PRODUCT NEWS

Correction Reissue

Product Discontinuation Notice

Proximity Sensors

OMRON

Issue Date
February 2023

Discontinuation Notice of High Precision Positioning Inductive Proximity Sensor model E2C-EDA series.

Product Discontinuation	Recommended Replacement
High Precision Positioning Inductive Proximity Sensor **Model E2C-EDA series**	Smart Proximity Sensor **Model E2NC series**
Extension Cables for Sensor Head **Model E22-XC[]R**	**No recommended replacement**

[Final order entry date]

The end of December,2022

Note: Model E2C-EDA0; The end of June,2022

[Date of The Last Shipping]

The end of March,2023

Note: Model E2C-EDA0; The end of December,2022

[Caution on recommended replacement]

The load current and residual voltage of the control output are different. See specifications for details.

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
Model E2NC series	**	**	*	**	*	**	--

** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

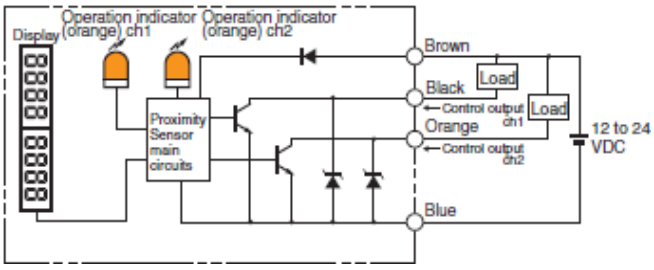
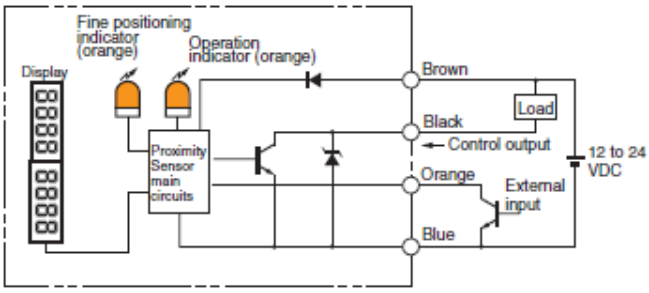
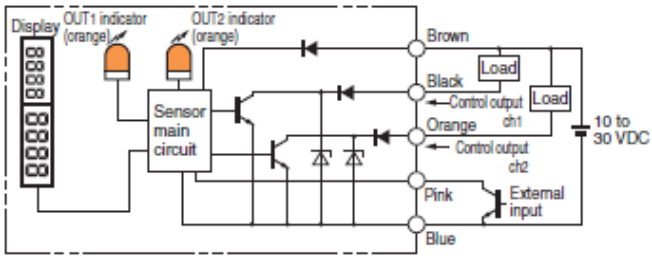
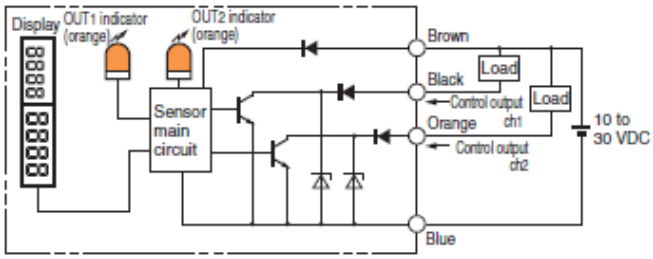
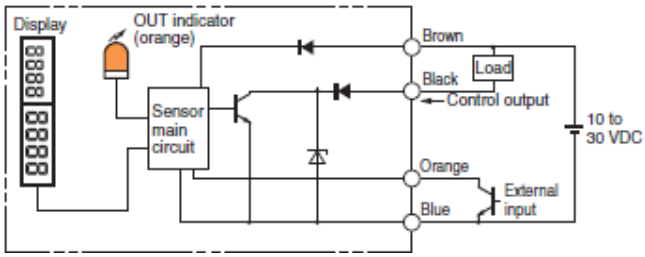
[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
E2C-EV05-S	E2NC-EV05-S
E2C-EV05-F	E2NC-EV05-F
E2C-EV05	E2NC-EV05
E2C-EM07M-S	E2NC-EM07M-S
E2C-EM07M-M1J 0.2M	E2NC-EM07M
E2C-EM07M-M1J	E2NC-EM07M
E2C-EM07M-F-M3J	E2NC-EM07M-F
E2C-EM07M-F	E2NC-EM07M-F
E2C-EM07M	E2NC-EM07M
E2C-EM02-S	E2NC-EM02-S
E2C-EM02-M1J 0.3M	E2NC-EM02
E2C-EM02-M1J	E2NC-EM02
E2C-EM02H	E2NC-EM02H
E2C-EM02-F	E2NC-EM02-F
E2C-EM02	E2NC-EM02
E2C-EDR6-F-1	E2NC-EDR6-F
E2C-EDR6-F	E2NC-EDR6-F
E2C-EDA9	E2NC-EA9
E2C-EDA8	E2NC-EA9TW
E2C-EDA7	E2NC-EA7
E2C-EDA6	E2NC-EA7TW
E2C-EDA51 2M	E2NC-EA51 2M
E2C-EDA41-M1J 0.3M	E2NC-EA51 2M
E2C-EDA41 2M	E2NC-EA51 2M
E2C-EDA21 2M	E2NC-EA21 2M
E2C-EDA11-M1J 0.3M	E2NC-EA21 2M
E2C-EDA11 2M	E2NC-EA21 2M
E2C-EDA0	E2NC-EA0
E2C-ED02-S	E2NC-ED02-S
E2C-ED02-F	E2NC-ED02-F
E2C-ED02	E2NC-ED02
E2C-ED01-S	E2NC-ED01-S
E2C-ED01-F-M3J	E2NC-ED01-F
E2C-ED01-F	E2NC-ED01-F
E2C-ED01	E2NC-ED01
E22-XC7R	No recommended replacement
E22-XC2R	No recommended replacement

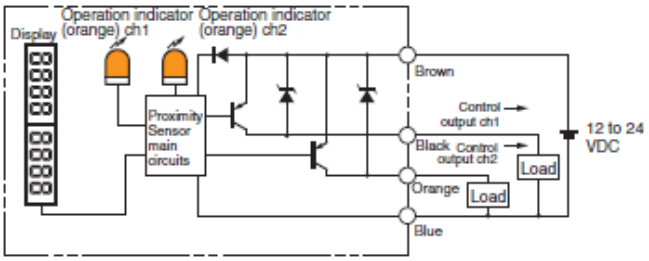
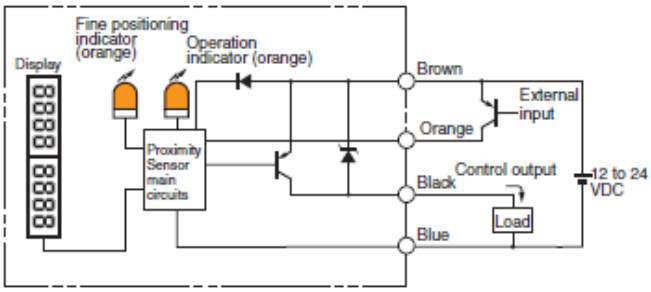
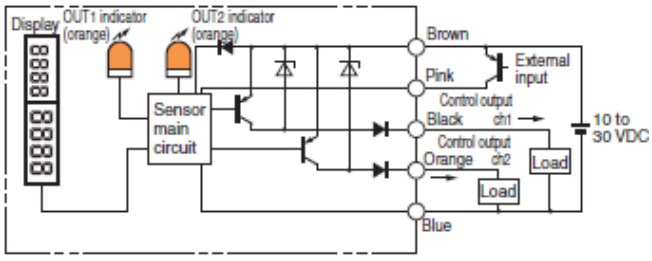
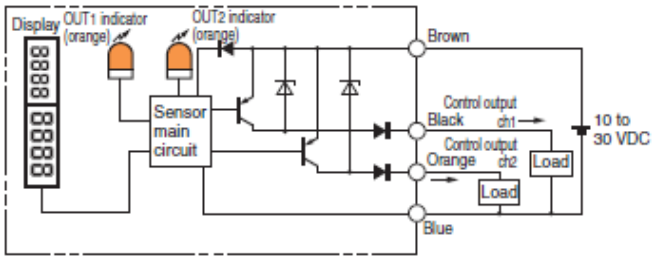
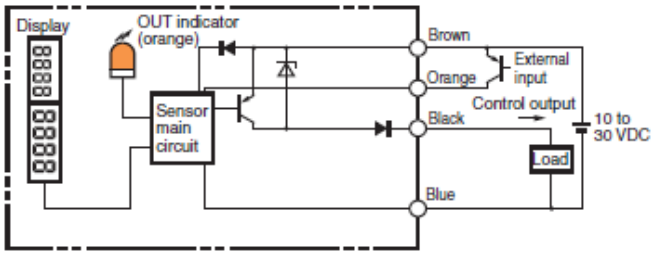
[Body color]

