# **E2E2**

CSM\_E2E2\_DS\_E\_4\_6

# **Proximity Sensor with a Long Screw Length**

- Increased tightening strength. Cable protectors provided as a standard feature.
- Increased indicator visibility. A milled section for wrench grip on all models.





Be sure to read Safety Precautions on page 9.

# **Ordering Information**

#### Sensors

#### **DC 2-Wire Models**

			Model			
Appearan	ce	Sensing distance	Operation mode			
			NO	NC		
Shielded	M12	3 mm	E2E2-X3D1 2M *	E2E2-X3D2 2M		
	M18	7 mm	E2E2-X7D1 2M *	E2E2-X7D2 2M		
	M30	10 mm	E2E2-X10D1 2M *	E2E2-X10D2 2M		
Unshielded	M12	8 mm	E2E2-X8MD1 2M *	E2E2-X8MD2 2M		
Offshielded —	M18	14 mm	E2E2-X14MD1 2M *	E2E2-X14MD2 2M		
	M30	20 mm	E2E2-X20MD1 2M *	E2E2-X20MD2 2M		

<sup>\*</sup>Models with different frequencies are also available. The model numbers are E2E2-X\(\subseteq\text{D15}\) (example: E2E2-X3D15). Note: Orders for DC 2-Wire Models have been discontinued at the end of March 2023.

#### **DC 3-Wire Models**

Appearance		Sensing distance	Model Operation mode		
			NO	NC	
Shielded	M12	2 mm	E2E2-X2C1 2M	E2E2-X2C2 2M	
	M18	5 mm	E2E2-X5C1 2M	E2E2-X5C2 2M	
	M30	10 mm	E2E2-X10C1 2M	E2E2-X10C2 2M	
Unshielded	M12	5 mm	E2E2-X5MC1 2M	E2E2-X5MC2 2M	
	M18	10 mm	E2E2-X10MC1 2M	E2E2-X10MC2 2M	
	M30	18 mm	E2E2-X18MC1 2M	E2E2-X18MC2 2M	

Note: Orders for DC 3-Wire Models have been discontinued at the end of March 2022.

#### **AC 2-Wire Models**

Appearance		Sensing distance	Model Operation mode		
			NO	NC	
Shielded	M12	2 mm	E2E2-X2Y1 2M *1	E2E2-X2Y2 2M	
	M18	5 mm	E2E2-X5Y1 2M *1	E2E2-X5Y2 2M	
	M30	10 mm	E2E2-X10Y1 2M	E2E2-X10Y2 2M	
Unshielded	M12	5 mm	E2E2-X5MY1 2M *1	E2E2-X5MY2 2M	
	M18	10 mm	E2E2-X10MY1 2M	E2E2-X10MY2 2M	
	M30	18 mm	E2E2-X18MY1 2M	E2E2-X18MY2 2M	

 $<sup>^{\</sup>star}1.\,\text{M4 Connector Models are also available. The model number is } \text{E2E2-X} \square (M) \text{Y} \square \text{-M4 (example: } \text{E2E-X5Y1-M4}). \text{ Not sold within Japan.}$ 

