

Rotary Encoders

Incremental	25 dia.	E6A2-C	F-2
	40 dia.	E6B2-C	F-3
	50 dia.	E6C2-C	F-5
	60 dia.	E6F-C	F-7
	40 dia. (Hollow Shaft)	E6H-C	F-8
Absolute	50 dia.	E6C2-A	F-9
	60 dia.	E6F-A	F-11
Easy Scale	Linear Encoder	E6L	F-13

Incremental Rotary Encoder OD 25 dia.

E6A2-C

Compact with an External Diameter of 25 mm

- Meets positioning requirements. It is a lineup type with a starting point output (phase Z).
- Ensures maximum measurement precision.
- An additional series of models with 25 dia. ensuring a resolution of 500 P/R.
- Shock resistance strengthened by metal disk. (600 P/R max.) (Patent)



Ordering Information

Sensors

Output phase	Power supply voltage	Output form	Resolution (pulse/rotation)	Model
A	5 to 12 VDC	NPN voltage output	10, 60, 100, 200, 300, 360	E6A2-CS3E
			500	
	12 to 24VDC	NPN open collector	10, 60, 100, 200, 300, 360	E6A2-CS3C
			500	
A, B	5 to 12 VDC	NPN voltage output	100, 200, 360	E6A2-CW3E
			500	
	12 to 24VDC	NPN open collector	100, 200, 360	E6A2-CW3C
			500	
A, B, Z	5 to 12 VDC	NPN voltage output	100, 200, 360	E6A2-CWZ3E
			500	
	12 to 24VDC	NPN open collector	100, 200, 360	E6A2-CWZ3C
			500	
			100, 200, 360	E6A2-CWZ5C
			500	

Note: For order placement add the resolution (pulses per revolution) between the part number. For example, E6A2-CS3E 60 P/R.

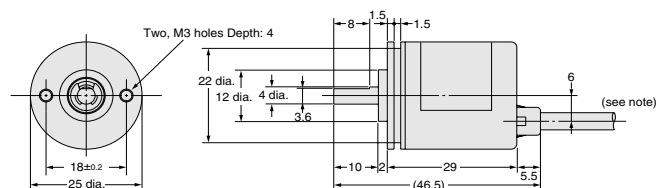
Accessories (Order Separately)

Item	Model	Remarks
Coupling	E69-C04B	Supplied with the product.
Servo Mounting Bracket	E69-1	Provided with the E6A2-CWZ□

Dimensions (Unit: mm)

E6A2

CAD file E6A2_01



Note:
Vinyl-insulated round cable of 4 dia. 5 cores conductor cross-sectional area: 0.15mm²; insulation diameter: 0.9mm Standard length: 500mm

Incremental Rotary Encoder OD 40 dia.

E6B2-C

General-Purpose Incremental Rotary Encoder With Large Shaft 40 dia.

- A wide operating voltage range from 5 to 24 VDC (open collector model).
- High resolution models (2000 pulses per revolution) substantially improve measuring accuracy
- Easy-to-adjust zero index (phase Z) with origin indicating function
- A large load of 30 N in the radial direction and 20 N in the thrust direction are permitted.
- The load short-circuit and reversed connection protecting circuit assure high operation reliability.
- Available with Line Driver output (100 m max. extension available)
- Shock resistance strengthened by metal disk. (600 P/R max.) (Patent)



Ordering Information

Sensors

Power supply voltage	Output form	Resolution (pulse/rotation)	Model
5 to 24 VDC	NPN open collector output	10, 20, 30, 40, 50, 60, 100, 200, 300, 360, 400, 500, 600	E6B2-CWZ6C
		720, 800, 1,000, 1,024	
		1,200, 1,500, 1,800, 2,000	
12 to 24VDC	PNP open collector output	100, 200, 360, 500, 600	E6B2-CWZ5B
		1,000	
		2,000	
5 to 12 VDC	NPN voltage output	10, 20, 30, 40, 50, 60, 100, 200, 300, 360, 400, 500, 600	E6B2-CWZ3E
		1,000	
		1,200, 1,500, 1,800, 2,000	
5 VDC	Line driver output	10, 20, 30, 40, 50, 60, 100, 200, 300, 360, 400, 500, 600	E6B2-CWZ1X
		1,000, 1,024	
		1,200, 1,500, 1,800, 2,000	

Note: When ordering, add the resolution (pulses per revolution) between the part number. For example, E6B2-CWZ6C 100 P/R.

Accessories (Order Separately)

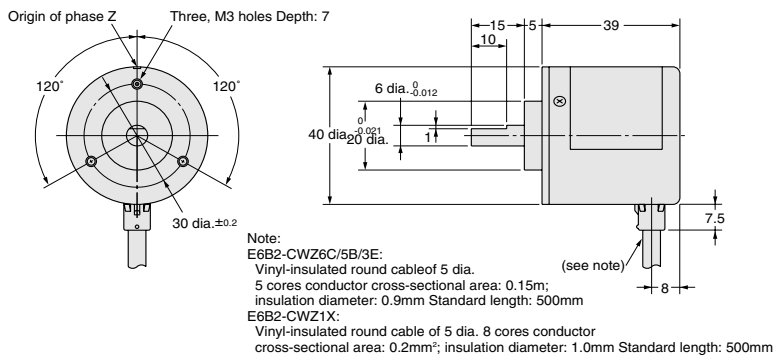
Item	Model	Remarks
Coupling	E69-C06B	Attachment
	E69-C68B	Different end diameter
	E69-C610B	Different end diameter
	E69-C06M	Metal construction
Flanges	E69-FBA	---
	E69-FBA02	E69-2 Mounting Bracket included
Mounting Bracket	E69-2	---

Dimensions (Unit: mm)

