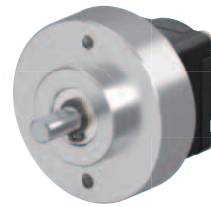
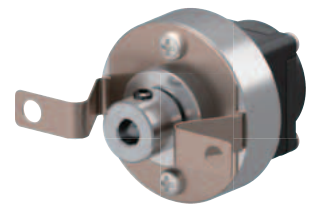


Rotary Encoder

- Outer diameter $\phi 30$ mm
- High resolution (1000 P/R or 2000 P/R) Incremental Type
- Voltage output, line driver output



Round Shaft Type



Hollow Shaft Type

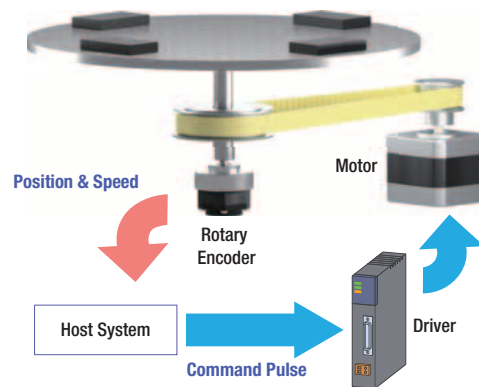
Small, Thin, and Lightweight High-Resolution Incremental Encoder

Because these are small, thin and lightweight, with an outer diameter of $\phi 30$ mm, depth of 22 mm, and mass of 33 g (round shaft type) / 38 g (hollow shaft type), they can be installed in tight spaces.

It is also a high resolution (1000 P/R or 2000 P/R) incremental type.

Actual Position, Speed and Rotation Direction of the Mechanism can be Detected

By installing a rotary encoder on a mechanism, a preventative maintenance system for that mechanism can be created.

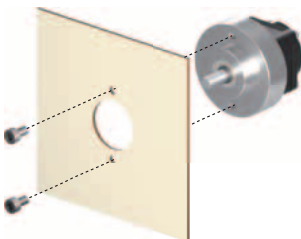


● Application Example

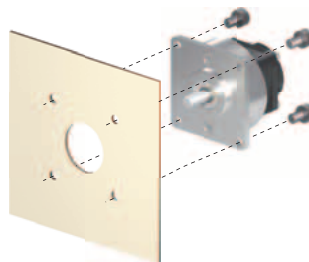
In a belt-and-pulley mechanism, it is possible to detect the difference in rotation between the motor and mechanism due to belt deflection or breakage.

Can Be Installed to Suit the Mechanism

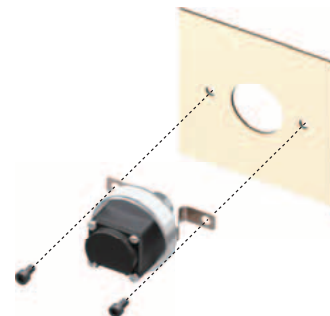
Round Shaft Type



Round Shaft Type + Mounting Bracket
(Sold separately)

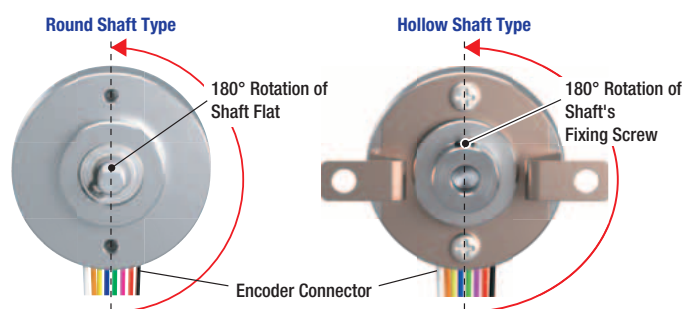


Hollow Shaft Type



Aligning Mechanical Home and Z-Phase Signal Position is Easy

The Z-phase signal is output at the position where the shaft flat (round shaft type) or the fixing screw (hollow shaft type) has rotated 180° from the encoder connector. Use this as a guide when aligning the mechanical home and the Z-phase signal position.