### **Accessories (Order Separately)**

**Mounting Brackets Protective Covers Sputter Protective Covers** 

# **Ratings and Specifications**

#### E2E2-X□D□ DC 2-Wire Models

	Size	Size M12 M18			М	M30	
	Shielding	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
Item Model		E2E2-X3D□	E2E2-X8MD□	E2E2-X7D□	E2E2-X14MD□	E2E2-X10D□	E2E2-X20MD□
Sensing of	listance	3 mm±10%	8 mm±10%	7 mm±10%	14 mm±10%	10 mm±10%	20 mm±10%
Set distar	nce *1	0 to 2.4 mm	0 to 6.4 mm	0 to 5.6 mm	0 to 11.2 mm	0 to 8 mm	0 to 16 mm
Differentia	al travel	10% max. of sen	sing distance				
Sensing of	bject	Ferrous metal (T page 5.)	he sensing distan	ce decreases with	n non-ferrous meta	al. Refer to <i>Engin</i>	eering Data on
Standard	sensing object	Iron, $12 \times 12 \times 1 \text{ mm}$	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, 18 × 18 × 1 mm	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, 54 × 54 × 1 mm
Response	e frequency *2	1 kHz	800 Hz	500 Hz	400 Hz		100 Hz
	pply voltage g voltage range)	12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.					
Leakage o	current	0.8 mA max.					
Control output	Switching capacity	3 to 100 mA	3 to 100 mA				
output	Residual voltage	3 V max. (Load o	current: 100 mA, 0	Cable length: 2 m)			
Indicators	3	D1 Models: Operation indicator (red) and setting indicator (green) D2 Models: Operation indicator (red)					
Operation (with sens	sing object ap-	D1 Models: NO D2 Models: NC Refer to the timing charts under I/O Circuit Diagrams on page 8 for details.					ails.
Protection	n circuits	Surge absorber,	Load short-circuit	protection			
Ambient t	emperature	Operating/Storag	je: –25 to 70°C (w	vith no icing or cor	ndensation)		
Ambient I	numidity	Operating/Storag	je: 35% to 95% (v	vith no condensat	ion)		
Temperat	ure influence	±10% max. of se	nsing distance at	23°C in the temper	erature range of –	25 to 70°C	
Voltage in		±1% max. of sen	sing distance at r	ated voltage in the	e rated voltage ±1	5% range	
Insulation	resistance	50 M $\Omega$ min. (at 5	00 VDC) betweer	current-carrying	parts and case		
Dielectric	strength	1000 VAC, 50/60	Hz for 1 minute l	oetween current-c	arrying parts and	case	
Vibration (destructi	resistance on)	10 to 55 Hz, 1.5-	mm double ampli	tude for 2 hours e	ach in X, Y, and Z	directions	
Shock res (destructi		1,000 m/s² 10 times each in X, Y, and Z directions					
Degree of	protection	IEC IP67, in-house standard for oil resistance					
Connection	on method	Pre-wired Models (Standard cable length: 2 m)					
Weight (packed state)Approx. 65 gApprox. 150 gApprox. 210 g							
	Case	Brass					
Materi-	Sensing surface PBT						
als	Clamping nuts	Nickel-plated bra	ss				
	Toothed washer	Zinc-plated iron					
Accessor	ies	Instruction sheet					

<sup>\*1.</sup> Use the E2E2 within the range in which the setting indicator (green LED) is ON (except D2 Models).
\*2. The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.