Sensors

E6B2

CAD file E6B2_01



Incremental Rotary Encoder OD 50 dia. (thin)

E6C2-C

Tough & Easy

- Drip-proof, oil-proof construction meets IP64F standards
 - Shaft withstanding heavy loads, 80 N radially, 50 N thrust (axially)
 - Protective Circuit Output Shorting
 - Space-saving, A-slant cable protrusion for easy installation
 - Shock resistance strengthened by metal disk.
- E6C2-C: 600P/R max.**
E6C2-C□H: 200P/R max. (Patent)



Ordering Information

Sensors

	Power supply voltage	Output form	Resolution (pulse/rotation)	Model
Standard models	5 to 24 VDC	NPN open collector output	10, 20, 30, 40, 50, 60, 100, 200, 300, 360, 400, 500, 600	E6C2-CWZ6C
			720, 800, 1,000, 1,024, 1,200, 1,500, 1,800, 2,000	
	12 to 24VDC	PNP open collector output	100, 200, 360, 500, 600	E6C2-CWZ5B
			1,000, 2,000	
5 to 12 VDC	NPN voltage output	10, 20, 30, 40, 50, 60, 100, 200, 300, 360, 400, 500, 600	E6C2-CWZ3E	
		720, 800, 1,000, 1,024, 1,200, 1,500, 1,800, 2,000		
5 VDC	Line driver output	10, 20, 30, 40, 50, 60, 100, 200, 300, 360, 400, 500, 600	E6C2-CWZ1X	
		720, 800, 1,000, 1,024, 1,200, 1,500, 1,800, 2,000		
8 dia. tough model	12 to 24VDC	Complimentary output	100, 200	E6C2-CWZ5GH
			300, 360, 500, 600, 720, 800, 1,000, 1,024, 1,200, 1,500, 1,800, 2,000, 2,048, 2,500, 3,600	
	5 to 12 VDC	NPN voltage output	100, 200	E6C2-CWZ3EH
			300, 360, 500, 600, 720, 800, 1,000, 1,024, 1,200, 1,500, 1,800, 2,000, 2,048, 2,500, 3,600	
	5 to 12 VDC	Line driver output	100, 200	E6C2-CWZ3XH
			300, 360, 500, 600, 720, 800, 1,000, 1,024, 1,200, 1,500, 1,800, 2,000, 2,048, 2,500, 3,600	

Note: For order placement add the resolution (pulses per revolution) between the part number. For example, E6C2-CWZ6C 100P/R.

Accessories (Order Separately)

Item	Model	Applicable Rotary Encoders	Remarks
Coupling	E69-C06B	E6C2-CWZ□	---
	E69-C68B	E6C2-CWZ□/□H	Different end diameter
	E69-C06M	E6C2-CWZ□	Metal construction
	E69-C08B	E6C2-CWZ□H	
Flanges	E69-FCA	E6C2-CWZ□	---
	E69-FCA02		
	E69-FCA03	E6C2-CWZ□H	
	E69-FCA04		
Mounting Bracket	E69-2	---	Provided with the E69-FCA02 Flange.

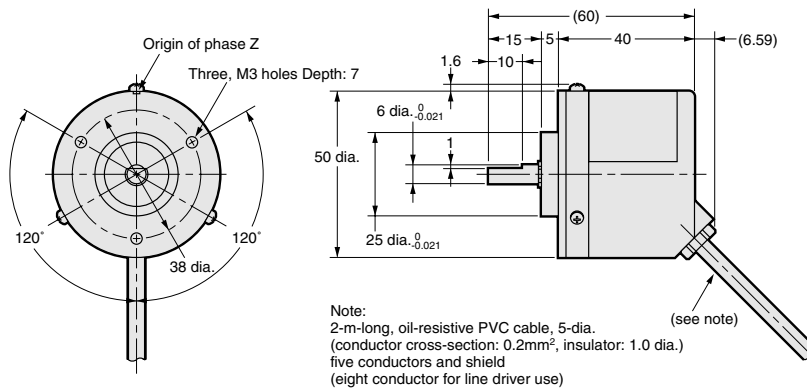
Dimensions (Unit: mm)

Sensors

Standard

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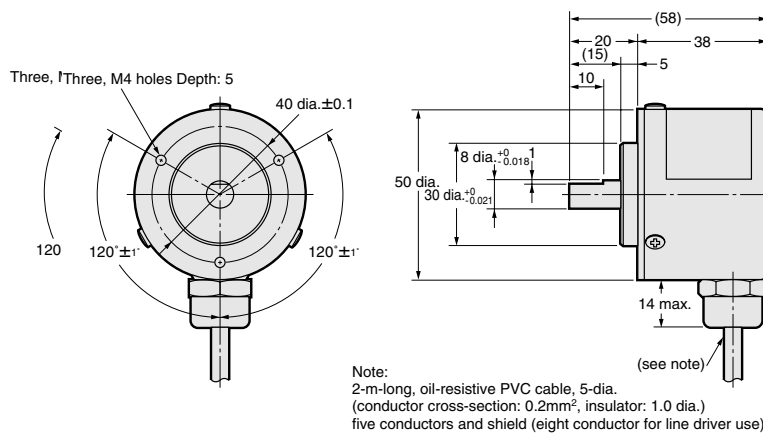
E6C2-CWZ□□



Solid 8 dia. Shaft Model

CAD file E6C2_04

E6C2-CWZ□□H



Incremental Rotary Encoder OD 60 dia.