Product Number

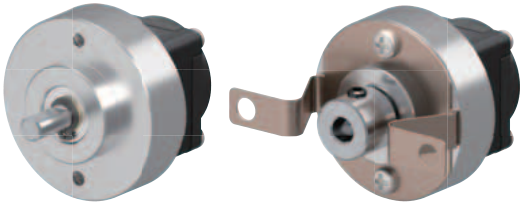
Rotary Encoder

RE2 A R3J L

① ② ③

①	Output Shaft Type	A : Round Shaft H : Hollow Shaft
②	Resolution	R3J : 1000 P/R R3M : 2000 P/R
③	Output Circuit Type	L : Line Driver Output Blank: Voltage Output

Product Line



Round Shaft Type

Hollow Shaft Type

Output Shaft Type	Resolution (P/R)	Output Circuit Type	Product Name
Round Shaft Type	1000	Line Driver	RE2AR3JL
		Voltage	RE2AR3J
	2000	Line Driver	RE2AR3ML
		Voltage	RE2AR3M
Hollow Shaft Type	1000	Line Driver	RE2HR3JL
		Voltage	RE2HR3J
	2000	Line Driver	RE2HR3ML
		Voltage	RE2HR3M

● Connection cables must be ordered individually.

Included Items

Operating Manual

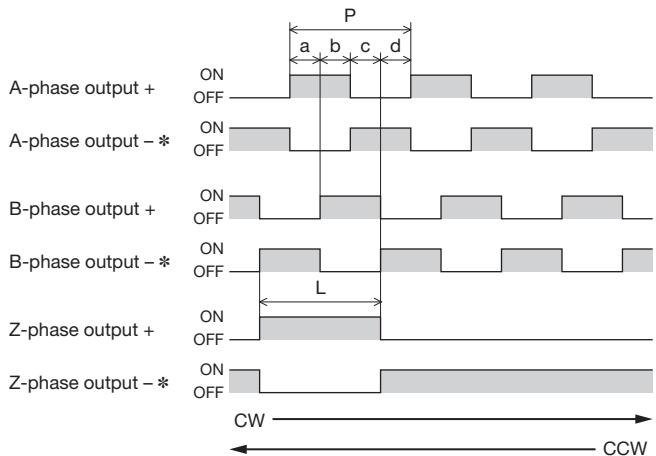
Specifications

Electrical Specifications

Output Type		Incremental	
Output Circuit		Line Driver Output*	Voltage Output
Resolution (p/r)		1000, 2000	
Output Signals		A phase, B phase, Z phase: 3 channel	
Output Circuit			
Max. Draw Current		20 mA	
Output Voltage	H Level	2.5 VDC min.	4.3 VDC min. (no load)
	L Level	0.5 VDC max.	
Response Frequency		200 kHz max.	100 kHz max.
Power Supply Voltage		5 VDC ± 10%	
Current Consumption (No load)		30 mA max.	45 mA max.
Angular Accuracy		±0.36°	

*26C31 or Equivalent

Output Waveform



*Line driver output only

Waveform Accuracy

- Duty ratio: 50% ± 12.5% for both A-phase output and B-phase output
- Z phase output: $P/4 \leq L \leq 3P/4$
- Phase difference: $a, b, c, d = P/4 \pm P/8$
- Signal rise and fall times: 1 μs max. (at connector terminal)

General Specifications

Operating Environment	Ambient Temperature	-10~+85°C (Non-Freezing)
	Humidity	85% or less (Non-Condensing)
	Altitude	Up to 1000 m above sea level
Storage Conditions Transportation Conditions	Atmosphere	No corrosive gases or dust. The product should not be exposed to water, oil or other liquids.
	Ambient Temperature	-20~+85°C (Non-Freezing)
	Humidity	85% or less (Non-Condensing)
Degree of Protection	Altitude	Up to 3000 m above sea level
	Atmosphere	No corrosive gases or dust. The product should not be exposed to water or oil.
Degree of Protection	IP20	
Insulation Resistance	100 MΩ or more when a 500 VDC megger is applied between the power supply terminal and the frame.	
Dielectric Strength	Sufficient to withstand 0.5 kVAC 50/60 Hz applied between the power supply terminal and the frame for 1 minute.	
Vibration	10~55 Hz Full amplitude 1.5 mm X, Y, Z; 2 hours for each direction	
Shock	490 m/s ² 11 ms X, Y, Z directions; 3 times each	

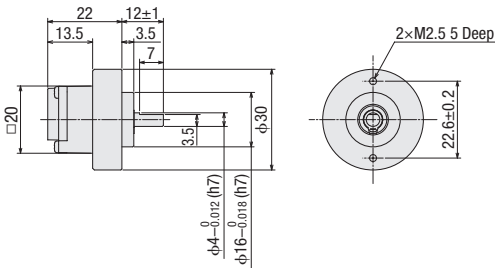
Mechanical Specifications

Inertia	1.0×10 ⁻⁷ kg·m ² (Round Shaft Type)
	1.6×10 ⁻⁷ kg·m ² (Hollow Shaft Type)
Permissible Radial Load	10 N (Shaft End)
Permissible Axial Load	5 N
Max. Speed	6000 r/min (Max. Response Frequency)
Mass	33 g (Round Shaft Type)
	38 g (Hollow Shaft Type)