#### **E2E2-X**□**C**□ **DC** 3-Wire Models

	Size	M12 M18		18	8 M30			
	Shielding	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	
Item	Model	E2E2-X2C□	E2E2-X5MC□	E2E2-X5C□	E2E2-X10MC□	E2E2-X10C□	E2E2-X18MC□	
Sensing of	distance	2 mm±10%	5 mm±10%	5 mm±10%	10 mm±10%	10 mm±10%	18 mm±10%	
Set distar	nce	0 to 1.6 mm	0 to 4 mm	0 to 4 mm	0 to 8 mm	0 to 8 mm	0 to 14 mm	
Differenti	al travel	10% max. of sen	sing distance					
Sensing of	bject	Ferrous metal (T page 5.)	he sensing distar	ce decreases with	h non-ferrous met	al. Refer to <i>Engin</i>	eering Data on	
Standard	sensing object	Iron, $12 \times 12 \times 1 \text{ mm}$	Iron, $15 \times 15 \times 1 \text{ mm}$	Iron, 18 × 18 × 1 mm	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, 54 × 54 × 1 mm	
Response	e frequency *1	1.5 kHz	400 Hz	600 Hz	200 Hz	400 Hz	100 Hz	
	pply voltage (op- oltage range) *2	12 to 24 VDC (10	to 30 VDC), ripp	le (p-p): 10% max	X.			
Leakage (	current	13 mA max.						
Control	Load current	NPN open-collec	tor output, 200 m	A max. (30 VDC r	max.)			
output	Residual voltage	2 V max. (Load o	current: 200 mA, 0	Cable length: 2 m)	)			
Indicators	<b>S</b>	Operation indicate	Operation indicator (red)					
Operation (with sense) proaching	sing object ap-	C1 Models: NO C2 Models: NC Refer to the timing charts under <i>I/O Circuit Diagrams</i> on page 8 for details.				ails.		
Protection	n circuits	Reverse polarity	protection, Surge	absorber, Load s	short-circuit protec	tion		
Ambient t	emperature	Operating/Storage: –40 to 85°C (with no icing or condensation)						
Ambient I	numidity	Operating/Storage: 35% to 95% (with no condensation)						
Temperat	ure influence	±15% max. of sensing distance at 23°C in the temperature range of –40 to 85°C ±10% max. of sensing distance at 23°C in the temperature range of –25 to 70°C						
Voltage in	nfluence	±1% max. of sen	sing distance at r	ated voltage in the	e rated voltage ±1	5% range		
Insulation	resistance	50 M $\Omega$ min. (at 5	00 VDC) betweer	n current-carrying	parts and case			
Dielectric	strength	1,000 VAC, 50/6	0 Hz for 1 minute	between current	carry parts and ca	ise		
Vibration (destruction	resistance on)	10 to 55 Hz, 1.5-	mm double ampli	tude for 2 hours e	each in X, Y, and Z	Z directions		
Shock res (destructi		1,000 m/s² 10 times each in X, Y, and Z directions						
Degree of protection IEC IP67, in-house standard for oil resistance								
Connection	on method	Pre-wired Models	s (Standard cable	length: 2 m) and	Connector Model	S		
Weight (p	acked state)	Approx. 75 g	Approx. 75 g Approx. 160 g Approx. 220 g					
Case Brass								
Materi-	Sensing surface	PBT						
als	Clamping nuts	Nickel-plated bra	ss					
Toothed washer Zinc-plated iron								
Accessories Instruction sheet								

<sup>\*1.</sup> The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.

\*2. A full-wave rectification power supply of 24 VDC ±20% (average value) can be used.

#### E2E2-X□Y□ AC 2-Wire Models

Size		M12 M18		18	M30		
	Shielding	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
Item Model		E2E2-X2Y□	E2E2-X5MY□	E2E2-X5Y□	E2E2-X10MY□	E2E2-X10Y□	E2E2-X18MY□
Sensing of	distance	2 mm±10%	5 mm±10%	5 mm±10%	10 mm±10%	10 mm±10%	18 mm±10%
Set distar	псе	0 to 1.6 mm	0 to 4 mm	0 to 4 mm	0 to 8 mm	0 to 8 mm	0 to 14 mm
Differenti	al travel	10% max. of sen	sing distance	I		I	I
Sensing of	object	Ferrous metal (T page 5.)	he sensing distan	ce decreases witl	n non-ferrous met	al. Refer to <i>Engin</i>	eering Data on
Standard	sensing object	Iron, 12 × 12 × 1 mm	Iron, 15 × 15 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, $30 \times 30 \times 1 \text{ mm}$	Iron, 54 × 54 × 1 mm
Response	e frequency	25 Hz		1		1	1
	pply voltage (op- oltage range) *1	24 to 240 VAC (2	20 to 264 VAC), 5	0/60 Hz			
Leakage (	current	1.7 mA max.					
Control	Load current *2	5 to 200 mA		5 to 300 mA			
output	Residual voltage	Refer to Enginee	ring Data on page	e 5.			
Indicators	5	Operation indicate	tor (red)				
Operation (with sense) proaching	sing object ap-	Y1 Models: NO Y2 Models: NC Refer to the timing charts under I/O Circuit Diagrams on page 8 for details.				ails.	
Ambient t	temperature *1, 2	Operating/Storag	je: –40 to 85°C (v	vith no icing or co	ndensation)		
Ambient I	humidity	Operating/Storag	je: 35% to 95% (v	vith no condensat	ion)		
Temperat	ure influence				erature range of – erature range of –		
Voltage in	nfluence	±1% max. of sen	sing distance at r	ated voltage in the	e rated voltage ±1	5% range	
Insulation	n resistance	$50$ M $\Omega$ min. (at $5$	00 VDC) betweer	current-carrying	parts and case		
Dielectric	strength	4,000 VAC, 50/6	0 Hz for 1 minute	between current	carry parts and ca	se	
Vibration (destruction	resistance ion)	10 to 55 Hz, 1.5-	mm double ampli	tude for 2 hours e	ach in X, Y, and Z	directions	
Shock res (destructi		1,000 m/s² 10 times each in X, Y, and Z directions					
Degree of	f protection	IEC IP67, in-house standard for oil resistance					
Connection	on method	Pre-wired Models (Standard cable length: 2 m) and Connector Models					
Weight (packed state) Approx. 65 g Approx. 150 g Approx. 210 g							
	Case	Brass					
Materi-	Sensing surface	PBT					
als	Clamping nuts	Nickel-plated bra	ss				
	Toothed washer	Zinc-plated iron	Zinc-plated iron				
Accessor	ries	Instruction sheet					