E6F-C

The Strongest Shaft for Tough Jobs

- The strongest shaft of any OMRON Incremental Encoder (120 N in radial direction and 50 N in thrust direction).
- Drip-proof, construction meets IP64F standards
- Output short-circuit protection circuit to reduce risks from incorrect wiring.
- Complementary output model can be used with extension cable
- Shock resistance strengthened by metal disk. (600 P/R max.) (Patent)



Ordering Information

Sensors

Supply voltage	Output form	Resolution (pulse/rotation)	Model
12 to 24VDC	Complimentary output	100, 200, 360, 500, 600 1000	E6F-CWZ5G

Accessories (Order Separately)

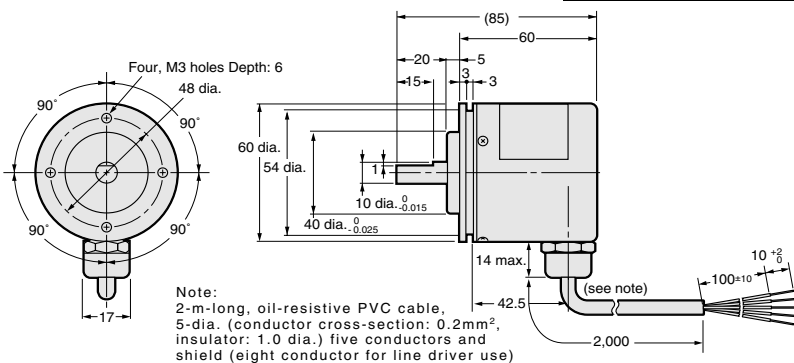
Item	Model	Remarks
Coupling	E69-C10B	---
	E69-C610B	Different end diameter
	E69-C10M	Metal construction
Mounting Bracket	E69-2	Three brackets in a set; included with the Encoder.

Dimensions (Unit: mm)

Sensors

E6F-CWZ5G

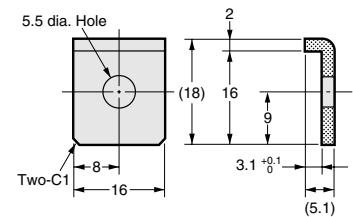
[CAD file](#) **E6F_02**



Accessories (Order Separately)

Servo Mounting Bracket

E69-2



Incremental Rotary Encoder OD 40 dia. (hollow-shaft model)

E6H-C

Hollow Shaft Without Coupling Compact, High Resolution General Model

- A wide operating voltage range from 5 to 24 VDC (open collector model).
- Resolution as high as 3,600 pulses/revolution in a rugged 40 mm (1.57 inch) diameter housing
- High-speed response frequency of 100kHz
- Wide operating temperature range from -10 to +70°C
- Line drive output available (100 m max.)
- Shock resistance strengthened by metal disk. (200 P/R max.) (Patent)



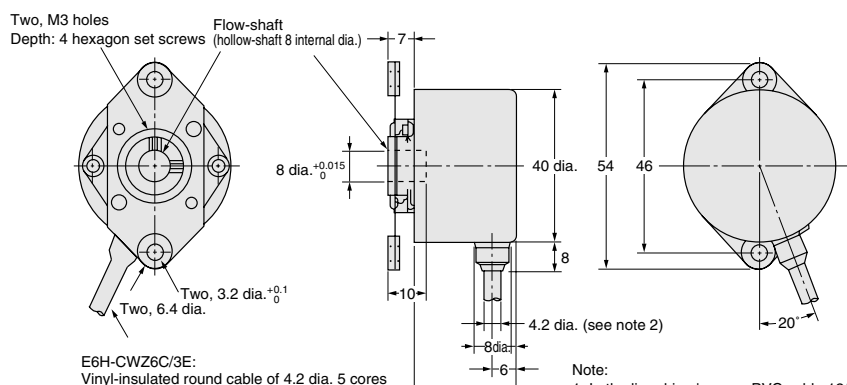
Ordering Information

Supply voltage	Output form	Resolution (pulse/rotation)	Model
5 to 24 VDC	Open collector output	300, 360, 500, 600, 720, 800, 1,000, 1,024	E6H-CWZ6C
		1,200, 1,500, 1,800, 2,000, 2,048	
		2,500, 3,600	
5 to 12 VDC	Voltage output	300, 360, 500, 600, 720, 800, 1,000, 1,024	E6H-CWZ3E
		1,200, 1,500, 1,800, 2,000, 2,048	
		2,500, 3,600	
5 to 12 VDC	Line drive output	300, 360, 500, 600, 720, 800, 1,000, 1,024	E6H-CWZ3X
		1,200, 1,500, 1,800, 2,000, 2,048	
		2,500, 3,600	

Note: For order placement add the resolution (pulses per revolution) after the part number. For example, E6H-CWZ6C 1000P/R.

Dimensions (Unit: mm)

E6H-C



CAD file E6H_01

E6H-CWZ6C/3E:
 Vinyl-insulated round cable of 4.2 dia. 5 cores
 conductor cross-sectional area: 0.1mm²;
 insulation diameter: 0.88mm Standard length: 500mm
E6H-CWZ3X:
 Vinyl-insulated round cable of 5.3 dia. 8 cores
 conductor cross-sectional area: 0.1mm²;
 insulation diameter: 1.0mm Standard length: 500mm

- Note:
1. In the line driver's case: PVC cable 12/ 0.12 dia. 8 cores conductors
 2. In the line driver's case: 5.5 dia.

