High-resolution Digital Proximity Sensor with Separate Amplifier

E2C-EDA

Finally, a Digital Proximity Sensor!

An impressive lineup of Sensor Heads to handle a wide variety of applications. An array of Heads.

Flexible cables provided as a standard feature.

- High-resolution sensing unaffected by environmental swings. Excellent temperature characteristics at 0.08%/°C (5.4-mm dia. Sensor Head).
- Simple and reliable measurements with micron-level resolution.
 - Two clear, large, and easy-to-read digital displays.
- Support for high-resolution positioning and screening. Fine positioning maximizes digital changes.

The lineup includes some Sensor Heads as thin as 3 mm in diameter

and others that are thin and flat. Narrow installation spaces are not a

Still other Sensor Heads are heat resistant or rated IP67 for superior

M10

Be sure to read Safety Precautions on

page 858.

An Array of Heads

problem for these models.

Heat resist-

Features



Sensing

Proximity

Sensors

Guide

Cylindrical Models

Rectangular

Models Separate Amp

Pre-wired Connecto Models

Capacitive Models

Others

Peripheral Devices

General Information



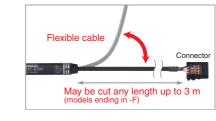
Ø

Heat resist- 3 dia. 5.4 dia. 8 dia. ant to 200°C

An Impressive Lineup of Sensor Heads to Handle a Wide Variety of Applications **Flexible Cables Provided as a Standard Feature**

With flexible cables connecting the Preamplifier to the Amplifier, installation on moving parts is never a problem.

The twin-output models can also output an open-circuit alarm. In that rare instance where the cable breaks, the E2C-EDA can then send out an alarm that greatly simplifies the task of locating the faulty Sensor.







High-resolution Sensing Unaffected by Environmental Swings

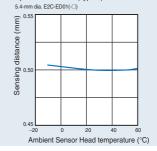
affect high-resolution positioning and screening.

Excellent Temperature Characteristics at 0.08%/°C (5.4-mm-Dia. Sensor Head)

In addition to repeat accuracy of 1-µm or better, the temperature characteristics of the E2C-EDA are flat. This means that environmental factors, such as temperature swings in the morning and at night, will not

Industry Leader

Temperature Influence (Typical)





Simple and Reliable Measurements with Micron-level Resolution. Industry First

Two Clear, Large, and Easy-to-Read Digital Displays.

The E2C-EDA features two large, easy-to-read digital displays. Since the digitized detected and threshold values can be checked at the same time, settings are simple and reliable for just about anyone. Various teaching methods are also available for settings that cannot be made consistently by different operators.

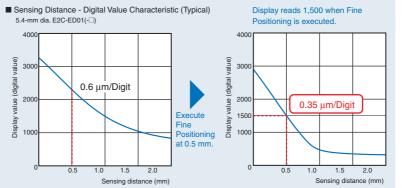
Digital Display Simplifies Installation and Settings

In the stable sensing zone, the E2C-EDA generally reads 1,500 or higher (see note 2).

This way you can tell at a glance whether the current installation and settings are within the optimal range.

Note 2: This reading is only a guideline because there may be some variation between Sensors. Also refer to the Engineering Data because values may vary with non-standard sensing objects.





E2EC
E2C-EDA
E2C /E2C-H
E2CY

Ordering Information

Sensors

Others

E2EC E2C-EDA E2C /E2C-H

E2CY

Sensor Heads

Туре	Type Appearance		Sensing distance	Repeat accuracy	y Model	
	Cylindrical	3 dia. × 18 mm	0.6 mm	1 µm	E2C-EDR6-F *2	
		5.4 dia. $ imes$ 18 mm	1 mm	1 µm	E2C-ED01- *1*2*3	
		8 dia. × 22 mm	2 mm	2 µm	E2C-ED02-[] *1*2*3	
Shielded	Screw	M10 × 22 mm	2 mm	2 µm	E2C-EM02-□ *1*2*3	
	Flat	$30 \times 14 \times 4.8$ mm	5 mm	2 µm	E2C-EV05-□ *1*2*3	
Unshielded	Screw	M18 × 46.3 mm	7 mm	5 µm	E2C-EM07M-[] *1*2*3	
Heat-resistant	Screw	$M12 \times 22 \text{ mm}$	2 mm	2 µm	E2C-EM02H *2	
	Shielded	Shielded Cylindrical Screw Unshielded Screw Screw Screw Screw Screw	Cylindrical 3 dia. × 18 mm 5.4 dia. × 18 mm 5.4 dia. × 18 mm 8 dia. × 22 mm 8 dia. × 22 mm Shielded Screw M10 × 22 mm Flat 30 × 14 × 4.8 mm Unshielded Screw M18 × 46.3 mm Screw Screw M18 × 46.3 mm	Cylindrical 3 dia. × 18 mm 0.6 mm 5.4 dia. × 18 mm 1 mm 1 mm 8 dia. × 22 mm 2 mm Shielded Screw M10 × 22 mm Flat 30 × 14 × 4.8 mm 5 mm Unshielded Screw M18 × 46.3 mm 7 mm	Cylindrical 3 dia. × 18 mm 0.6 mm 1 μm 5.4 dia. × 18 mm 1 mm 1 μm 8 dia. × 22 mm 2 mm 2 μm Screw M10 × 22 mm 2 mm 2 μm Flat 30 × 14 × 4.8 mm 5 mm 2 μm Unshielded Screw M18 × 46.3 mm 7 mm 5 μm	