Product discontinuation Model E2C-EDA series	Recommendable replacement Model E2NC series
Sensor Heads **Model E2C-E[]** Case : Silver Sensing surface : Black 	**Sensor Heads** **Model E2NC-E[]** Case : Silver Sensing surface : Black 
Amplifier Units **Model E2C-EDA[]** Black 	**Amplifier Units** **Model E2NC-EA[]** Black 

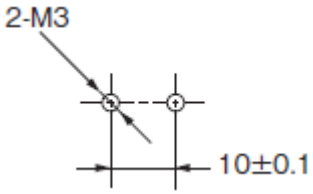
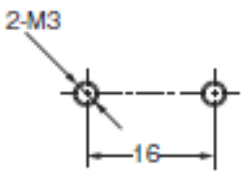
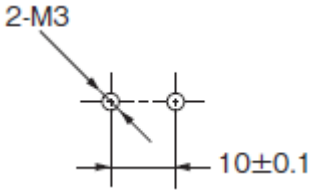
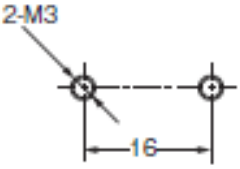
[Wire connection]

Product discontinuation Model E2C-EDA series	Recommendable replacement Model E2NC series
NPN Output **Model E2C-EDA11** **Model E2C-EDA6**  **Model E2C-EDA21** **Model E2C-EDA7**  	**NPN Output** **Model E2NC-EA21**  **Model E2NC-EA7TW**  **Model E2NC-EA7** 

[Wire connection]

Product discontinuation Model E2C-EDA series	Recommendable replacement Model E2NC series
PNP Output **Model E2C-EDA41** **Model E2C-EDA8**  **Model E2C-EDA51** **Model E2C-EDA9**  	**PNP Output** **Model E2NC-EA51**  **Model E2NC-EA9TW**  **Model E2NC-EA9** 

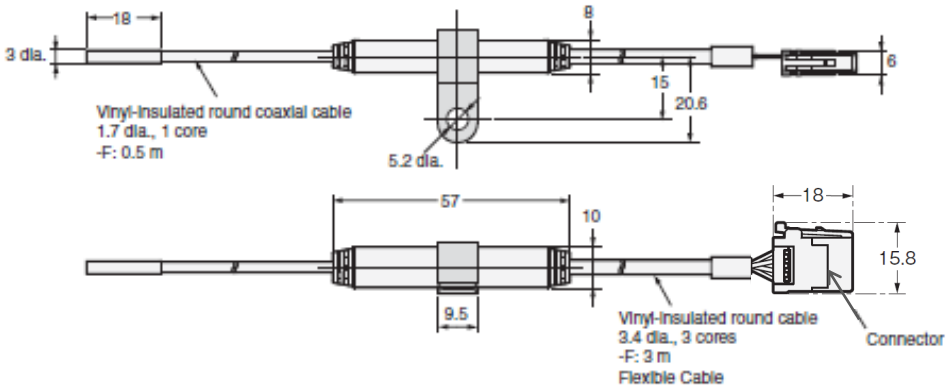
[Mounting dimensions]

Product discontinuation Model E2C-EDA series	Recommendable replacement Model E2NC series
Sensor Heads **Model E2C-EV05[]**  **Amplifier Units** **Model E2C-E[]**  	**Sensor Heads** **Model E2NC-EV05[]**  **Amplifier Units** **Model E2NC-EA[]** 

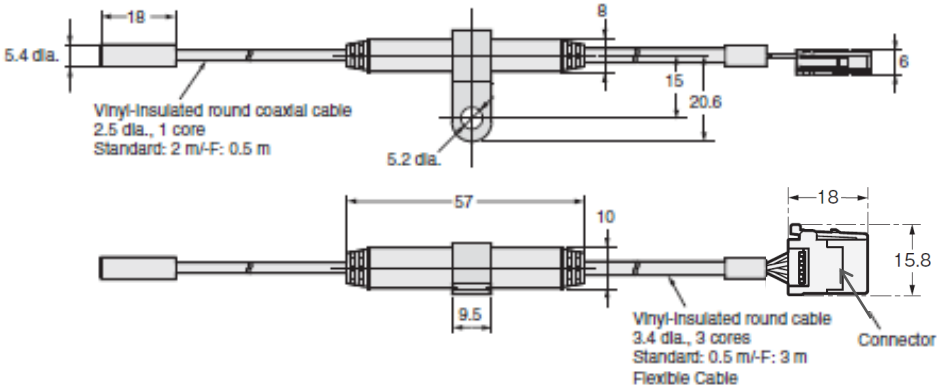
[Dimensions]

Product discontinuation
Model E2C-EDA series

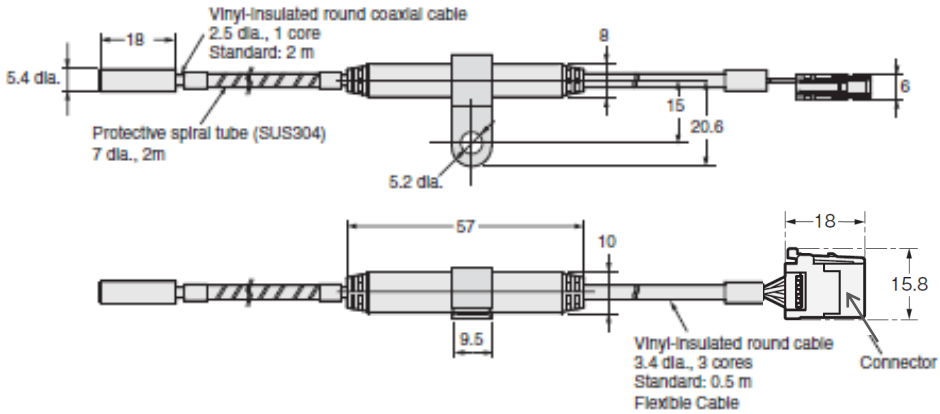
Sensor Heads
Model E2C-EDR6-F



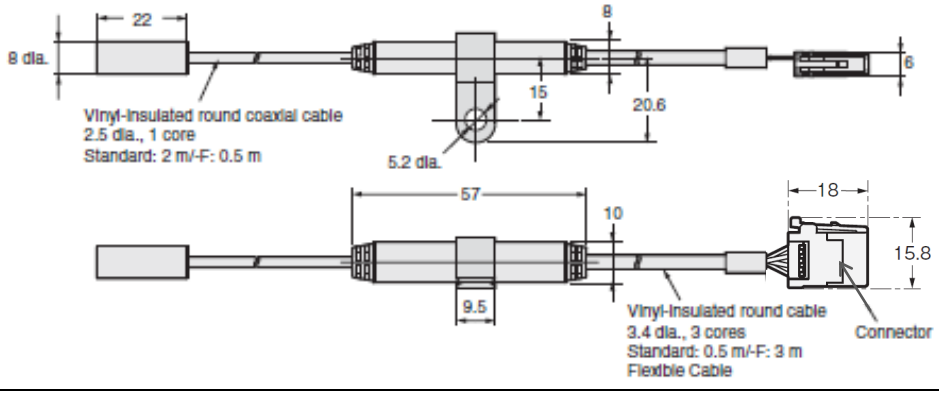
Model E2C-ED01(-F)