Absolute Rotary Encoder

E6C2-A

Use the Tough E6C2-A (IP64 Enclosure Rating) Combined with a PLC or Cam Positioner for Optimum Control and Easy Use

- Drip-proof, construction meets IP64F standards
- 8 mm dia. stainless steel shaft is twice as strong as conventional shafts
- Reliable bearing and metal slit plate ensure shock resistance of 1000 m/s²
- Use the Tough E6C2-A (Rated IP64 for Degree of Protection) Combined with a PLC or Cam Positioner for Optimum Control and Easy Use



Ordering Information

Sensors

Supply voltage	Output form	Output code	Resolution (pulse/rotation)	Connection method	Model
12 to 24VDC	NPN open collector output	Gray code	256	Pre-wired type	E6C2-AG5C-C
			256, 360, 720, 1,024		E6C2-AG5C
		Binary	32, 40		E6C2-AN5C
	PNP open collector output	BCD	6, 8, 12		E6C2-AB5C
		Gray code	256, 360, 720, 1,024		E6C2-AG5B
		Binary	32, 40		E6C2-AN5B
5 VDC	NPN voltage output	Binary		E6C2-AB5B	
12 VDC				E6C2-AN1E	
					E6C2-AN2E

Note: 1. For order placement add the resolution (pulses per revolution) after the part number. For example, E6C2-AG5C 360P/R.
 2. The H8PS can be connected to E6C2-AG5C-C but not to E6C2-AG5C.

Accessories (Order Separately)

Item	Model	Remarks
Coupling	E69-C08B	---
	E69-C68B	Different end diameter
Flanges	E69-FCA03	---
	E69-FCA04	Mounting Bracket
Mounting Bracket	E69-2	Provided with the E69-FCA04 Flange.
Extension Cable	E69-DF5	5 m *

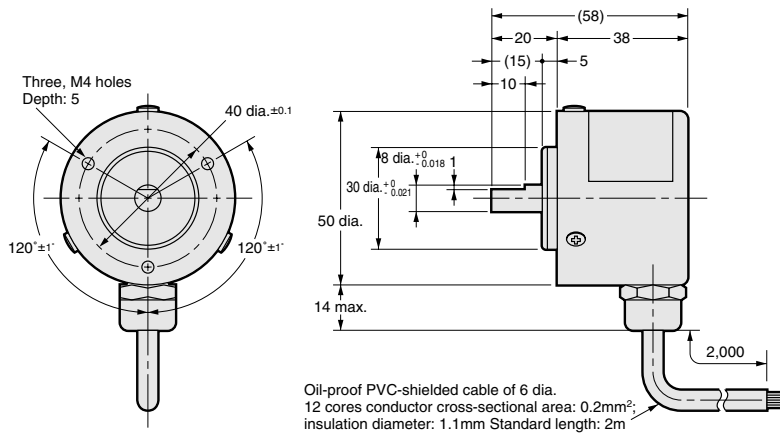
* Standard stock models: 5 m and 10 m. In addition to this 15 m, 20 m and 98 m are available.

Dimensions (Unit: mm)

Sensors

E6C2-A□5□
E6C2-AN□E

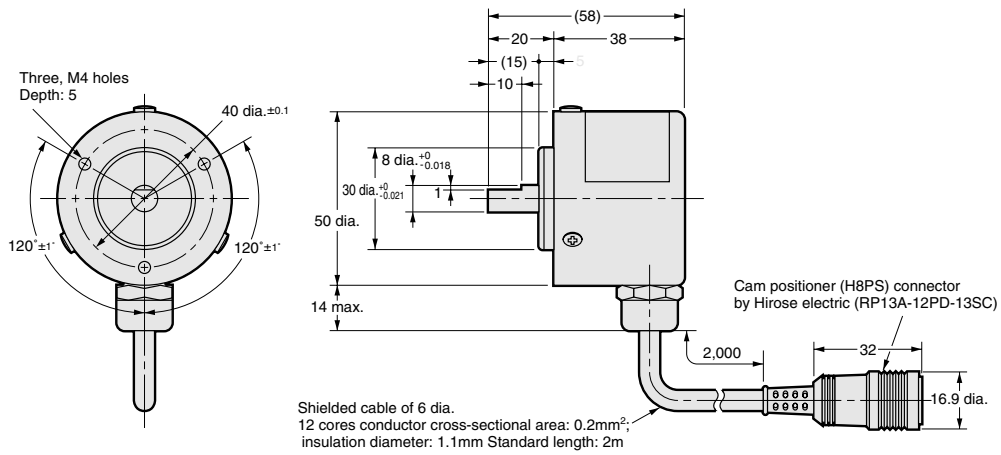
CAD file E6C2_01



Note: E69-C08B is sold separately.

E6C2-AG5C-C

CAD file E6C2_02




Note: E69-C08B is sold separately.

Absolute Rotary Encoder

E6F-A

Rugged construction providing high-precision timing detection for automatic machines operation

- Stronger shaft and higher durability (120 N in radial direction and 50 N in thrust direction) than previous E6F Encoders.
- Drip-proof construction meets IP64F standards
- High resolution models (1024 pulses max. per revolution)
- Faster response for high-speed control applications (grey code: 20 kHz).
- Shock resistance strengthened by metal disk. 



Ordering Information

Sensors

Supply voltage	Output form	Output code	Resolution (pulses/revolution)	Connection method	Model
5 to 12 VDC	NPN open collector	BCD	360	Pre-wired	E6F-AB5C
12 to 24VDC				Connector type	E6F-AB5C-C
	PNP open collector			Pre-wired	E6F-AB5B
		Gray code	256, 360, 720, 1,024	Pre-wired	E6F-AG5B

Note: 1. For order placement add the resolution (pulses per revolution) between the part number. For example, E6F-AG5B 256 P/R.
 2. E6F-AB5C-C applied for rotary positioner connection.

