

## 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	<b>EWLS50-512-B-PN-24</b>	<b>EWLS50-512-G-PN-24</b>		
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	<b>CE</b>			
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.

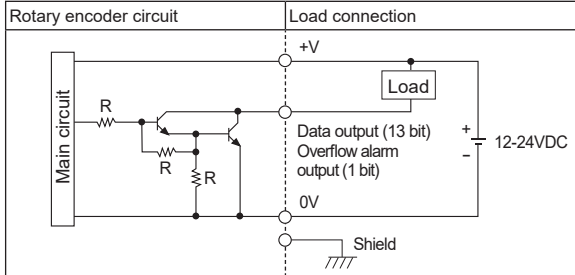
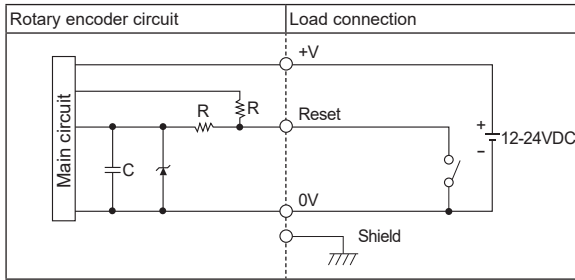
※Environment resistance is rated at no freezing or condensation.

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

# EWLS50 Series

## Control I/O Circuit



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

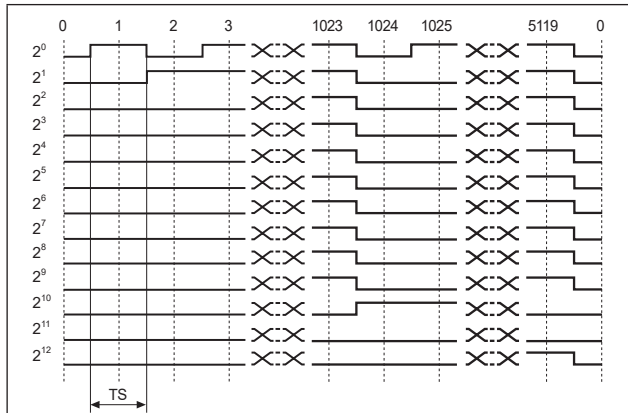
## Connections

Cable color	Description	
Brown	Data signal output	$2^0$
Red		$2^1$
Orange		$2^2$
Yellow		$2^3$
Green		$2^4$
Blue		$2^5$
Purple		$2^6$
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

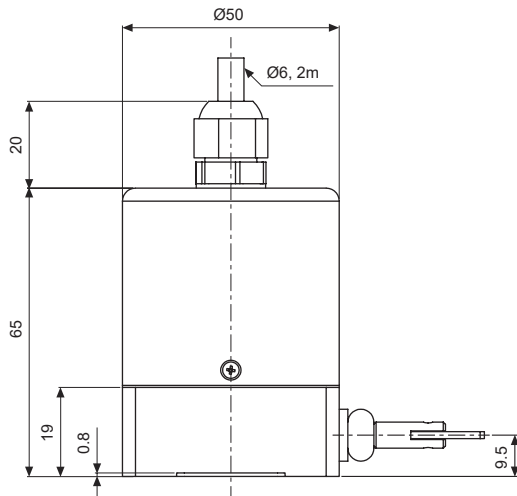
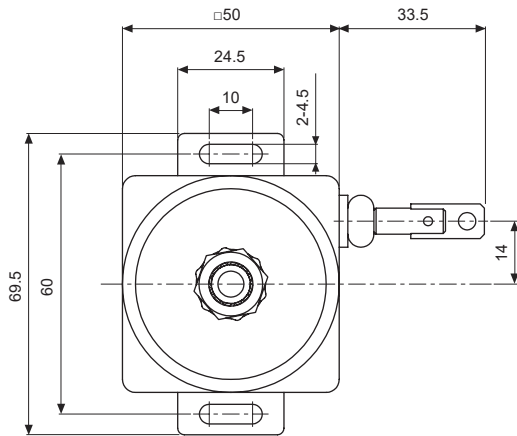


- ※TS=0.3515'±15'
- ※Above waveform is based on the positive logic.  
(The output waveform of negative logic is opposite to above waveform.)

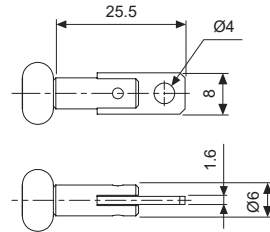
# Absolute Wire-Type Linear Scale

## ■ Dimensions

(unit: mm)



### ● Hook



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