

Absolute Wire-Type Linear Scale Encoder

■ Features

- Max. measuring range 512mm
- Min. resolution: 0.1mm
- Various output codes: Binary, Gray code

■ Applications

Manufacturing facility for FPD and semi-conductor, machine tool, robot, medical devices

⚠ Please read "Safety Considerations" in the instruction manual before using.



■ Ordering Information

EWLS	50	512	B	PN	24
Series	Body size	Measuring range	Output code	Control output	Power supply
Absolute Wire-type Linear Scale	50mm×50mm	512mm	B: Binary Code G: Gray Code	Parallel NPN open collector output	12-24VDC ±5%

■ Specifications

Item		Absolute Wire-type Linear Scale		
Model		EWLS50-512-B-PN-24	EWLS50-512-G-PN-24	
Measuring range		512mm		
Max. output pulse/mm		5,120-division/512mm		
Min. resolution ^{*1}		0.1mm		
Accuracy		±0.1/100mm		
Response speed		Max. 500mm/sec.		
Wire movement limit when power is off ^{*2}		Max.±20mm		
Electrical specification	Output	Output code	Binary	Gray
		Output signal	Data, Overflow alarm	
		Control output	Parallel NPN open collector output	
		Output capacity	Load current: Max. 32mA, Residual voltage: Max. 1VDC≒	
		Logic	Negative logic output	
		Response time	Max. 1μs (Cable length: 2m, I sink=32mA)	
	Input	Input signal	Reset	
		Input level	High: 5-24VDC≒, Low: 0-1.2VDC≒	
		Input logic	Low Active, OPEN or HIGH for common use	
		Input time	Min. 100ms	
	Max. Response frequency		50kHz	
	Power supply		12-24VDC≒ ± 5% (Ripple P-P: Max. 5%)	
	Current consumption		Max. 150mA (disconnection of the load)	
	Insulation resistance		Min. 100MΩ (500VDC megger)	
Dielectric strength		750VAC 50/60Hz for 1minute		
Connection		Cable type (Cable Gland)		
Wire tensile force		0.5N to 4N (50gf to 400gf)		
Vibration		1.5mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 2 hours		
Shock		Approx. Max. 50G		
Environment	Ambient temperature	-10 to 70°C, storage: -25 to 85°C		
	Ambient humidity	35 to 85%RH, storage: 35 to 90%RH		
Cable		Ø6mm, 17-wire, Length: 2m, Shield cable (AWG28, Core diameter: 0.08mm, Number of cores: 19, Insulator out diameter: Ø0.8mm)		
Material		Cap: SPCD, Body: A2024, Wire: SUS303		
Accessories		Hexagon wrench screw (M4×8)		
Approval		CE		
Unit weight		Approx. 450g		

※1: Not indicated resolutions are customizable.

※2: The unit will not process data when the power is OFF. It calibrates the data by comparing values of before and after power OFF status. It should be used in the condition that wire movement is limit, because you cannot get the correct data when you utilize wiring function over ±20mm at the position when power is OFF.

※Environment resistance is rated at no freezing or condensation.

SENSORS

CONTROLLERS

MOTION DEVICES

SOFTWARE

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) LIDAR

(D) Door/Area Sensors

(E) Vision Sensors

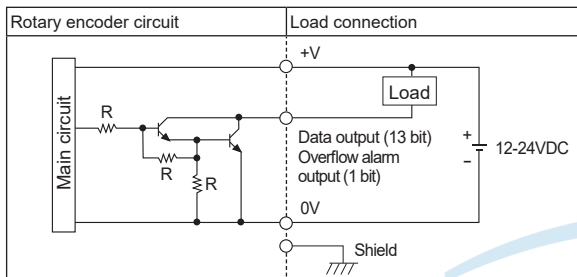
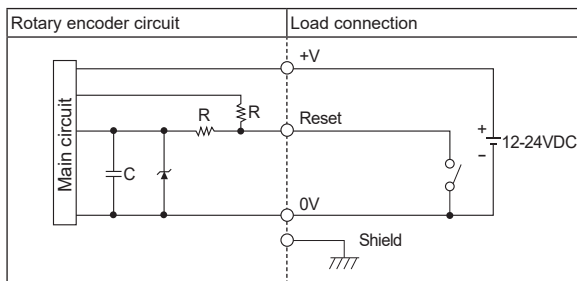
(F) Proximity Sensors

(G) Pressure Sensors

(H) Rotary Encoders

(I) Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets

Control I/O Circuit



※Output of each bit is the same circuit.
 ※Overload or short may cause circuit break.