Model E2C-ED01-S



Model E2C-ED02(-F)

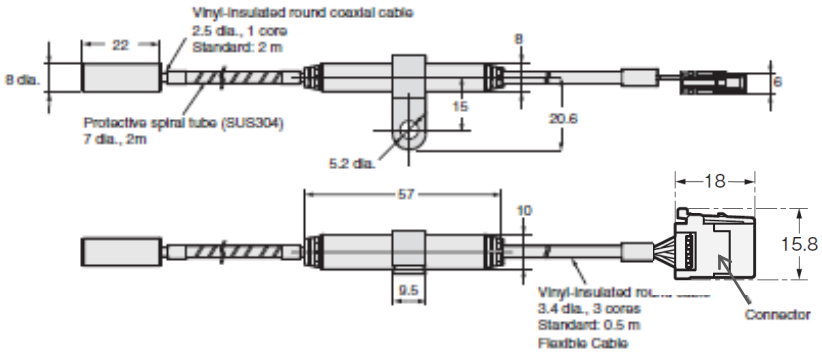


[Dimensions]

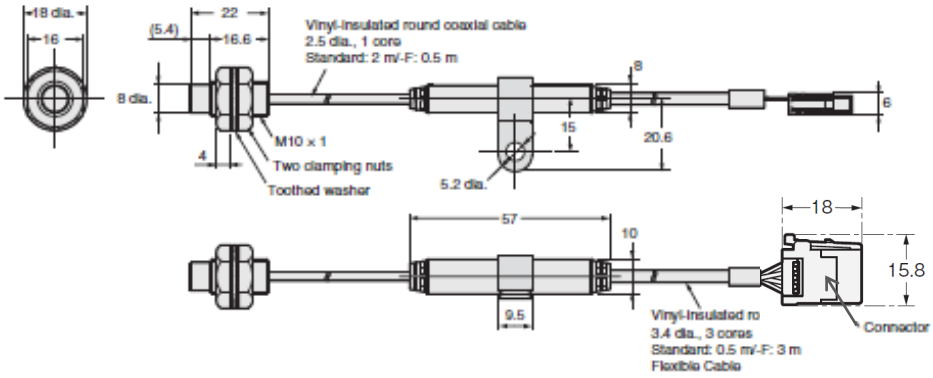
Product discontinuation
Model E2C-EDA series

Sensor Heads

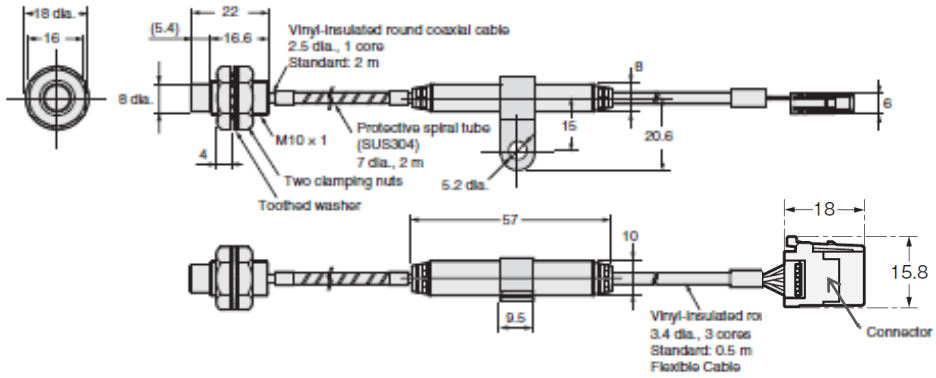
Model E2C-ED02-S



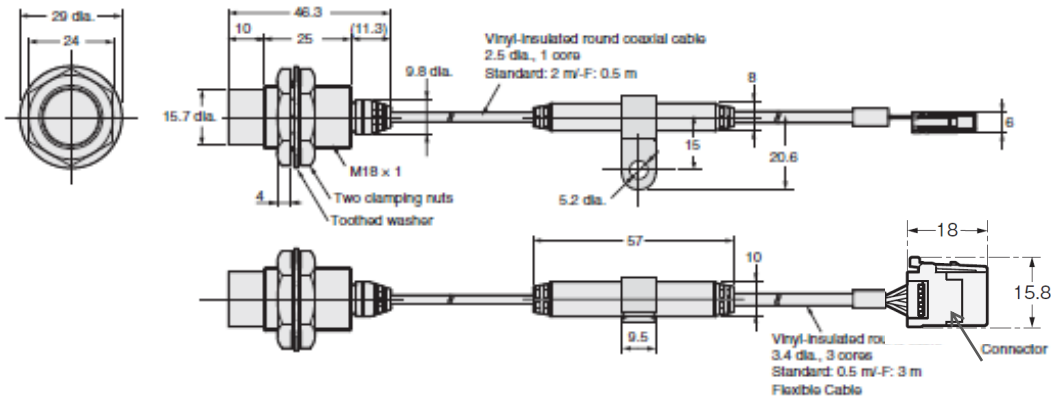
Model E2C-EM02(-F)



Model E2C-EM02-S



Model E2C-EM07M(-F)

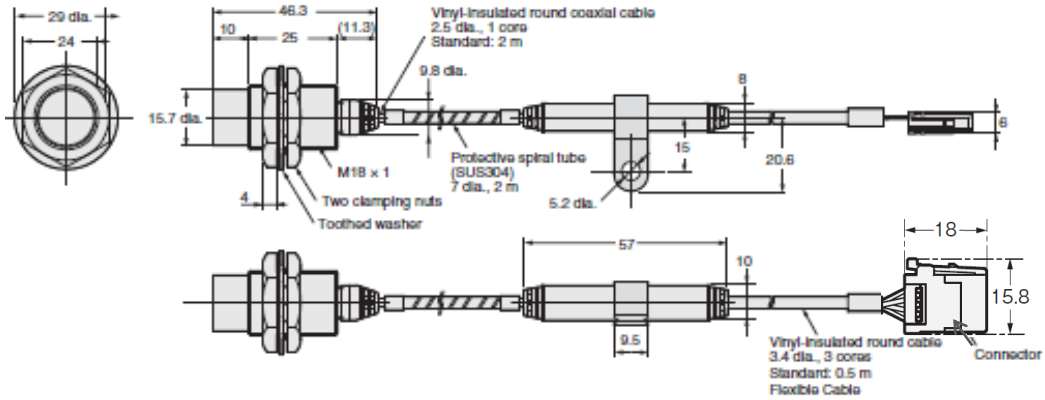


[Dimensions]

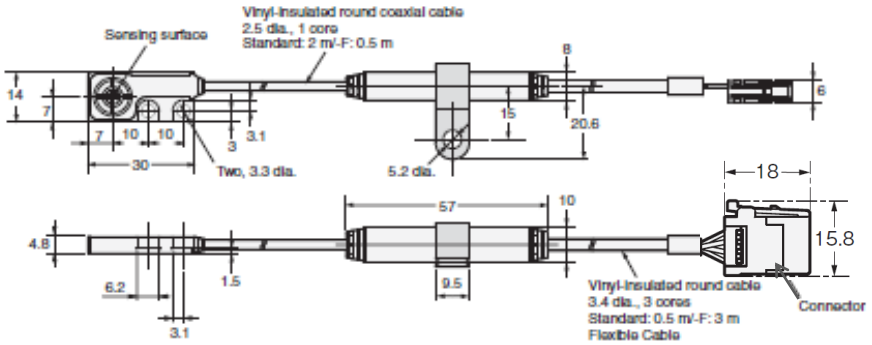
Product discontinuation
Model E2C-EDA series