Accessories (Order Separately)

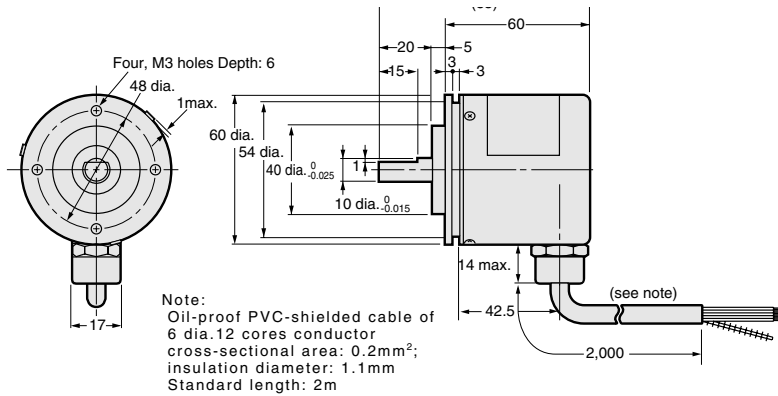
Item	Model	Remarks
Coupling	E69-C10B	Supplied with pre-wired models
	E69-C610B	Different end diameter
	E69-C10M	Metal construction
Mounting Bracket	E69-2	Supplied with the product (set of 3)
Extension Cable	E69-DF5	Standard stock models: 5 m, 10 m. In addition to this 15 m, 20 m and 98 m are available.

Dimensions (Unit: mm)

Sensors

E6F-AB5C
E6F-AG5B
E6F-AB5B

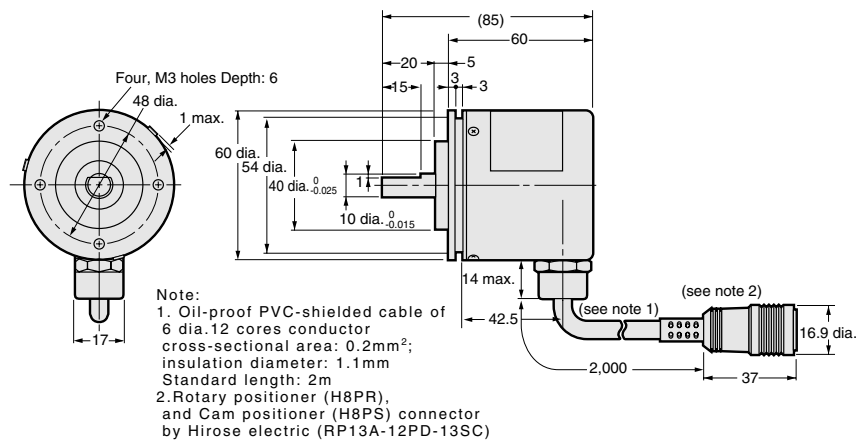
CAD file **E6F_02**



E69-C10B is attached.

E6F-AB5C-C

CAD file **E6F_01**



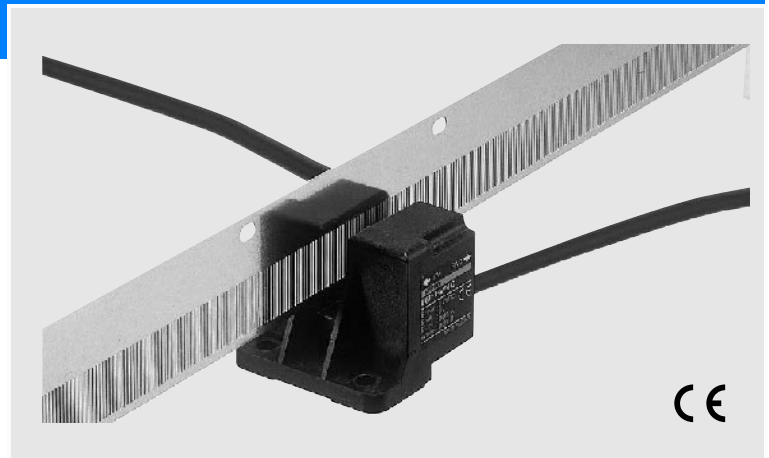
E69-C10B is sold separately.

Easy scale (linear encoder)

E6L

Best for conveyance use

- It is strong for scale fluttering because of an original optical system design (detection scale: 6 mm ±3 mm)
- Low cost original optical system design
- Suitable for positioning of conveyance use 1mm resolution
- Two types (280mm and 475mm) of detection scale length are available. Scale to be chosen as required.
- Extension of a detection stroke by two or more connection of a scale is possible.



Ordering Information

Linear encoder

Supply voltage	Resolution	Model
24 VDC	1 mm	E6L-HW4C

Detection scale

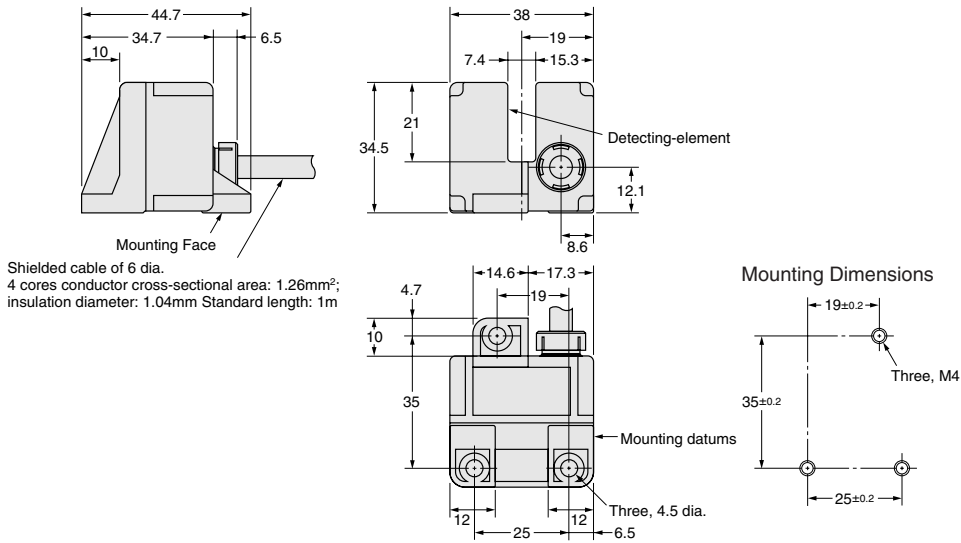
Overall length	Package	Model
280 mm	1	E6L-S1M-1280
	10	E6L-S1M-10280
475mm	1	E6L-S1M-1475
	10	E6L-S1M-10475