*1. A Protective Spiral Tube is provided with models ending in the suffix -S (example: E2C-ED01-S). *2. Two cable lengths are available. (3-dia.: Free-cut, Heat-resistant Models: Standard-length only) Overall length of the Standard-length Models: 2.5 m, Length from Models Capacitive the Sensor Head to the Preamplifier: 2.0 m (example: E2C-ED01). Overall length of Free-cut Models: 3.5 m, Length from the Sensor Head to the Preamplifier: 0.5 m Models for models ending in the suffix -F (example: E2C-ED01-F)

*3. Models ending in the suffix -S that come with Protective Spiral Tubes and Free-cut Models ending in the suffix -F are made-to-order products.

Amplifier Units

Pre-wired Models

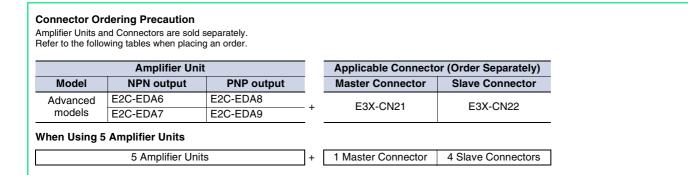
Peripheral	Pre-wired Model	S				
Devices		Туре	Appearance	Functions	Мос	del
General		Туре	Appearance	T unctions	NPN output	PNP output
Information		Twin-output models		Area output, open circuit detection, dif- ferential operation	E2C-EDA11	E2C-EDA41
	Advanced models	External-input models		Remote setting, differential operation	E2C-EDA21	E2C-EDA51

Connector Models

-	Гуре	Appearance	Functions	Мос	del
	туре	Appearance	Functions	NPN output	PNP output
Advanced models	Twin-output models		Area output, open circuit detection, dif- ferential operation	E2C-EDA6	E2C-EDA8
Advanced models	External-input models		Remote setting, differential operation	E2C-EDA7	E2C-EDA9

Amplifier Unit Connectors (Order Separately)

Name	Appearance	Cable length	No. of conductors	Model
Master Connector		2 m -	4	E3X-CN21
Slave Connector		2 111	2	E3X-CN22



Mobile Console (Order Separately)

Appearance	Model	Remarks		Proximity
	E3X-MC11-SV2 (model number of set)	Mobile Console with Head, Cable, and AC adapter provided as accessories		Sensors
				Sensing Guide
	E3X-MC11-C1-SV2	Mobile Console		Cylindrical Models
				Rectangular Models
	E3X-MC11-H1	Head		Separate Amp/ Pre-wired Connector Models
				Capacitive Models
	E39-Z12-1	Cable (1.5 m)		Others
Note: Use the E3X-MC11-SV2 Mo	bile Console with E2C-EDA-ser	ies Amplifier Units. If you use a Mobile Consol	e like the E3X-MC11-S, some functions may not	Peripheral Devices

Note: Use the E3X-MC11-SV2 Mobile Console with E2C-EDA-series Amplifier Units. If you use a Mobile Console like the E3X-MC11-S, some functions may r operate. Refer to Ratings/Characteristics for the E3X-DA-S/MDA on page 69 for Amplifier Unit specifications.