<sup>\*1.</sup> When supplying 24 VAC to any of the above models, make sure that the operating ambient temperature range is at least –25°C to 85°C.

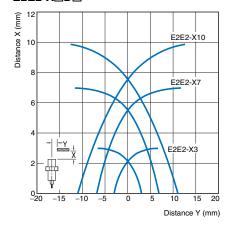
\*2. When using an M18 or M30 Connector Model at an ambient temperature between 70 and 85°C, make sure that the Sensor has a control output (load current) of 5 to 200 mA max.

# **Engineering Data (Reference Value)**

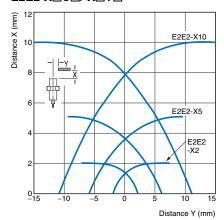
#### **Sensing Area**

### **Shielded Models**

#### E2E2-X□D□

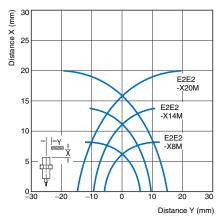


#### $E2E2-X\square C\square /-X\square Y\square$

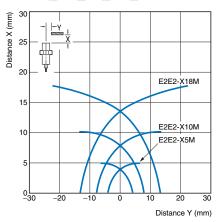


# **Unshielded Models**

#### E2E2-X□MD□

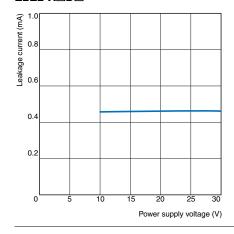


#### E2E2-X MC /-X MY

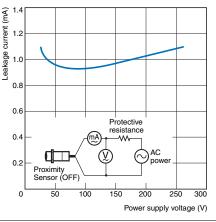


# **Leakage Current**

#### E2E2-X□D□

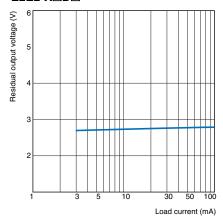


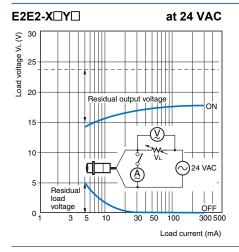


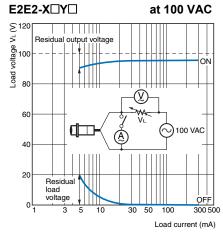


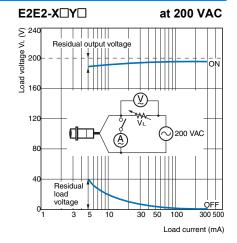
# **Residual Output Voltage**

#### E2E2-X□D□



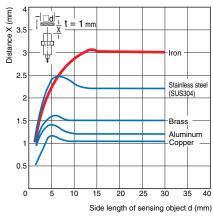




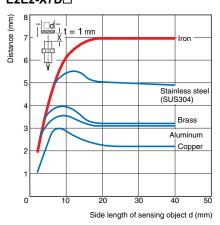


#### Influence of Sensing Object Size and Material

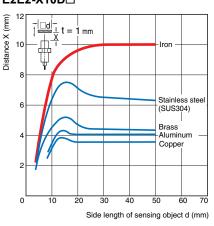
#### E2E2-X3D□



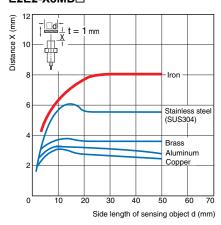
# E2E2-X7D□



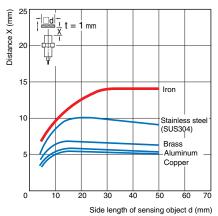
**E2E2-X10D**□



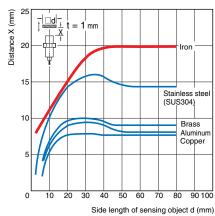
#### E2E2-X8MD□



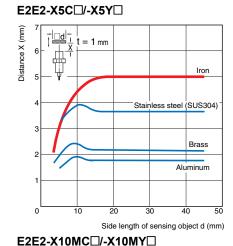
#### E2E2-X14MD□

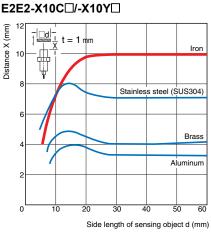


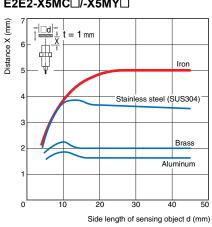
#### **E2E2-X20MD**□

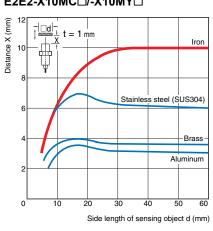


