.00		2000	2000mm	1m/sec max	100mm	Analog (stepless)	PDF	10–30	4–20 mA
DWP-2M-0V-RL2	\$299.00		2000111111	IIII/Sec IIIax	TOOTHIT	Arialog (stepless)	<u>PDF</u>	VDC	0–10 V	
DWA-5M-4A-M12	\$550.00		5000mm	200/200	200mm -	16bit (min 0.366 µA/step)	<u>PDF</u>	13–30 VDC	4–20 mA	
<u>DWA-5M-0V-M12</u>	\$550.00					16bit (min 0.153 mV/step)	PDF		0–10 V	
DWA-10M-4A-M12	\$625.00		10000mm	2m/sec max		16bit (min 0.366 µA/step)	PDF		4–20 mA	
DWA-10M-0V-M12	\$625.00		1000011111		16bit (min 0.153 mV/step)	PDF		0–10 V		



DWI Series Light and Medium Duty Draw Wire Encoders

Specifications - DWI Series

DWI Series Specifications						
Model		<u>DWI-2M-H0500-RL2</u>	DWI-5M-H2000-RL2	<u>DWI-10M-H2000-RL2</u>		
Price		\$249.00	\$405.00	\$470.00		
Drawing		<u>PDF</u>	PDF	PDF		
S	Resolution	0.05 mm	0.025 mm			
	Output Signals	AB, /AB	ABZ, /ABZ			
Electrical Specifications	Output Circuits	Universal output circuit: Push-Pull (Totem Pole) or NPN/PNP open collector (HTL), or Line Driver (TTL), Quadrature (AB,/AB)	Universal output circuit: Push-Pull (Totem Pole) or NPN/PNP open collector (HTL), or Line Driver (TTL), Quadrature with index (ABZ, /ABZ) ¹			
ectric	Power Supply	5–30 VDC				
Ele	Output Current	40mA max				
	Input Current	60mA max				
	Feed Distance per Encoder Revolution	100mm	200)mm		
SIIC	Wire Retraction Force	3–5 N	3.2–6.5 N	3.2–6 N		
icatio	Measuring Length	2000mm	5000mm	10000mm		
Mechanical Specifications	Measuring Speed	1 m/sec max	2 m/sec max			
	Linearity ²	± 0.3 mm	± 0.5 mm			
chan	Repeatability	± 0.1 mm				
Me	Signal Cable	2.0 m cable				
	Weight	0.2 kg	0.8 kg			
ials	Housing	Aluminum plus plastic	Aluminum			
Materials	Draw Wire	Stainless steel, non-magnetic – UNI EN 4305				
Environmental Specifications	Shock	100g, 6ms				
	Vibrations		10g, 5–2000 Hz			
	Protection	IP64	IP65			
	Operating Temperature Range	-25°C to +85°C (-13°F to +185°F)	-40°C to +85°C (-40°F to +185°F)			
	Storage Temperature Range	-40°C to +100°C (-40°F to +212°F), 98% relative humidity, non-condensing				
E	Approvals	UKCA, CE, RoHS				



^{2 -} Note: Linearity is the measurement difference between the ideal or expected output position (a straight line) and the reported output position of the draw wire.



DWI-2M-H0500-RL2



DWI-5M-H2000-RL2



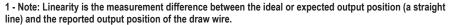
DWI-10M-H2000-RL2



DWP Series Medium Duty Draw Wire Encoders

Specifications - DWP Series

	DWP Series Specifications						
Мос	lel	DWP-2M-4A-RL2	DWP-2M-0V-RL2				
Pric	е	\$299.00	\$299.00				
Drawing		PDF	PDF				
SU	Current Output	4 –20 mA \pm 5%					
Electrical Specifications	Power Supply (for current output)	10–30 VDC					
Spec	Voltage Output	0–10 V ± 5%					
ectrical	Power Supply (for voltage output)	15–30 VDC					
El	Input Current	2mA max					
	Feed Distance per Encoder Revolution	100mm					
SUC	Wire Retraction Force	3–5 N					
ficatio	Measuring Length	2000mm					
Mechanical Specifications	Measuring Speed	1 m/sec	n/sec max				
	Linearity ¹	± 0.25% of current position value					
	Repeatability	± 0.15 mm					
N	Signal Cable	2.0 m cable					
	Weight	0.2 kg					
Waterials	Housing	Aluminum					
Mate	Draw Wire	Stainless steel, non-magnetic – UNI EN 4305					
S	Shock	100g, 6ms					
Environmental Specifications	Vibrations	10g, 5–2000 Hz					
	Protection	IP64					
	Operating Temperature Range	-25°C to +85°C (-13°F to +185°F)					
nvironm	Storage Temperature Range	-40°C to +100°C (-40°F to +212°F), 98% relative humidity, non-condensing					
Ē	Approvals	UKCA, CE, RoHS					





DWP-2M-4A-RL2



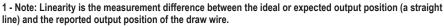
DWP-2M-0V-RL2



DWA Series Medium Duty Draw Wire Encoders

Specifications - DWA Series

	DWA Series Specifications						
Model		DWA-5M-4A-M12			DWA-10M-0V-M12		
Price		\$550.00	\$625.00	\$550.00	\$625.00		
Drawing		PDF	PDF	PDF	PDF		
Electrical Specifications	Resolution	65536 steps (min. step = 0.048 mm)					
	Power Supply	13–30 VDC					
	Output Circuit	4–20 mA 0–10 V					
	Output Range	Adjustable by teach-in buttons					
	Input current	1.5 W					
	Protection	Against inversion of polarity and short-circuit					
	EMC	Electro-magnetic immunity, according to: EN-61000-4-2 and EN-61000-4-4					
	Optoelectronic Life	>100,000 hours					
	Functions	Teach window of travel length Overrun limit alarm					
Wechanical Specifications	Feed Distance per Encoder Revolution	200mm					
	Wire Retraction Force	3.2–6.5 N	3.2–6 N	3.2–6.5 N	3.2–6 N		
	Measuring Length	5000	10000	5000	10000		
	Measuring Speed	2 m/sec max					
	Linearity ¹	± 0.5 mm					
echai	Repeatability	± 0.1 mm					
Me	Signal Cable	M12 plug					
	Weight	0.8 kg					
rials	Housing	Aluminum					
Materials	Draw Wire	Ş	Stainless steel, non-ma	agnetic – UNI EN 430)5		
S	Shock						
fication	Vibrations	10g, 5–2000 Hz					
	Protection	IP65					
	Operating Temperature Range		-40°C to +85°C ((-40°F to +185°F)			
	Storage Temperature Range	-40°C to +100°	non-condensing				
EI	Approvals	UKCA, CE, RoHS					





DWA-10M-4A-M12



DWA-10M-0V-M12



DWA-5M-0V-M12



DWA-5M-4A-M12