Accessories (Order Separately) Mounting Bracket

Appearance	Model	Quantity
	E39-L143	1

End Plate

Appearance	Model	Quantity
C Startes	PFP-M	1

Information

General

E2EC
E2C-EDA
E2C /E2C-H
E2CY

Ratings and Specifications

Sensor Heads

			Model	E2C-EDR6-F	E2C-ED01(-□)	E2C-ED02 (-□)	E2C-EM02 (-□)	E2C-EM07M (-□)	E2C-EV05(-□)	E2C-EM02H
	Item			3 dia. \times 18 mm	5.4 dia. \times 18 mm	8 dia. $ imes$ 22 mm	$M10\times 22\ mm$	$M18 \times 46.3 \ mm$	$30 \times 14 \times 4.8 \text{ mm}$	$M12 \times 22 \text{ mm}$
	Sensi	ng distan	ce	0.6 mm	1 mm	2 mm		7 mm	5 mm	2 mm
	Sensi	ng object		Ferrous metal 855.)	(The sensing dis	tance decreases	with non-ferrou	s metal, refer to E	<i>Engineering Data</i> on	pages 854 and
	Stand	ard sensi	ng	$5 \times 5 \times 3$ mm		$10 \times 10 \times 3$ mm	ı	$22\times22\times3\text{ mm}$	15 imes 15 imes 3 mm	$20 \times 20 \times 3$ mm
	objec	t		Material: Iron (S50C)					
	Repea	at accurac	⊧y *1	1 µm		2 µm		5 μm	2 µm	
		ential trav	el	Variable						
	tic	Sensor H	lead	0.3%/°C	0.08%/°C				0.04%/°C	0.2%/°C
Proximity Sensors	Temperature characteristic *1	Preampli and Amp		0.08%/°C						
	Ø	Operatin	g	−10 to 60°C (w	vith no icing or co	ondensation)				–10 to 200°C *3
Sensing Guide	Ambient temperature *2	Storage		-10 to 60°C (with no icing or condensa- tion)	–20 to 70°C (wi	th no icing or co	ndensation)			
Cylindrical Models		ent humid	ity	Operating/Stor	age: 35% to 85%	6 (with no conde	nsation)			
	Insula	tion resis	tance	50 M Ω min. at	500 VDC					
Rectangular Models	Dieleo	tric stren	gth	1,000 VAC, 50	60 Hz for 1 min	between curren	-carrying parts a	and case		
Separate Amp/	Vibrat	tion resist	ance	Destruction: 10) to 55 Hz, 1.5-m	nm double amplit	ude for 2 hours	each in X, Y, and	Z directions	
Pre-wired Connector	Shock	resistan	ce	Destruction: 50	00 m/s² 3 times e	each in X, Y, and	Z directions			
Models Capacitive	Degre	e of prote	ction	IEC 60529 IP6	7					IEC 60529 IP60 *4
Models	Conne	ection me	thod		andard cable leng and Preamplifie		etween Head an	d Preamplifier), "-	F" model cable leng	th: 3.5 m (0.5 m
Others	Weigh	nt (packed	state)	Approx. 120 g	(Models with pro	otective spiral tub	e (-S models) a	re approx. 90 g he	eavier.)	
D. M. M			Case	Brass	Stainless steel	Brass			Zinc	Brass
Peripheral Devices			Sens- ing surface	Heat-resistant	ABS					PEEK
General Information	Ma- teri- als	Sensor Head	Clamp- ing nuts				Brass, nickel-p	lated		Brass, nickel-plated
			Toothed washer				Zinc-plated iror	ı		Zinc-plated iron
		Preampli	fier	PES			1		1	1
	Acces	sories		Preamplifer M	ounting Brackets	, instruction mar	ual			

*1. The repeat accuracy and temperature characteristic are for a standard sensing object positioned midway through the rated sensing distance.
*2. A sudden temperature rise even within the rated temperature range may degrade characteristics.
*3. For the Sensor Head only without the preamplifier (-10 to 60°C). With no icing or condensation.
*4. Do not operate the Sensor in areas exposed to water vapor because the enclosure is not waterproof.

E2EC
E2C-EDA
E2C /E2C-H
E2CY

Amplifier Units

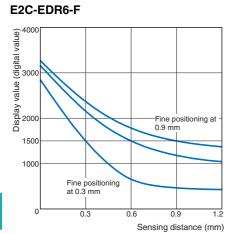
	Model	Advanced Models	with Twin Outputs	Advanced Moc	lels with External Inputs				
Model	NPN output	E2C-EDA11	E2C-EDA6	E2C-EDA21	E2C-EDA7				
tem	PNP output	E2C-EDA41	E2C-EDA8	E2C-EDA51	E2C-EDA9				
ower su	pply voltage	12 to 24 VDC \pm 10%, ripple (p-p): 10% max.						
Power co	nsumption	1,080 mW max. (Current co	nsumption: 45 mA at power	supply voltage of 24 VDC)					
Control o	utput	Load power supply voltage: 2 50 mA max. (Residual voltage		ctor output (NPN or PNP de	pending on model), Load current:				
	Super-high- speed mode *	Operate or reset: 150 μs ma	х.						
	High-speed node	Operate or reset: 300 µs ma	х.						
ime S	Standard node	Operate or reset: 1 ms max.							
	ligh-resolu- ion mode	Operate or reset: 4 ms max.							
	Differential detection	Switchable between single e Single edge: Can be set to 3 Double edge: Can be set to	800 μs, 500 μs, 1 ms, 10 ms	s, or 100 ms.					
1	limer	Select from OFF-delay, ON- 1 ms to 5 s (1 to 20 ms set in increments, and 1 to 5 s set	n 1-ms increments, 20 to 20	00 ms set in 10-ms increme	nts, 200 ms to 1 s set in 100-ms				
7	Zero-reset	Negative values can be disp	,	fted)					
	nitial reset	Settings can be returned to	2 (licu.)					
ions	Mutual	Settings can be returned to t							
i	nterference prevention	Possible for up to 5 Units.* Intermittent oscillation method (Response time = (number of Units connected + 1) ×15 ms)							
	Hysteresis setting	Setting range: 10 to 4,000							
L	/O settings	Output setting (Select from c self-diagnosis, or open circu		t, Input setting (Select from reset, synchronous determined)	m teaching, fine positioning, zero- ection.)				
Digital dis	splay				eshold, incident light peak level + eak hold, incident level + channel				
Display o	rientation	Switching between normal/re	eversed display is possible.						
		necting 6 to 16 Units: -10°C	to 45°C	C, When connecting 3 to 5	Units: -10°C to 50°C, When con-				
Ambient t	emperature								
Ambient h	numiditv	Operating/storage: 35% to 8	8,						
	resistance	20 MΩ min. at 500 VDC	(
	strength	1,000 VAC, 50/60 Hz for 1 min							
	resistance								
hock res		Destruction: 500 m/s ² 3 times each in X, Y, and Z directions							
	protection	IEC 60529 IP50							
•	on method	Pre-wired Models							
	acked state)	Approx. 100 g	Approx. 55 g	Approx. 100 g	Approx. 55 g				
	Case	PBT		pp. cm. 100 g	pp. co. 9				
Aaterials	Cover	Polycarbonate							
	Cover	r orycarbonate							

