

## 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 "Caution for your safety" in operation manual before using.**



### ■ Ordering information

<b>EWLS</b>	-	<b>50</b>	-	<b>512</b>	-	<b>B</b>	-	<b>PN</b>	-	<b>P</b>
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	5,120division/512mm			
Min.resolution	0.1mm			
Accuracy	±0.1/100mm			
Response speed	Max. 500mm/sec.			
Wire movement limit when power is off <sup>※1</sup>	Max.±20mm			
Electrical specification	Output	Output code	Binary	Gray
		Output signal	Data, Overflow alarm	
		Output type	NPN open collector output	
		Output capacity	Load current: Max. 32mA, Residual voltage: Max. 1VDC	
		Logic	Negative logic output	
		Response time (Up/Down)	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(50g-f to 400g-f)			
Vibration	1.5mm amplitude or 300m/s <sup>2</sup> at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions 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	ø6, 17-wire, Length: 2m, Shield cable (AWG28, Core diameter : 0.08mm, Number of cores : 19, Insulator out diameter : ø0.8)			
Material	Cap: SPCD, Body: A2024, Wire: SUS303			
Accessories	Hexagon wrench screw(M4×8)			
Approval	<b>CE</b>			
Unit weight	Approx. 450g			

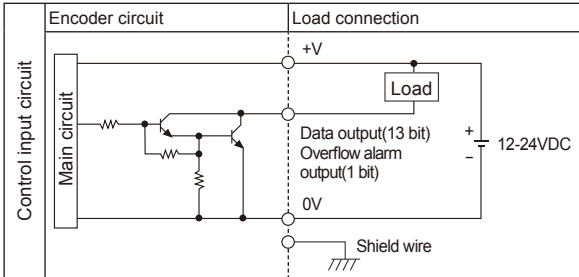
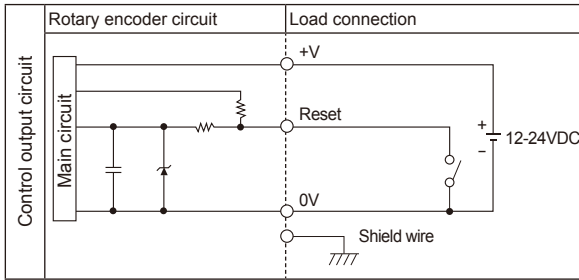
※1: The product cannot process data when the power is OFF. It calibrates the data comparing values of before and after power ON status. It shall be used on the condition that wire movement limit because proper data may not be available if any wire movement occurred over ±20mm from the position when power is off.

※Environment resistance is rated at no freezing or condensation.

(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
(I)	SSR/ Power controller
(J)	Counter
(K)	Timer
(L)	Panel meter
(M)	Tacho/ Speed/ Pulse meter
(N)	Display unit
(O)	Sensor controller
(P)	Switching mode power supply
(Q)	Stepper motor& Driver&Controller
(R)	Graphic/ Logic panel
(S)	Field network device
(T)	Software
(U)	Other

# EWLS50 Series

## Control I/O circuit



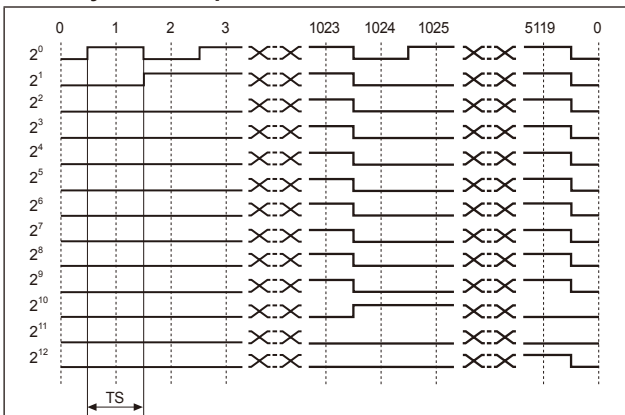
- ※Output of each bit is the same circuit.
- ※Overload or short may cause circuit break.

## Connections

Cable color	Description
Brown	$2^0$
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.)

## Output waveform

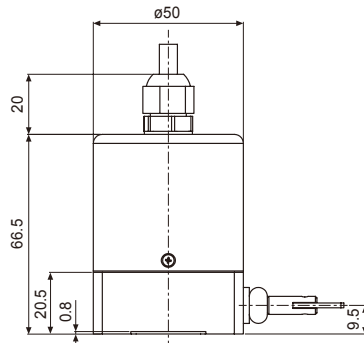
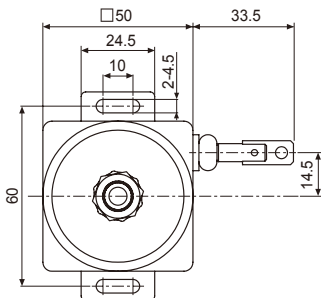
### Binary Code output



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

## Dimensions

(unit: mm)



### Hook