Sensor Heads

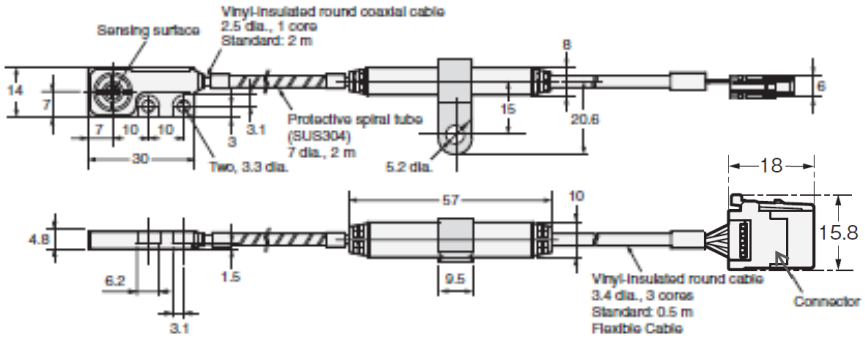
Model E2C-EM07M-S



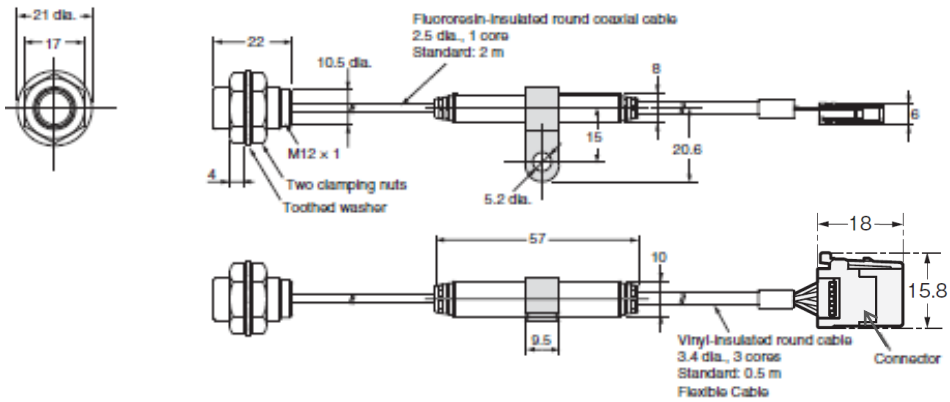
Model E2C-EV05(-F)



Model E2C-EV05-S



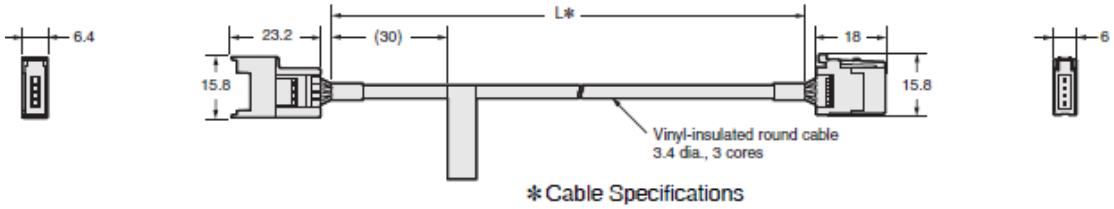
Model E2C-EM02H



[Dimensions]

Product discontinuation
Model E2C-EDA series

Extension Cables for Sensors Head
Model E22-XC2R
Model E22-XC7R

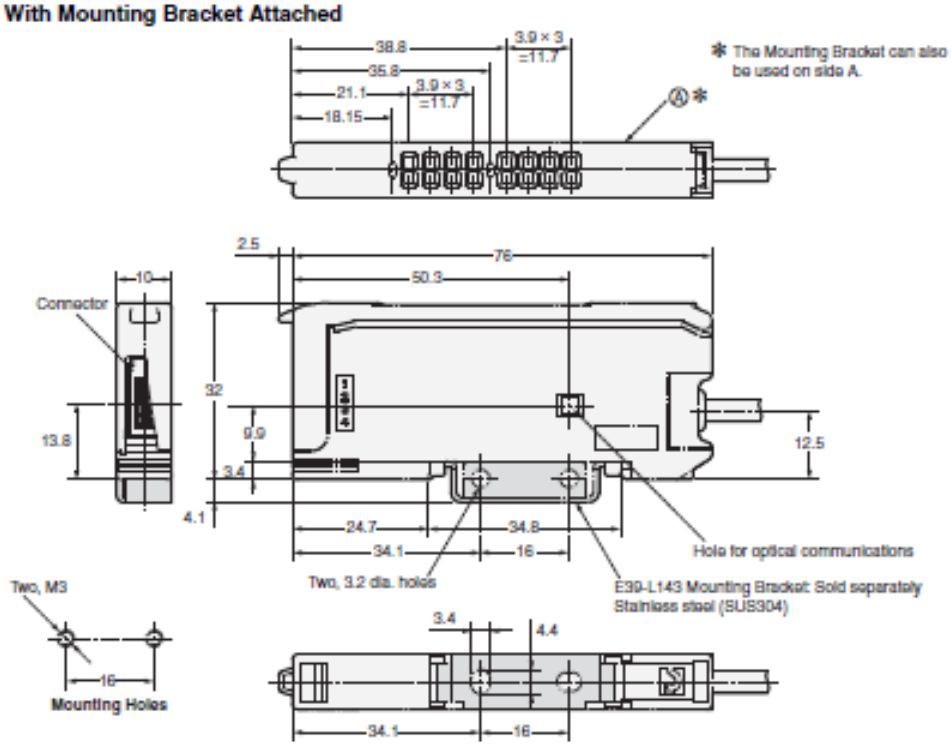


*Cable Specifications

Specifications	L
2 m	2,000 $^{+50}_{0}$
7 m	7,000 $^{+200}_{0}$

Amplifier Units
Model E2C-EDA11
Model E2C-EDA21
Model E2C-EDA41
Model E2C-EDA51

With Mounting Bracket Attached

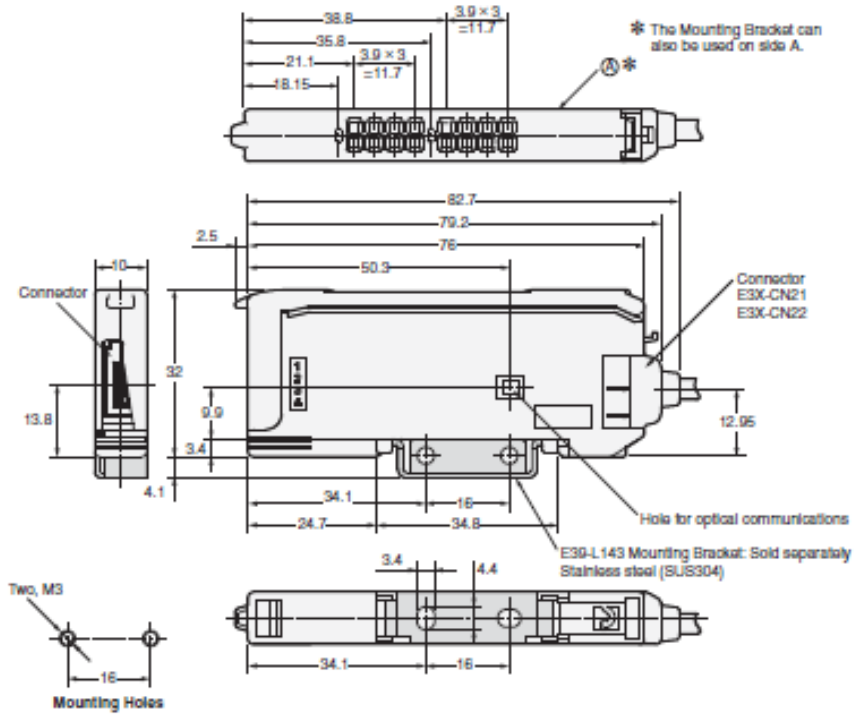


[Dimensions]