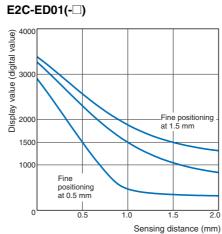
* Communications are disabled if the super-high-speed sensing mode is selected, and the mutual interference prevention function and the communications functions for the Mobile Console will not function.

EDA ·H E2CY

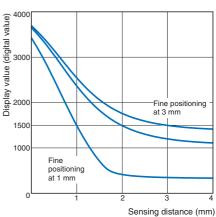
E2C-EDA **Engineering Data (Typical)**

Sensing Distance vs. Display Values

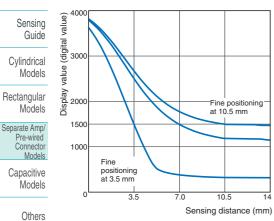




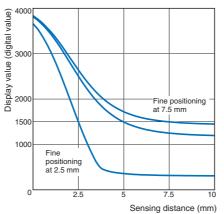
E2C-ED02(-□)/EM02(-□)



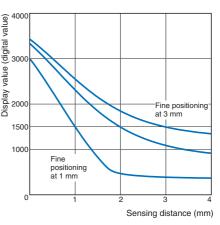
E2C-EM07M(-□)







E2C-EM02H



Influence of Sensing Object Size and Material E2C-EDR6-F

Peripheral Devices

E2EC

E2C-EDA

E20 /E2C-H E2CY

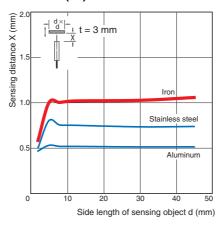
Proximity

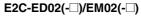
Sensors

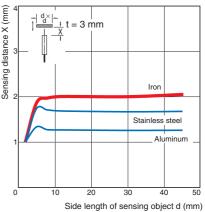
(mm) General $\frac{1}{d} = \frac{d}{d} + t = 3 \text{ mm}$ Sensing distance X (80 80 001 Information Iron Stainless steel 0.4 Aluminum 0.2 0 30 40 20 Side length of sensing object d (mm)

E2C-ED01(-□)

50



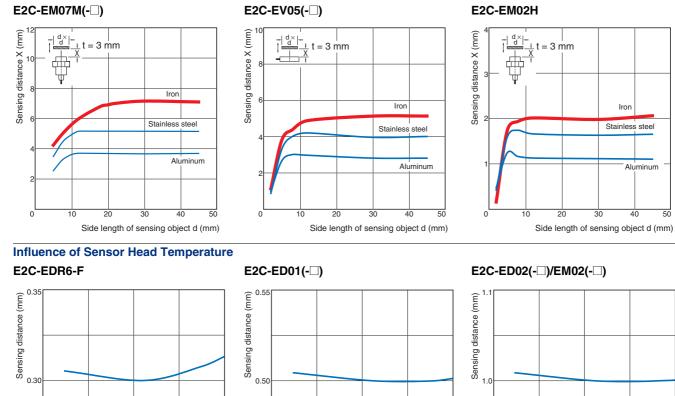




Aluminum

40

50



Proximity Sensors

Sensing

Guide Cylindrical Models Rectangular Models Separate Amp/ Pre-wired Connector Models

Capacitive Models

Others

Peripheral Devices

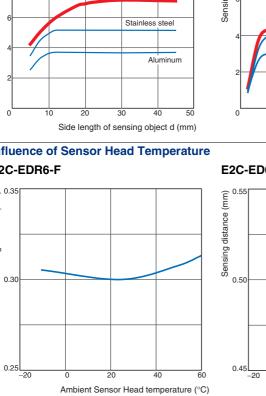
General Information

E2EC	
E2C-EDA	
E2C /E2C-H	
E2CY	

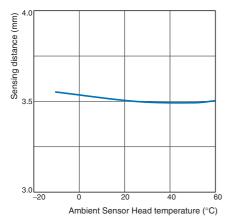
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E2EC
E2C-EDA
E2C /E2C-H
E2CY

855 OMRON



E2C-EM07M(-□)



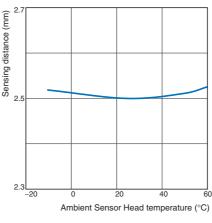


0

20

Ambient Sensor Head temperature (°C)