Dimensions (Unit: mm)

Linear encoder

E6L-HW4C

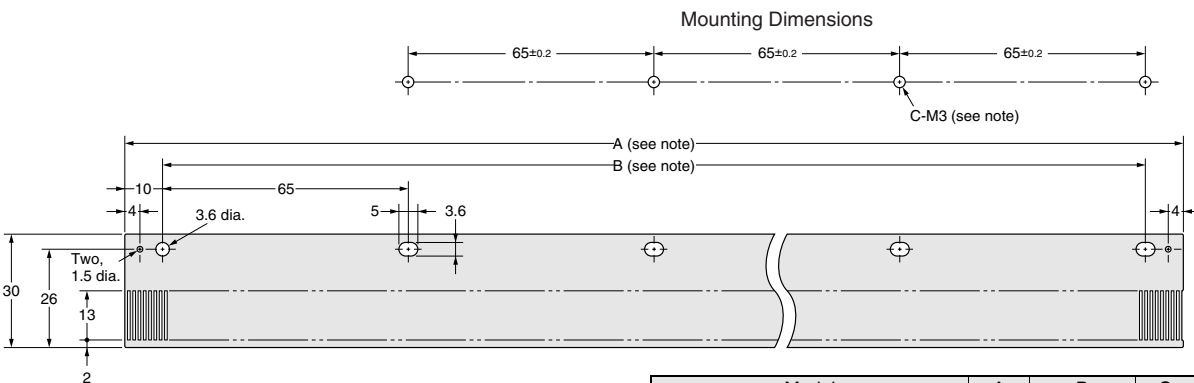
CAD file E6L_01



Detection scale

- E6L-S1M-1280
- E6L-S1M-10280
- E6L-S1M-1475
- E6L-S1M-10475

CAD file E6L_02

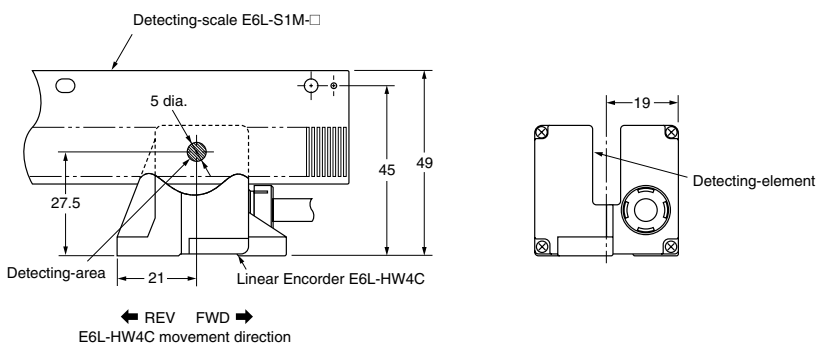


Material: Stainless steel (SUS304)
Thickness: 0.3 mm

Model	A	B	C
E6L-S1M-1 280/E6L-S1M-10 280	280	4 x 65 = 260	5
E6L-S1M-1 475/E6L-S1M-10 475	475	7 x 65 = 455	8

Installation dimensions

E6L-HW4C+E6L-S1M-□



Note: If either an E6L-HW4C side nor the E6L-S1M side is used in the moving state, "FWD" and "REV" of E6L-HW4C show the direction to which E6L-HW4C performs a relative movement to E6L-S1M. (based on the scale)

Pressure Sensors

LED Digital Display	E8F2	G-2
Ultra-small, Ultra-light (LED Digital Display)	E8MS/E8M	G-4

Pressure Sensor

E8F2

Mini-Cube' Pressure Sensor with Easy-to-Read LED Display

- Both analog bar and digital pressure values are displayed
- Measurement pressure is equalized by the chattering prevention function, and an incorrect output is prevented.
- Easy operation by the automatic teaching function
- Compact style: 28 x 28 x 29 mm saves installation space





Ordering Information

Sensors

Pressure range		ON/OFF output	Linear output	Model	
				NPN output	PNP output
Positive pressure	0 to 100 kPa	Open collector (independent two outputs)	1 to 5 V	E8F2-A01C	E8F2-A01B
	0 to 1 MPa			E8F2-B10C	E8F2-B10B
Negative pressure	0 to -101 kPa			E8F2-AN0C	E8F2-AN0B

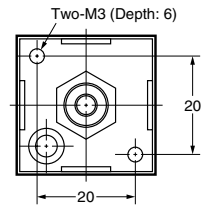
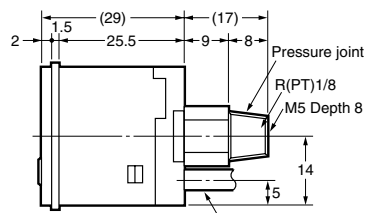
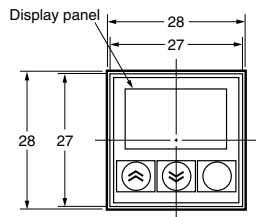
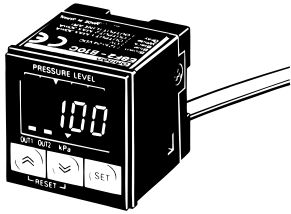
Accessories (Order Separately)

Shape	Name	Model	Remarks
	Mounting Brackets	E89-F3	Supplied with the product.
	Panel-mounting Bracket	E89-F4	---

Dimensions (Unit: mm)