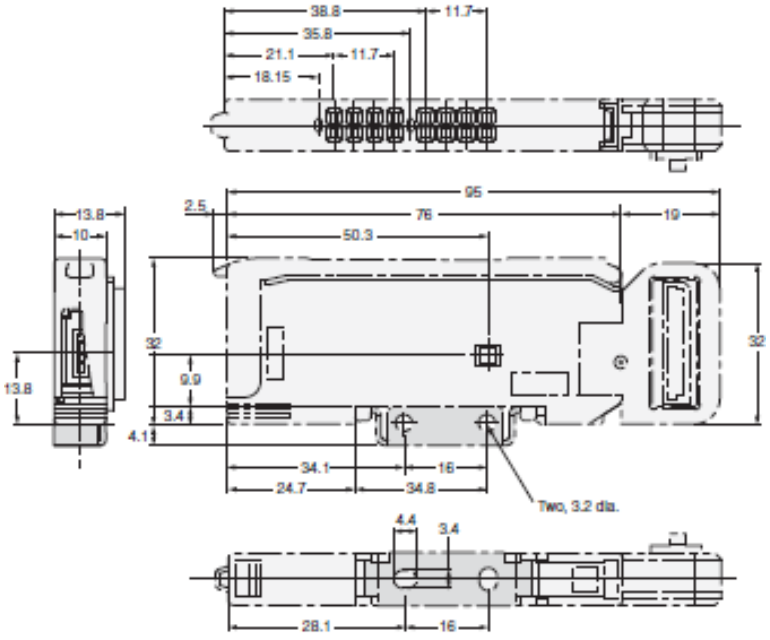
Product discontinuation
Model E2C-EDA series

Amplifier Units
Model E2C-EDA6
Model E2C-EDA7
Model E2C-EDA8
Model E2C-EDA9

With Mounting Bracket Attached



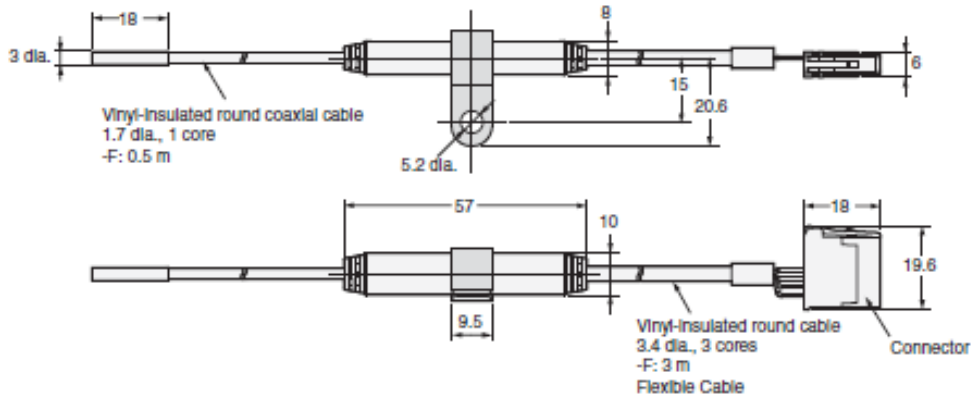
Model E2C-EDA0



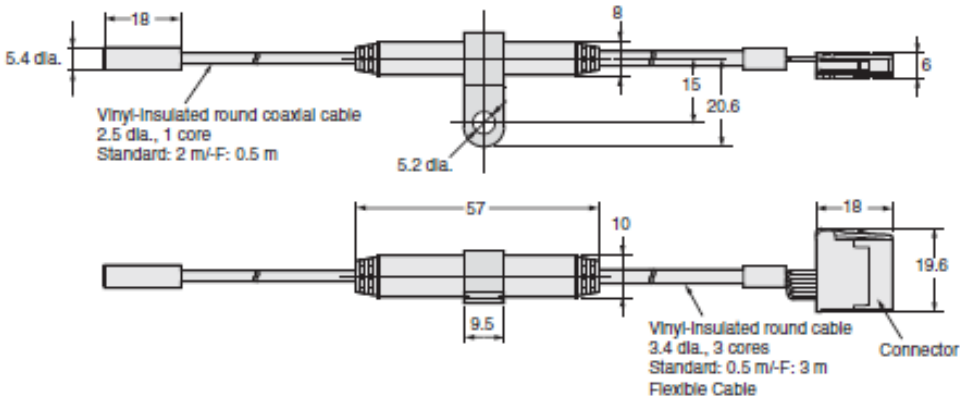
[Dimensions]

Recommendable replacement
Model E2NC series

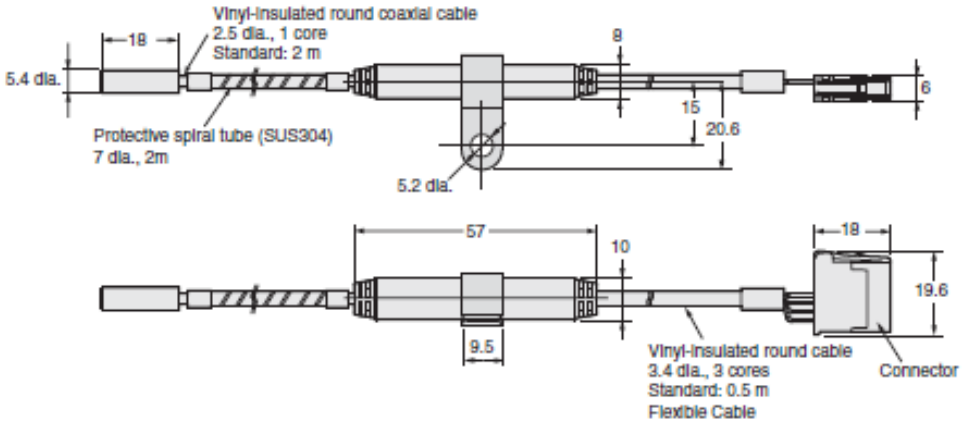
Sensor Heads
Model E2NC-EDR6-F



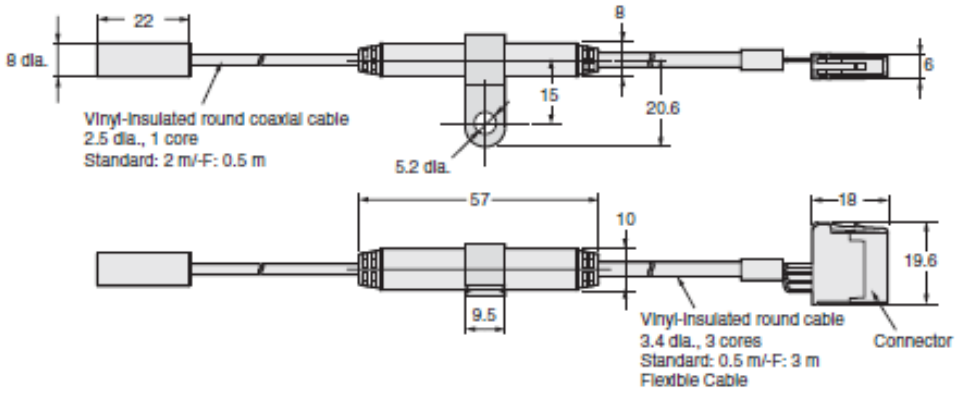
Model E2NC-ED01(-F)