40



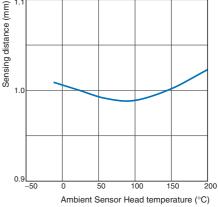
Ambient Sensor Head temperature (°C) E2C-EM02H

0

0.9

-20

60



20

40

60

I/O Circuit Diagrams

NPN output

	Model	Operation mode	Timing Chart	Mode selector	Output circuit
	E2C-EDA11	NO (normally open)	Sensing Present Object Not present Operation ON indicator (orange) OFF Output ON Utransistor OFF Load (e.g., Operate relay) Operate (Between brown and black leads)	NO	Display Operation indicator Operation indicator (orange) (orange) ch1 ch2 Brown Black Load Prox- imity ch2 Orange control Load 12 to
roximity Sensors	E2C-EDA6	NC (normally closed)	Sensing Present object Not present Operation ON indicator (orange) OFF Output transistor OFF Load (e.g., Operate relay) Operate Reset (Between brown and black leads)	NC	Control Con
Sensing Guide Cylindrical Models	E2C-EDA21	NO (normally open)	Sensing Present object Not present indicator (orange) OFF Output ON Load (e.g., Operate relay) Operate (Between brown and black leads)	NO	Fine positioning indicator (orange) Operation indicator (orange) Brown Black Load
ectangular Models Pre-wired Connector Models Capacitive Models	E2C-EDA7	NC (normally closed)	Sensing Present object Not present Operation indicator ON OrF Output ON transistor OFF Load (e.g., Operate Reset (Between brown and black leads)	NC	Prox- inity Sensor circuit Circuit Blue Blue Blue Blue Blue
Others	Normally cl	oen: ON between th	ne thresholds for Channel 1 and 0 n the thresholds for Channel 1 an		1

OFF -

2. Timing Charts for Timer Settings (T: Set Time)

OFF

Peripheral Devices

General Information

ON delay OFF delay One-shot Present Sensi objec Present Present Sensing Present object Not present Sensing Present object Not present -Not present ____T+__ T ON ON ON NO NO NO OFF -OFF -OFF T¦≉ ON ON ON NC NC NC

OFF

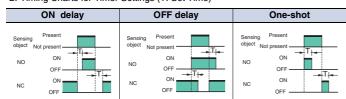
E2EC E2C-EDA E2C /E2C-H E2CY

PNP output

Model	Operation mode	Timing Chart	Mode selector	Output circuit	
E2C-EDA41	NO (normally open)	Sensing Present object Not present Operation ON indicator (orange) OFF Output ON transistor OFF Load (e.g., Operate relay) Operate (Between blue and black leads)	NO	Display Operation indicator Operation indicator ch2 (range) ch1 (range) CO CO CO CO CO CO CO CO CO CO CO CO CO	
E2C-EDA8	NC (normally closed)	Sensing Present object Not present Operation ON indicator (orange) OFF Output transistor OFF Load (e.g., Operate Reset (Between blue and black leads)	NC	The second secon	Pro Sen
E2C-EDA51	NO (normally open)	Sensing Present object Not present Operation ON indicator (orange) OFF Output ON transistor OFF Load (e.g., Operate relay) Operate (Between blue and black leads)	NO	Fine positioning indicator (orange) Display Operation indicator Proximity Orange External- input models 12 to	Sens Guid Cylin Mode
E2C-EDA9	NC (normally closed)	Sensing Present object Not present Operation ON indicator (orange) OFF Output transistor OFF Load (e.g., Operate relay) Operate Reset (Between blue and black leads)	NC	Sensor main circuit Load	Rect Mode Separ Pre-w Connu Mode Capa Mode

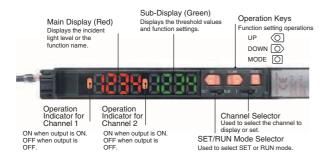
Note: 1. Setting Areas for Twin-output Models

Normally open: ON between the thresholds for Channel 1 and Channel 2 Normally closed: OFF between the thresholds for Channel 1 and Channel 2 2. Timing Charts for Timer Settings (T: Set Time)

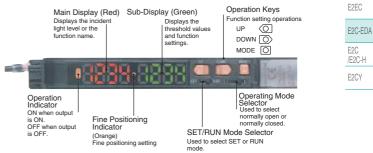


Nomenclature

Amplifier Units Twin-output Models (E2C-EDA11/EDA41/EDA6/EDA8)



External-input Models (E2C-EDA21/EDA51/EDA7/EDA9)



Others

Peripheral

Devices

General

Information

Safety Precautions

Refer to Warranty and Limitations of Liability on page F-2.

<u> WARNING</u>

This product is not designed or rated for ensuring safety of persons. Do not use it for such purposes.

Precautions for Correct Use

Do not use the Encoder under ambient conditions that exceed the ratings.