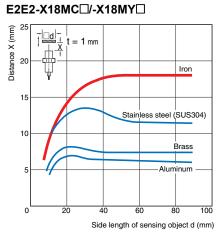
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# I/O Circuit Diagrams

#### **DC 2-Wire Models**

Operation mode	Model	Timing Charts	Output circuit
NO	E2E2-X3D1 E2E2-X7D1 E2E2-X10D1 E2E2-X8MD1 E2E2-X14MD1 E2E2-X20MD1	Sensing object    Sensing object   Sensi	Proximity Sensor main circuit
NC	E2E2-X3D2 E2E2-X7D2 E2E2-X10D2 E2E2-X8MD2 E2E2-X14MD2 E2E2-X20MD2	Sensing area  Sensing object  (%) 100 0  Rated sensing distance  ON Operation OFF indicator (red) ON Control output	Note: The load can be connected to either the +V or 0 V side.

#### **DC 3-Wire Models**

Operation mode	Model	Timing Charts	Output circuit
NO	E2E2-X2C1 E2E2-X5C1 E2E2-X10C1 E2E2-X5MC1 E2E2-X10MC1 E2E2-X18MC1	Sensing object Not present Not present Operation indicator OFF Control output OFF ON OFF	Brown 100 Ω  Proximity Sensor
NC	E2E2-X2C2 E2E2-X5C2 E2E2-X10C2 E2E2-X5MC2 E2E2-X10MC2 E2E2-X18MC2	Sensing object Not present Not present Operation indicator (red) OFF Control output ON OFF	main circuit Blue 0 V

#### **AC 2-Wire Models**

Operation mode	Model	Timing Charts	Output circuit
NO	E2E2-X□Y1 E2E2-X□MY1	Sensing object Not present Not present Operation indicator (red) Control output OFF ON OFF	Brown Load Proximity Sensor
NC	E2E2-X□Y2 E2E2-X□MY2	Sensing object Not present Not present Operation indicator (red) Control output OFF	main circuit Blue
NO	E2E2-X□Y1-M4 E2E2-X□MY1-M4	Sensing object Present Not present Operation indicator OFF (red) OFF Control output OFF	Proximity Sensor main circuit (3)

# **Safety Precautions**



This product is not designed or rated for ensuring safety of persons either directly or indirectly.