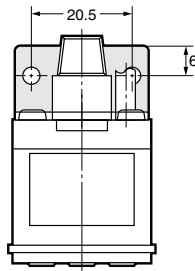
Sensors

E8F2

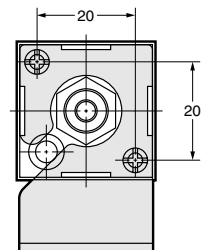
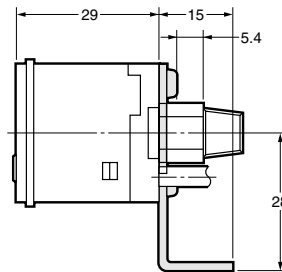
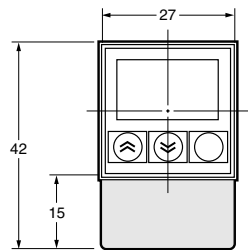
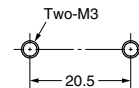


Vinyl-insulated round cable with five conductors, 4 dia. (0.08 dia. X 30); Standard length: 2m

With mounting bracket attached



Mounting Holes



CAD file E8F2_01

Pressure Sensor

E8MS/E8M

Four-channel Pressure Sensor Offering Versatile Functions and High Precision Without Errors

- The industry's smallest pressure sensor, compact, lightweight - ideal for robot arms or other moving components
- A highly sensitive minute-pressure sensor model detects very small differences in air pressure
- No wiring conduit required - can be located for sensing in small places
- Simple display panel for efficient space-saving, though, providing large LEDs
- Easy sensitivity adjustment using the teach function and channel-to-channel copy function



Ordering Information

Sensors

Sensors

E8MS

Pressure range		Output form	Model
Positive pressure	0 to 100 kPa	Linear output 1 to 5 V	E8MS-01
	0 to 1 MPa		E8MS-10
Negative pressure	0 to -101 kPa		E8MS-N0

E8M

Pressure range		Output form	Model
Minute differential pressure sensor	Differential pressure from 0 to 1,000 Pa (0 to 0.145 psi) between positive and negative ports	Linear output 1 to 5 V	E8M-A1
Positive pressure	0 to 1 MPa		E8M-10
Negative pressure	0 to -101 kPa		E8M-N0



Controller

Supply voltage	Output form	Number of sensor inputs	Model
24 VDC	NPN open collector	4	K3C-MP8-T1Z
		2CH	K3C-DP8-T1Z

Note: 1 ch model available.


Accessories (Order Separately)

Sensor I/O Connectors

Applicable type	Shape	Model	Specifications	Quantity	Remarks
E8M		E89-M3 (see note)	4-pin connector with 3 m long cable	1	Supplied with one XS8A-0442 Pin Controller Connector
E8MS		E89-M4	3-pin connector with 3 m long cable		

Note: E8M-A1 does not require the Sensor I/O Connector.

Pin Controller Connector


Shape	Model	Fitting conductors size (mm)	Quantity	Minimum order unit	Remarks
	XS8A-0442	0.14 to 0.2	1	10	E89-M3 and E89-M4 supplied with one XS8A-0442 each

Note: Orders are accepted in multiples of the minimum order unit.

Power and output connector


Model	Specifications	Quantity
K32-MP2W	7-pin connector with 2-m-long cable	1

Adapter


Shape	Model	Quantity	Minimum order unit	Remarks
	Y92F-30	1	10	One Adapter is attached to the K3C Controller.

Note: Orders are accepted in multiples of the minimum order unit.

Soft Cover

Shape	Model
	Y92A-48F1

Hard Cover

Shape	Model
	Y92A-48

Sensor and Controller Combinations

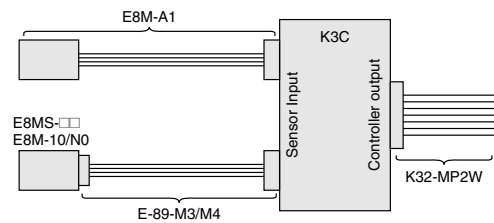
Use the Pressure Controllers in the following combinations.

The E89-M3/M4 is required when using the Sensor as a single unit.

Model	E89-M3	E89-M4	K3C-MP8-T1Z K3C-DP8-T1Z	K32-MP2W
E8MS-01	X	O	O	O
E8MS-10	X	O	O	O
E8MS-N0	X	O	O	O
E8M-A1	X	X	O	O
E8M-10	O	X	O	O
E8M-N0	O	X	O	O

O:Required; X: Not required.

Sensor and Controller Connection

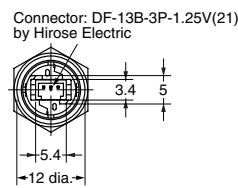
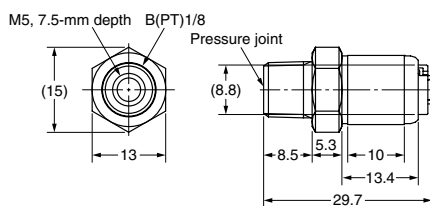


Dimensions (Unit: mm)