Amplifier Units

• Design

Power ON

Proximity Sensors

Sensing

Rectangular

Separate Amp/ Pre-wired Connector <u>Models</u>

> Capacitive Models

> > Others

Peripheral Devices

General Information

Models

Guide

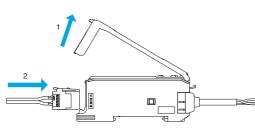
The Sensor is ready to sense an object within 200 ms after turning the power ON. If the load and Sensor are connected to different power supplies, always turn ON the Sensor power first.

Mounting

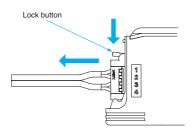
Connecting and Disconnecting Sensor Heads

(1) Open the protective cover.

Cylindrical (2) Making sure that the lock button on the Sensor Head connector is Models up, insert the fibers all the way to the back of the connector insertion opening.



To disconnect the Sensor Head, pull out the fibers while pressing on the lock button.

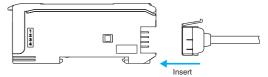


E2EC E2C-EDA E2C /E2C-H E2CY

Connecting and Disconnecting Connectors

Connecting

 Insert the Master or Slave Connector into the Amplifier Unit until it clicks into place.



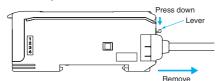
(2) Apply the enclosed seal to the unconnected surface of the Master/ Slave Connector.



Note: Apply the seal to the grooved side.

Disconnecting

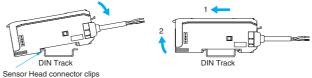
- (1) Slide the Slave Amplifier Unit.
- (2) After the Amplifier Unit has been separated, press down on the lever on the connector and remove the connector. (Do not attempt to remove the connector without separating it from the other Amplifier Unit first.)



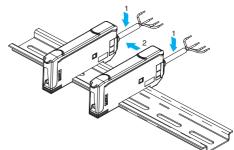
Installing and Removing Amplifier Units

Installing

(1) Install the Units one by one on the DIN Track.



(2) Slide one Unit toward the other, match the clips at the front ends, and then bring them together until they click into place.



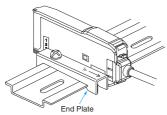
Removing

Slide one Unit away from the other and remove them one by one. (Do not remove the connected Units together from the DIN Track.)

Note: 1. When the Amplifier Units are connected to each other, the operable ambient temperature changes depending on the number of connected Amplifier Units. Check *Ratings and Specifications on page* 853.
2. Before connecting or disconnecting the Units, always turn OFF the power.

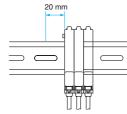
Mounting End Plates (PFP-M)

Mount End Plates on Amplifier Units to avoid movement due to vibration. When a Mobile Console is installed, mount the End Plate facing as shown in the following diagram.



Mounting a Communications Head for the Mobile Console

Leave a space of at least 20 mm on the left side of the Units for a Mobile Console Communications Head.



EEPROM Write Errors

If the data is not written to the EEPROM correctly due to a power interruption or static-electric noise, initialize the settings using the keys on the Amplifier Unit. "ERR/EEP" will flash on the display if an EEPROM write error occurs.

Optical Communications

When using more than one Amplifier Unit, mount the Units side-byside. Do not slide or remove Units while they are in use.

Miscellaneous

Protective Cover

Be sure to attach the Protective Cover before using the Sensor.

Mobile Console

Use the E3X-MC11-SV2 Mobile Console with E2C-EDA-series Amplifier Units. Other Mobile Consoles, such as the E3X-MC11, cannot be used.

Sensor Head and Amplifier Unit Combinations

Be sure to use only specified Sensor Head and Amplifier Unit combinations. The E3C-LDA-series Photoelectric Sensors with Separate Digital Amplifiers are not compatible. The E2C-EDA must not be used with products from that series.

Warm-up

The digital display may slowly change until the circuits stabilize after the power is turned ON. It takes about 30 minutes after the power is turned ON before the E2C-EDA is ready to sense.

Maintenance Inspection

- Be sure to turn OFF the power before adjusting, connecting, or disconnecting the Sensor Head.
- Do not use thinner, benzene, acetone, or kerosene to clean the Sensor Head or Amplifier Unit.

Sensor Heads

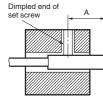
Mounting

Mounting Sensor Heads

Models (E2C-EM-DD).

• Use the dimensions from the following table to mount Unthreaded Cylindrical Models (E2C-ED-□□). Do not tighten screws with torque exceeding 0.2 N·m when mounting Sensor Heads.

	Model	Tightening range A	
	E2C-EDR6-F	9 to 18 mm	
	E2C-ED01	9 to 18 mm	
	E2C-ED02 11 to 12 mm		
Use the torque given in the following			



E2C-ED

Model	Tightening torque
E2C-EM02	15 N⋅m max.
E2C-EM07M 15 N·m max.	
E2C-EM02H	5.9 N⋅m max.

table to tighten Unthreaded Cylindrical

Proximity Sensors

Sensing

- Do not use torque exceeding 0.5 N·m to tighten screws when mounting Flat Models (E2C-EV□□).
- Use a bending radius of 8 mm or greater for the Sensor Head cable.
 Use only the special Extension Cable to extend the cable between the Sensor Head and the Amplifier Unit. Consult your OMRON representative for details.