Do not use it for such purposes.

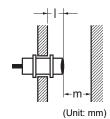
#### **Precautions for Correct Use**

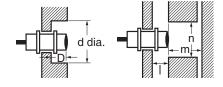
Do not use this product under ambient conditions that exceed the ratings.

#### Design

#### **Influence of Surrounding Metal**

When mounting the Sensor within a metal panel, ensure that the clearances given in the following table are maintained.

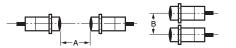




Model		Item	M12	M18	M30
		I	0	0	0
		d	12	18	30
	Shielded	D	0	0	0
		m	8	20	40
DC 2-Wire Models		n	18	27	45
E2E2-X□D□		I	15	22	30
		d	40	70	90
	Unshielded	D	15	22	30
		m	20	40	70
		n	40	70	90
		I	0	0	0
		d	12	18	30
	Shielded	D	0	0	0
DC 3-Wire Models		m	8	20	40
E2E2-X□C□		n	18	27	45
AC 2-Wire Models		I	15	22	30
E2E2-X□Y□		d	40	55	90
	Unshielded	D	15	22	30
		m	20	40	70
		n	36	54	90

#### **Mutual Interference**

When installing Sensors face-to-face or side-by-side, ensure that the minimum distances given in the following table are maintained.



#### **Mutual Interference**

(Unit: mm)

Model	Model		M12	M18	M30
DC 2-Wire Models E2E2-X□D□	Shielded	А	30 (20)	50 (30)	100 (50)
		В	20 (12)	35 (18)	70 (35)
	Unshielded	А	120 (60)	200 (100)	300 (100)
		В	100 (50)	110 (60)	200 (100)
DC 3-Wire Models	Shielded	Α	30	50	100
E2E2-X□C□ AC 2-Wire Models E2E2-X□Y□	Silielded	В	20	35	70
	Unshielded	Α	120	200	300
	Orisilielded	В	100	110	200

Note: Values in parentheses apply to Sensors operating at different frequencies.

Models

	Size	Model
		E2E2-X3D□
	Shielded	E2E2-X2C□
M12		E2E2-X2Y□
IVIIZ		E2E2-X8MD□
	Unshielded	E2E2-X5MC□
		E2E2-X5MY□
		E2E2-X7D□
	Shielded	E2E2-X5C□
M18		E2E2-X5Y□
IVI I O		E2E2-X14MD
	Unshielded	E2E2-X10MC□
		E2E2-X10MY□
		E2E2-X10D
	Shielded	E2E2-X10C□
M30		E2E2-X10Y□
		E2E2-X20MD□
	Unshielded	E2E2-X18MC□
		E2E2-X18MY□

Relationship between Sizes and

# Mounting



# tening Torque

Do not tighten the nut with excessive force.

A washer must be used with the nut.

The following strengths assume washers are being used.

Model	Torque
M12	30 N·m
M18	70 N·m
M30	180 N·m

#### **Dimensions**

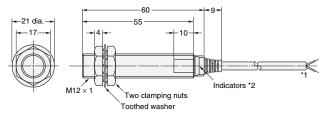
# **Shielded**



#### **Unshielded**



#### $E2E2-X3D\square/E2E2-X2C\square/E2E2-X2Y\square$



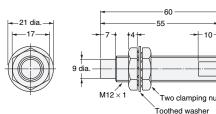
\*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm2, Insulator diameter: 1.3 mm),

Standard length: 2 m 4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m

The cable can be extended to up to 200 m (Separate metal conduit.)

\*2. D Models: Operation indicator (red) and setting indicator (green),
C/Y Models: Operation indicator (red)

#### E2E2-X8MD / E2E2-X5MC / E2E2-X5MY



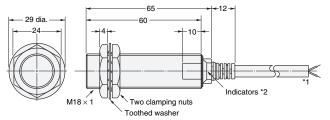
\*1. 4-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m

4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.3 mm², Insulator diameter: 1.3 mm), Standard length: 2 m The cable can be extended to up to 200 m (Separate metal conduit.)