Model E2NC-ED01-S



Model E2NC-ED02(-F)

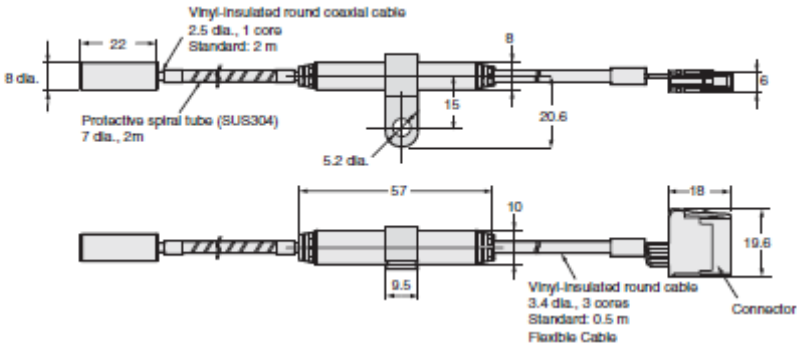


[Dimensions]

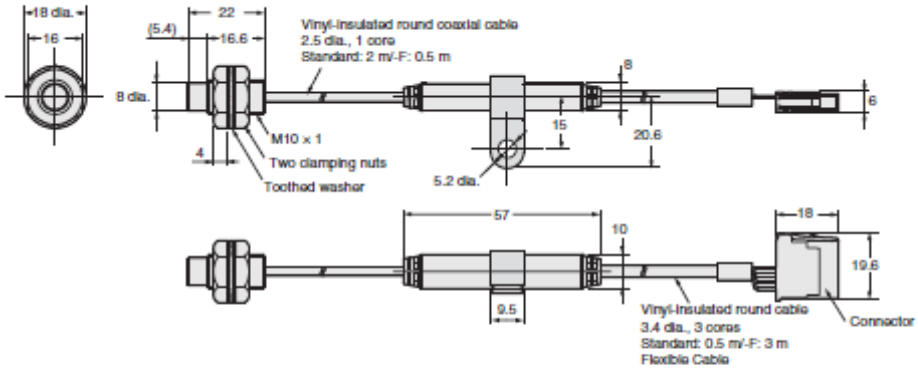
Recommendable replacement
Model E2NC series

Sensor Heads

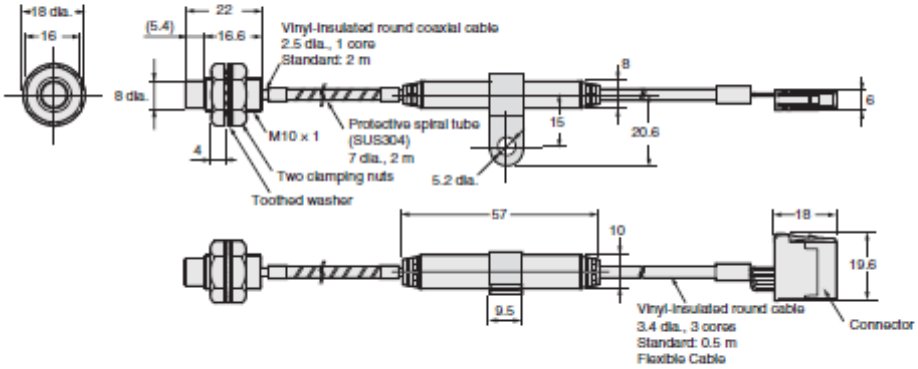
Model E2NC-ED02-S



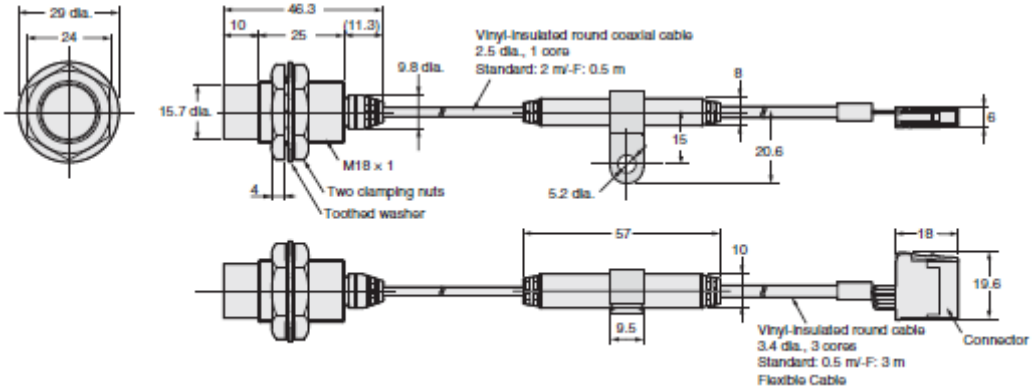
Model E2NC-EM02(-F)



Model E2NC-EM02-S



Model E2NC-EM07M(-F)

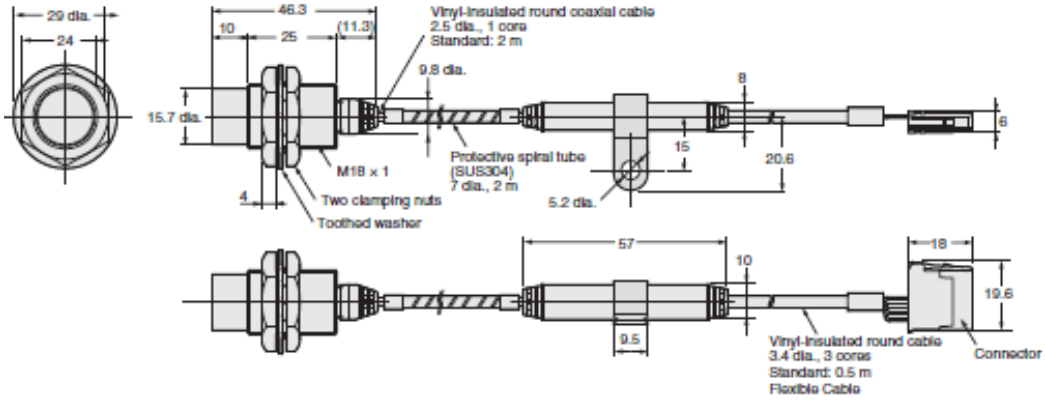


[Dimensions]

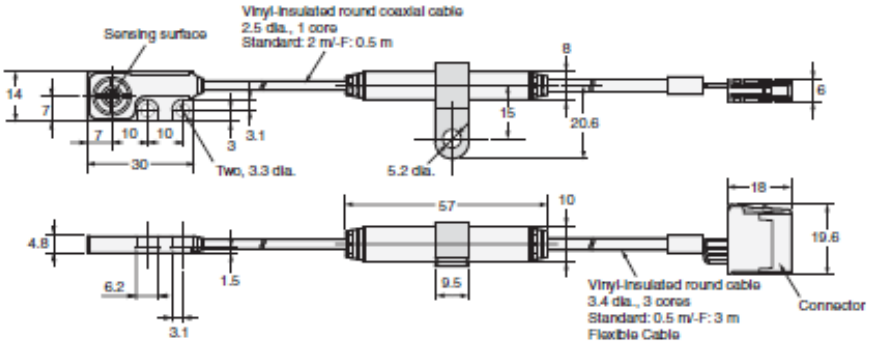
Recommendable replacement
Model E2NC series