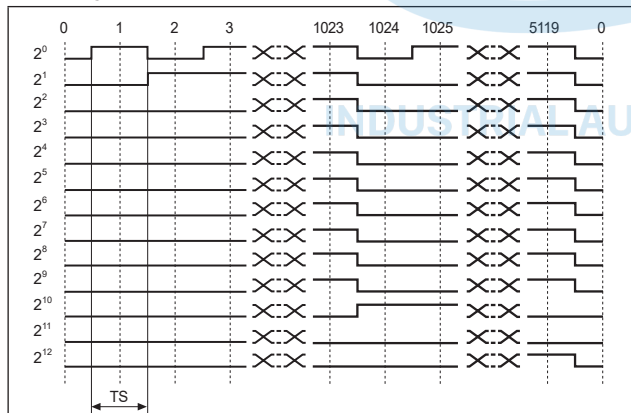
Connections

Cable color	Description
Brown	2^0
Red	2^1
Orange	2^2
Yellow	2^3
Green	2^4
Blue	2^5
Purple	Data signal output 2^6
Gray	2^7
Pink	2^8
Clear	2^9
Light brown	2^{10}
Light yellow	2^{11}
Light green	2^{12}
Light blue	Overflow alarm signal output
Light Purple	Reset signal input
White	+V (12-24VDC)
Black	GND (0V)
Shield wire	Signal shield cable (F.G.)

※Do not apply tensile strength over 10N to the cable.

Output Waveform

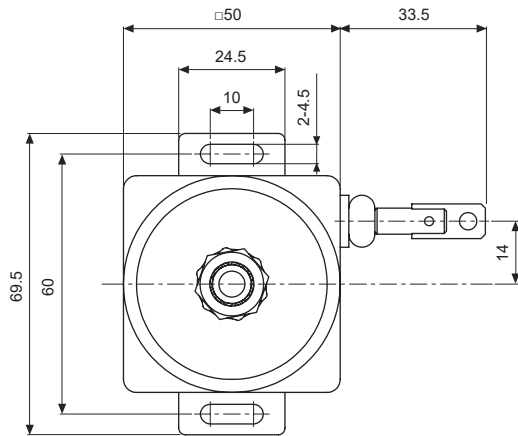
Binary Code output



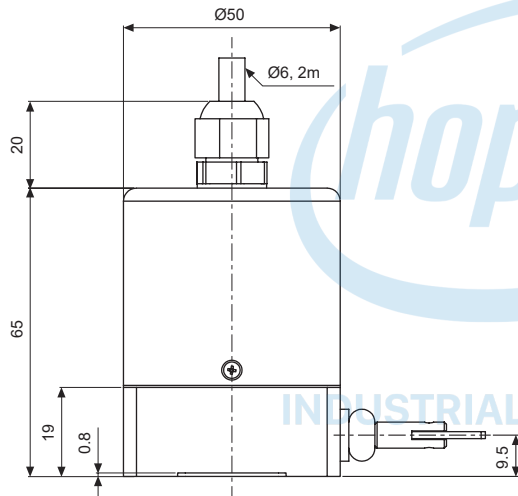
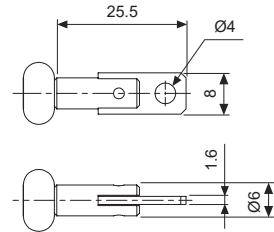
※TS=0.3515"±15"
 ※Above waveform is based on the positive logic.
 (The output waveform of negative logic is opposite to above waveform.)

■ Dimensions

(unit: mm)



• Hook



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LiDAR(D)
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Vision
Sensors(F)
Proximity
Sensors(G)
Pressure
Sensors(H)
Rotary
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Connectors/
Connector Cables/
Sensor Distribution
Boxes/ Sockets