Indicators \*2

\*2. D Models: Operation indicator (red) and setting indicator (green), C/Y Models: Operation indicator (red)

#### E2E2-X7D\(\text{D}\)/E2E2-X5C\(\text{D}\)/E2E2-X5Y\(\text{D}\)

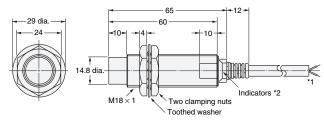


\*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm), Standard length: 2 m 6-dia. vinyl-insulated round cable with 3 conductors

(Conductor cross section: 0.5 mm<sup>2</sup>, Insulator diameter: 1.9 mm),

Standard length: 2 m
The cable can be extended to up to 200 m (Separate metal conduit.) \*2. D Models: Operation indicator (red) and setting indicator (green), C/Y Models: Operation indicator (red)

#### E2E2-X14MD | /E2E2-X10MC | /E2E2-X10MY |

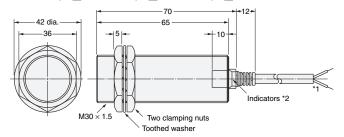


\*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm), Standard length: 2 m

6-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm), Standard length: 2 m

The cable can be extended to up to 200 m (Separate metal conduit.) \*2. D Models: Operation indicator (red) and setting indicator (green), C/Y Models: Operation indicator (red)

#### E2E2-X10D / E2E2-X10C / E2E2-X10Y

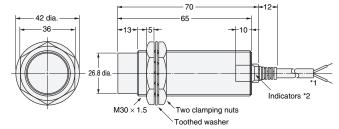


\*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm2, Insulator diameter: 1.9 mm), Standard length: 2 m 6-dia. vinyl-insulated round cable with 3 conductors

(Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm), Standard length: 2 m

The cable can be extended to up to 200 m (Separate metal conduit.)

#### E2E2-X20MD□/E2E2-X18MC□/E2E2-X18MY□



\*1. 6-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.5 mm2, Insulator diameter: 1.9 mm), Standard length: 2 m 6-dia. vinyl-insulated round cable with 3 conductors

(Conductor cross section: 0.5 mm<sup>2</sup>, Insulator diameter: 1.9 mm),

Standard length: 2 m

The cable can be extended to up to 200 m (Separate metal conduit.)

\*2. D Models: Operation indicator (red) and setting indicator (green), C/Y Models: Operation indicator (red)

\*2. D Models: Operation indicator (red) and setting indicator (green), C/Y Models: Operation indicator (red)

#### **Mounting Hole Dimensions**



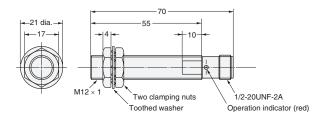
Dimension	M12	M18	M30
F (mm)	12.5 <sup>+0.5</sup> <sub>0</sub> dia.	18.5 <sup>+0.5</sup> <sub>0</sub> dia.	30.5 <sup>+0.5</sup> dia.

Note 1. Two clamping nuts and one toothed washer are provided with each Sensors.

2. The model number is laser-marked on the cable section and milled section.

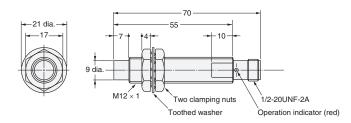
#### **Shielded**

#### E2E2-X2Y□-M4

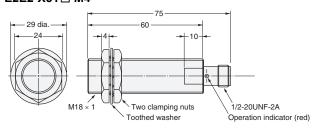


#### Unshielded

#### E2E2-X5MY□-M4



#### E2E2-X5Y□-M4



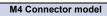
# **Mounting Hole Dimensions**



Dimension	M12	M18
F (mm)	12.5 <sup>+0.5</sup> <sub>0</sub> dia.	18.5 <sup>+0.5</sup> <sub>0</sub> dia.

Note 1. Two clamping nuts and one toothed washer are provided with each Sensors.

#### **Connector Pin Arrangement**





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