Influence of Surrounding Metal

• Provide a minimum distance between the Sensor and the surrounding metal as shown in the table below.

Influence of Surrounding Metal (Unit: mm)

Counterbore A	Protrusion B	🗕 A dia
3.1	0	
5.4	0	
8	0	
10	0	
35	20	
14 imes 30	4.8	
12	0	
	3.1 5.4 8 10 35 14×30	3.1 0 5.4 0 8 0 10 0 35 20 14 × 30 4.8

Mutual Interference

- When installing Sensors face-to-face or side-by-side, ensure that the minimum distances given in the following table are maintained.
- The distance between Sensor Heads may be narrower than specified with these Sensors because the Mutual Interference Prevention Function is used for optical communications between the Amplifier Units.



Mutual Interference

Model	Face-to- face (ar- range- ment A)	Side-by- side (ar- range- ment B)	Face-to-face using the Mutual Interfer- ence Prevention Function (arrange- ment A')	Side-by-side using the Mutual Interfer- ence Prevention Function (arrange- ment B')
E2C-EDR6-F	14	10	3.5	3.1
E2C-ED01	45	20	9	5.4
E2C-ED02	35	30	21	8
E2C-EM02	35	30	21	10
E2C-EM07M	140	120	35	18
E2C-EV05	65	30	21	14
E2C-EM02H	45	30	21	12

(Unit: mm)

E2C-EDA E2C /E2C-H E2CY

E2EC

Rectangular Models

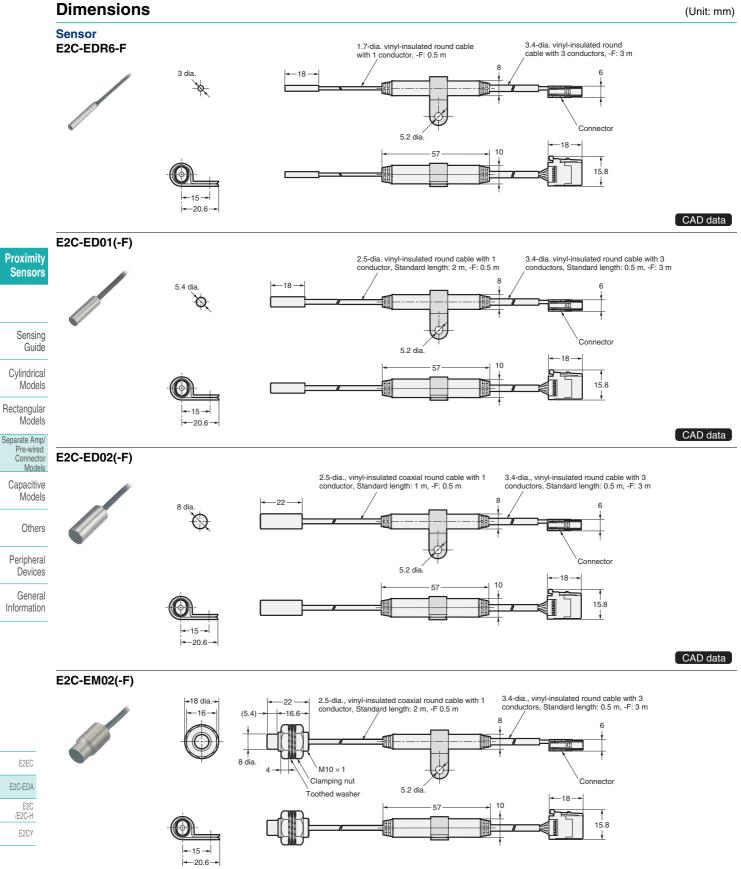
Separate Amp. Pre-wired Connector Models

Capacitive Models

Others Peripheral

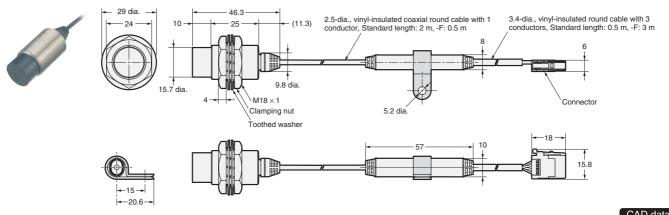
Devices

General Information



E2C-EM07M(-F)

E2C-EV05(-F)



Sensing surface

æ

3

⊲10**→⊲**10→

7

14

2.5-dia. vinyl-insulated round cable with 1 conductor, Standard length: 2 m, -F: 0.5 m

CAD data

3.4-dia., vinyl-insulated round cable with 3 conductors, Standard length: 0.5 m, -F: 3 m