Sensor Heads

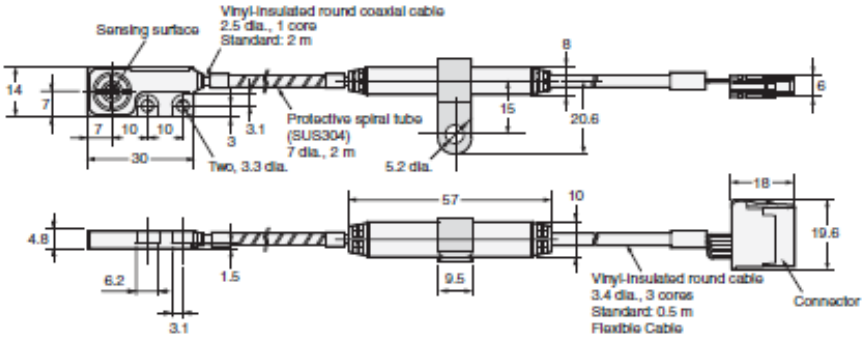
Model EN2C-EM07M-S



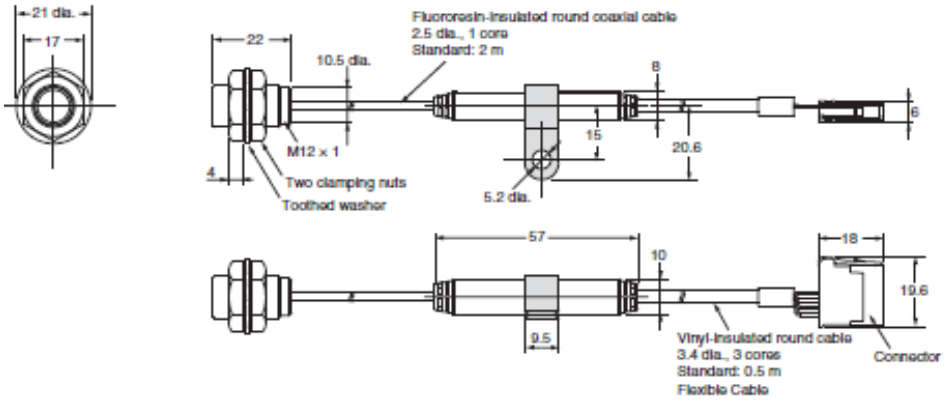
Model E2NC-EV05(-F)



Model E2NC-EV05-S



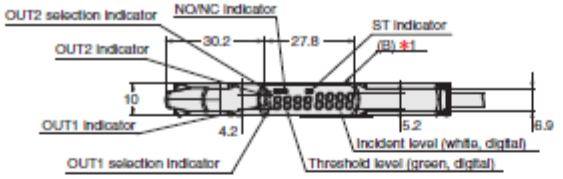
Model E2NC-EM02H



[Dimensions]

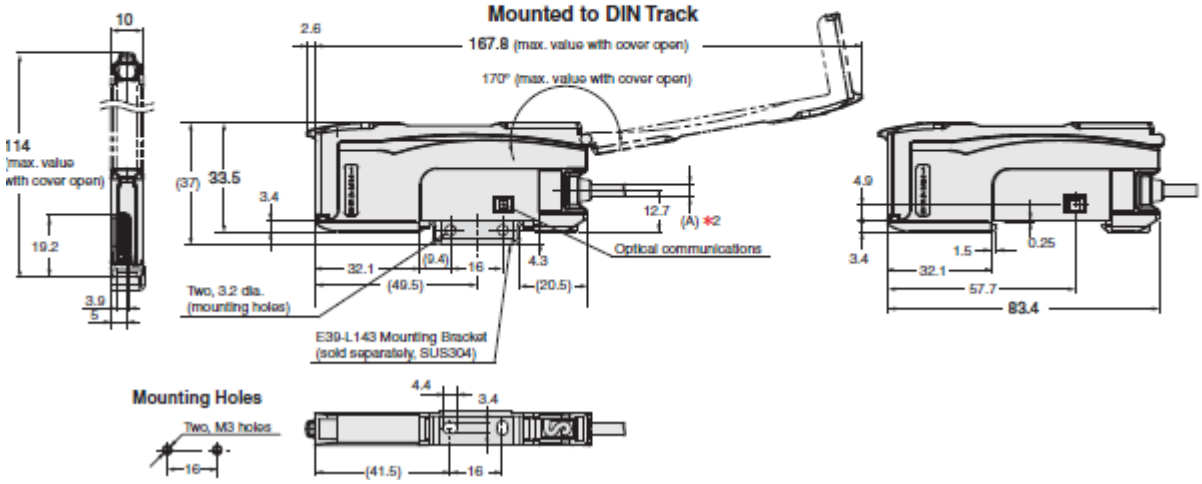
Recommendable replacement
Model E2NC series

Amplifier Units
Model E2NC-EA21
Model E2NC-EA51

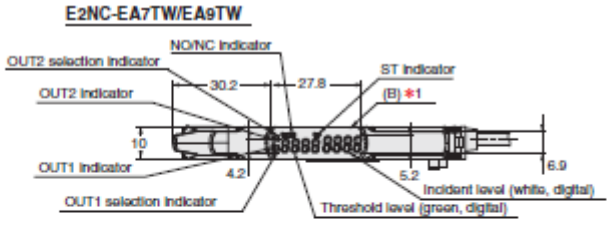


*1. The Mounting Bracket can also be used on side B.
*2. Cable Specifications

E2NC-EA21	4.0 dia.	5 cores	Conductor cross-section: 0.2 mm²
E2NC-EA51			Insulator dia.: 0.9 mm