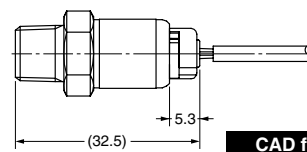
Sensors

Sensors

E8MS-01
E8MS-10
E8MS-N0

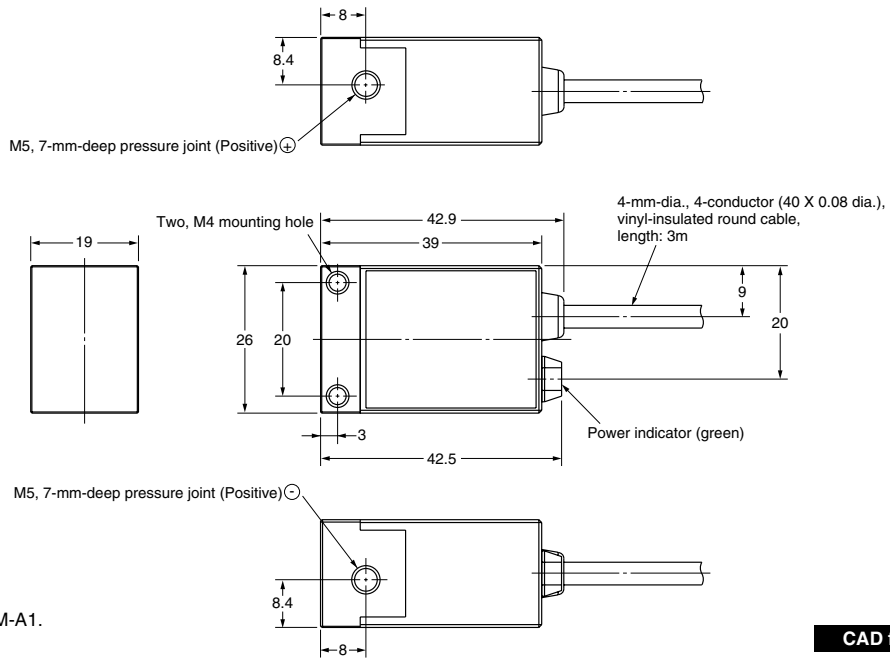
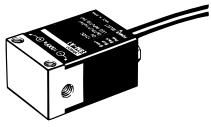


Connection with E89-M4 Sensor I/O Connector



CAD file E8MS_01

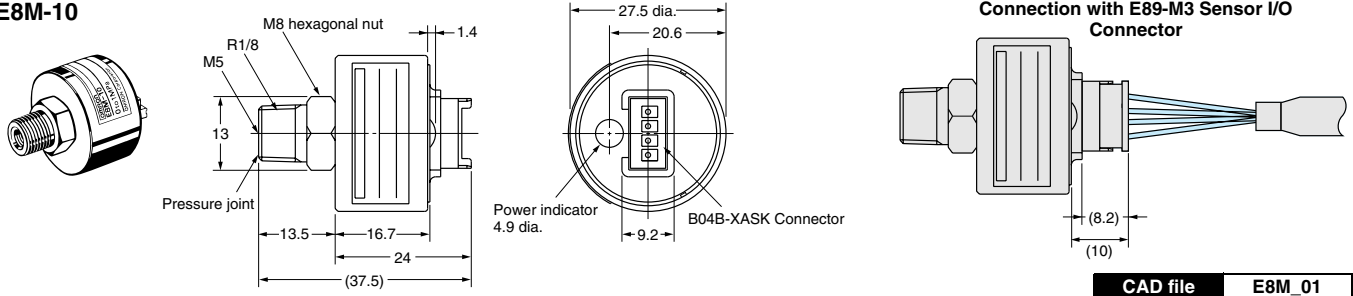
E8M-A1



One XS8A-0442 supplied with E8M-A1.

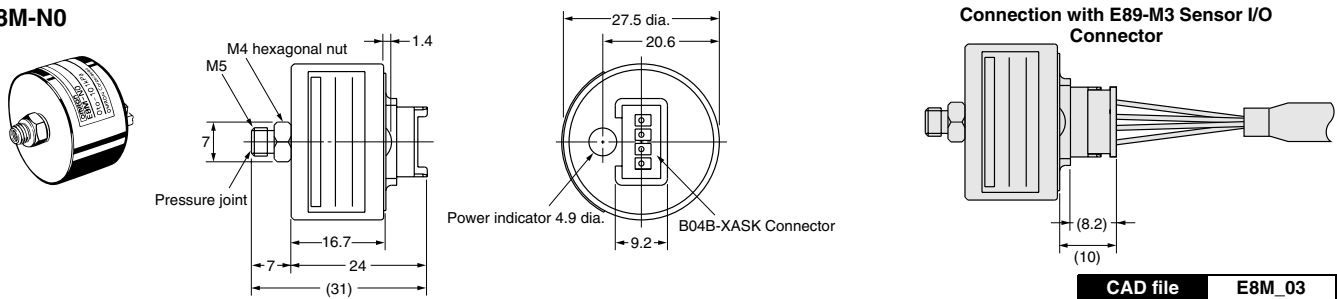
CAD file E8M_02

E8M-10



CAD file E8M_01

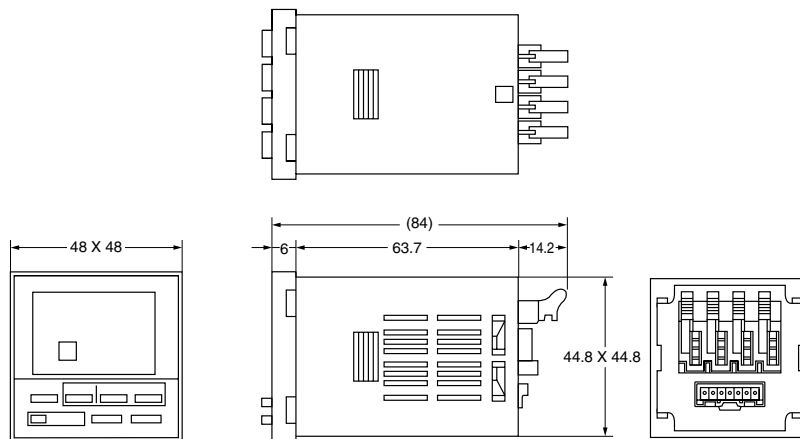
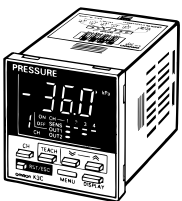
E8M-N0



CAD file E8M_03

Controller

K3C-□P8-T1Z



CAD file K3C_01