6

Connector

8

Proximity Sensors

Sensing Guide

Cylindrical Models

Rectangular Models

Separate Amp/ Pre-wired Connector Models

Capacitive Models

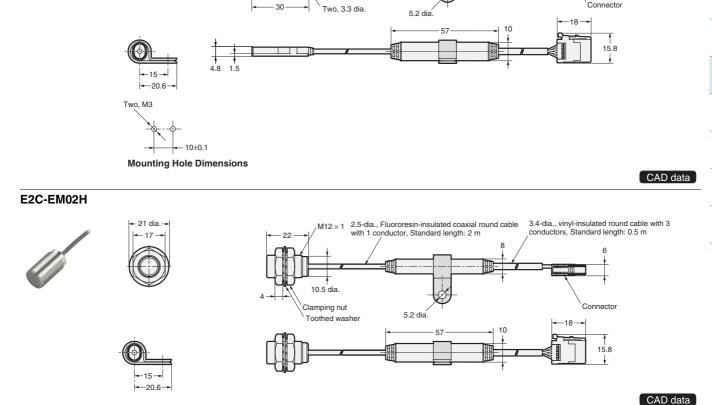
Others

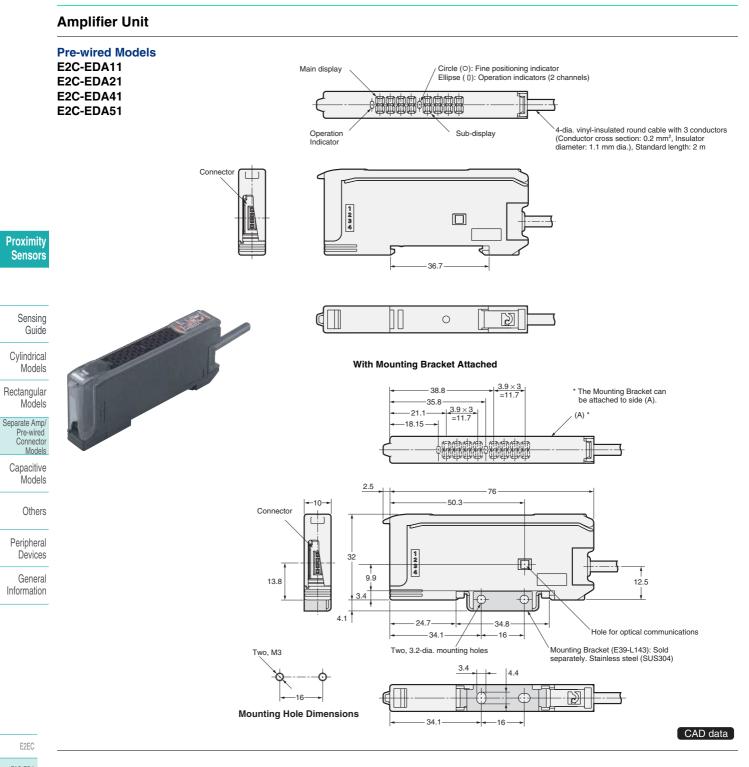
Peripheral Devices

General

Information

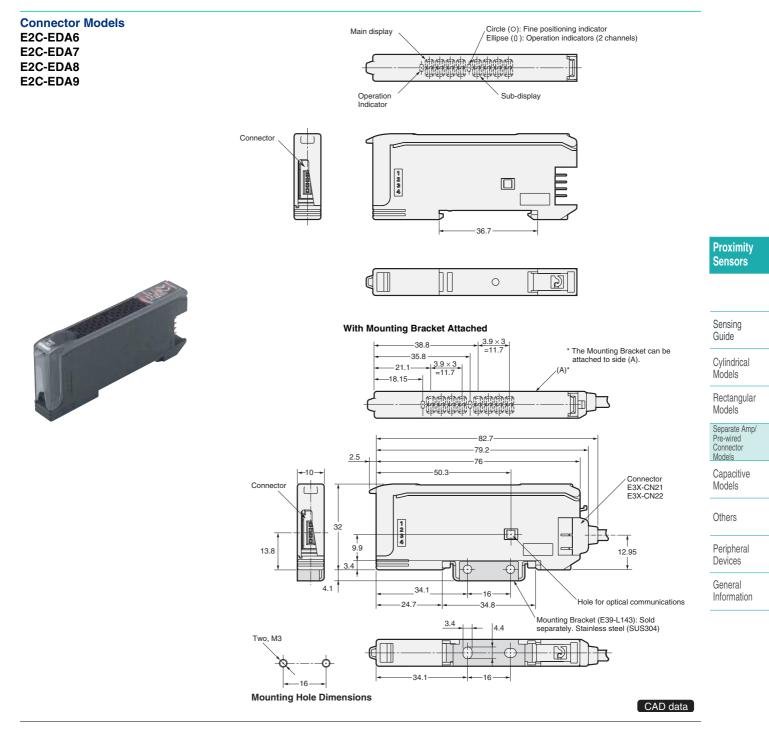
E2EC E2C-EDA E2C /E2C-H E2CY





E2C-EDA E2C /E2C-H

E2CY



Amplifier Unit Connectors

Refer to page 81 for details.

Mobile Console

Refer to page 81 for details.

Accessories (Order Separately) Mounting Bracket

Refer to page 292 for details.

End Plate

Refer to page 1232 for details.

Cat. No. D814-E1-01

In the interest of product improvement, specifications are subject to change without notice.

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E2EC E2C-EDA

E2C /E2C-H

E2CY

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