Dimensions (Unit: mm)

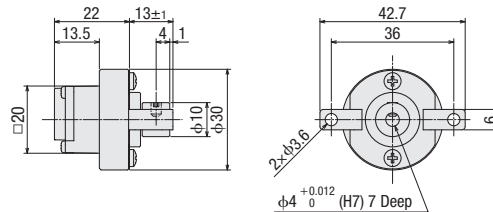
Round Shaft Type

Mass 33 g



Hollow Shaft Type

Mass 38 g



Encoder Connection Cable

① Lead Wire

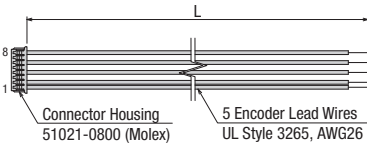


◇ Product Line

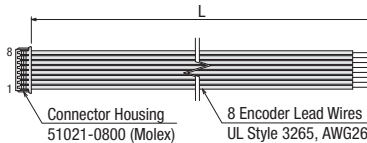
Applicable Encoder Type	Product Name	Length L (m)	Conductor AWG
Voltage Output	LCE05A-006	0.6	26 (0.13 mm ²)
Line Driver Output	LCE08A-006		

◇ Dimensions (mm)

•For Voltage Output



•For Line Driver Output



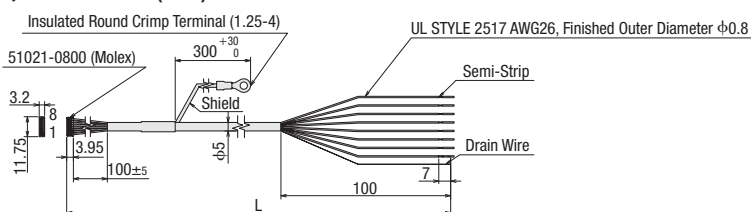
② Flexible Shielded Cable



◇ Product Line

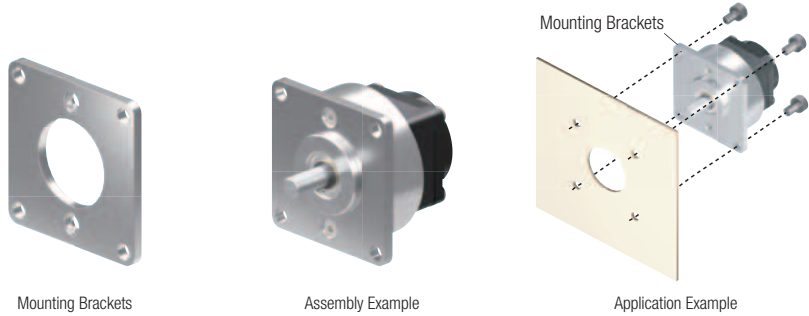
Applicable Encoder Type	Product Name	Length L (m)	Conductor AWG
Voltage Output/ Line Driver Output	CC010E1R	1	26 (0.13 mm ²)
	CC020E1R	2	
	CC030E1R	3	

◇ Dimensions (mm)



Mounting Bracket (Round Shaft Type)

The round shaft type rotary encoder can be installed by using the mounting bracket.



◇ Product Line

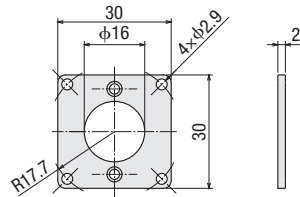
Product Name
PEF2

◇ Included Items

Installation Screws M2.5 × 2

◇ Dimensions (mm)

Material: Aluminum Alloy Surface Treatment: Anodized Aluminum



Safety Precautions

- Please read the operating manual carefully prior to use, and use products correctly.
- The products listed in this catalog are for industrial use and use as built-in components.
Do not use for other applications.

- The plants that manufacture the products listed in this catalog have acquired ISO9001 certification for their quality management systems and ISO14001 certification for their environmental management systems.
- The performance and specifications of the products listed in this catalog are subject to change for improvement without notice.

Visit www.orientalmotor.com

For further information (specifications, dimensions, speed-torque characteristics)