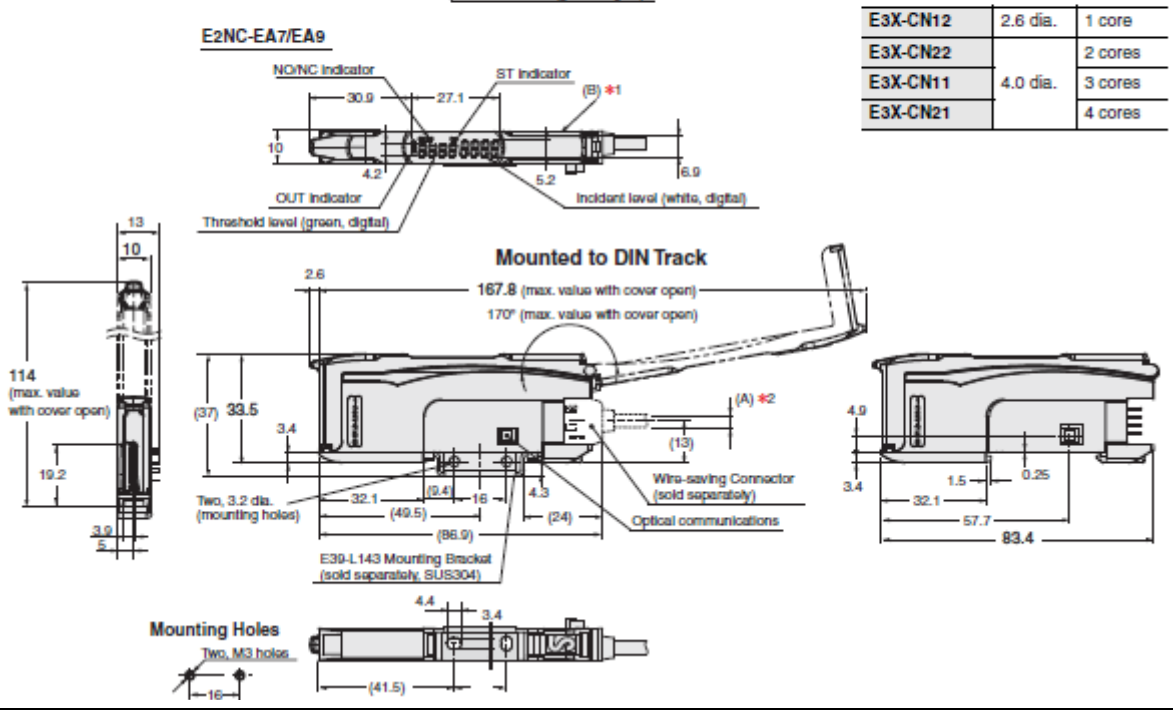


Model E2NC-EA7TW
Model E2NC-EA9TW
Model E2NC-EA7
Model E2NC-EA9



*1. The Mounting Bracket can also be used on side B.
*2. Cable Specifications

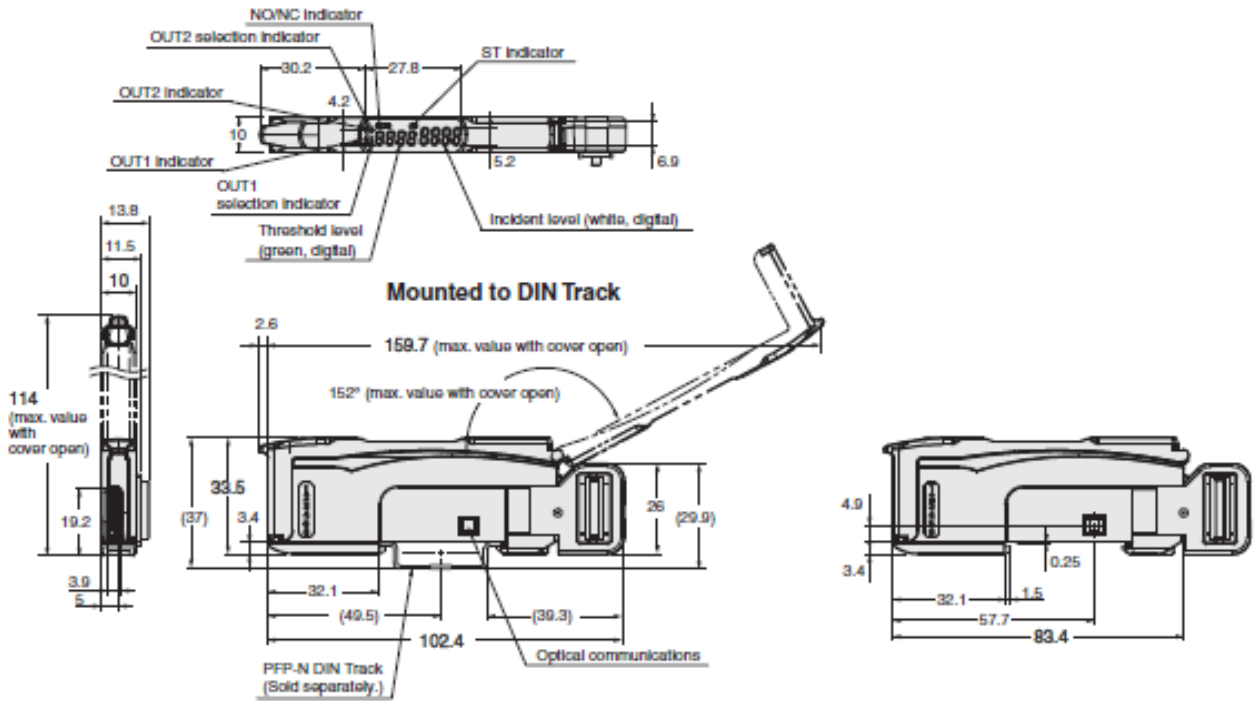
E3X-CN12	2.6 dia.	1 core
E3X-CN22	4.0 dia.	2 cores
E3X-CN11		3 cores
E3X-CN21		4 cores



[Dimensions]

Recommendable replacement
Model E2NC series

Amplifier Units
Model E2NC-EA0



[Characteristics]

Sensor Heads

Item		Product discontinuation Model E2C-EDA series						
		E2C-EDR6-F	**E2C-ED01(-[])**	**E2C-ED02(-[])**	**E2C-EM02(-[])**	**E2C-EM07(-[])**	**E2C-EV05(-[])**	**E2C-EM02H**
		3dia.×18mm	**5.4dia.×18mm**	**8dia.×22mm**	**M10×22mm**	**M18×46.3mm**	**30×14×4.8mm**	**M12×22mm**
Sensing distance		0.6mm	1mm	2mm	2mm	7mm	5mm	2mm
Sensing object		Magnetic metal (The sensing distance will decrease when sensing non-magnetic metal.)						
Standard sensing object		5×5mm	5×5mm	10×10mm	10×10mm	22×22mm	15×15mm	20×20mm
		Material: iron (S50C)						
Repeat accuracy *1		1um	1um	2um	2um	5um	2um	2um
Hysteresis distance		Variable						
Temperature characteristic *1	**Sensor Head**	0.3%/°C	0.08%/°C	0.08%/°C	0.08%/°C	0.08%/°C	0.04%/°C	0.2%/°C
	Preamplifier and Amplifier	0.08%/°C						
Ambient temperature *2	**Operating**	-10°C to 60°C (with no icing or condensation)						-10 to 200°C *3
	Operating	-10 to +60°C (with no icing or condensation)	-20 to +70°C (with no icing or condensation)					
Ambient humidity		Operating/storage: 35% to 85% (with no condensation)						
Insulation resistance		50 MΩ min. (at 500 VDC)						
Dielectric strength		1,000 VAC at 50/60 Hz for 1 min between current carry parts and case						
Vibration resistance		Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions						
Vibration resistance		Destruction: 500 m/s^2 for 3 times each in X, Y, and Z directions						
Vibration resistance		IEC60529 IP67						IEC 60529 IP60*4
Weight (packed state)		Approx. 120 g (Models with protective spiral tube (“-S” models) are approx. 90 g heavier.)						
Material	**Case**	Brass	Stainless steel	Brass	Brass	Brass	Zinc	Brass
	Sensing surface	Heat-resistant ABS						PEEK
	Pre-amplifier	PES						

*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 in areas exposed to water vapor because the enclosure is not waterproof.

[Characteristics]

Sensor Heads

Item		Recommendable replacement Model E2NC series						
		E2NC-EDR6-F	**E2NC-ED01(-[])**	**E2NC-ED02(-[])**	**E2NC-EM02(-[])**	**E2NC-EM07(-[])**	**E2NC-EV05(-[])**	**E2NC-EM02H**
		3dia.×18mm	**5.4dia.×18mm**	**8dia.×22mm**	**M10×22mm**	**M18×46.3mm**	**30×14×4.8mm**	**M12×22mm**
Sensing distance		0.6mm	1mm	2mm	2mm	7mm	5mm	2mm
Sensing object		Magnetic metal (The sensing distance will decrease when sensing non-magnetic metal.)						
Standard sensing object		5×5mm	5×5mm	10×10mm	10×10mm	22×22mm	15×15mm	20×20mm
		Material: iron (S50C)						
Repeat accuracy *1		1um	1um	2um	2um	5um	2um	2um
Hysteresis distance		Variable						
Temperature characteristic *1	**Sensor Head**	0.3%/°C	0.08%/°C	0.08%/°C	0.08%/°C	0.08%/°C	0.04%/°C	0.2%/°C
	Preamplifier and Amplifier	0.08%/°C						
Ambient temperature *2	**Operating**	-10°C to 60°C (with no icing or condensation)						-10 to 200°C *3
	Operating	-10 to +60°C (with no icing or condensation)	-20 to +70°C(with no icing or condensation)					
Ambient humidity		Operating/storage: 35% to 85% (with no condensation)						
Insulation resistance		50 MΩ min. (at 500 VDC)						
Dielectric strength		1,000 VAC at 50/60 Hz for 1 min between current carry parts and case						
Vibration resistance		Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions						
Vibration resistance		Destruction: 500 m/s^2 for 3 times each in X, Y, and Z directions						
Vibration resistance		IEC60529 IP67						IEC 60529 IP60*4
Weight (packed state)		Approx. 120 g (Models with protective spiral tube (“-S” models) are approx. 90 g heavier.)						
Material	**Case**	Brass	Stainless steel	Brass	Brass	Brass	Zinc	Brass
	Sensing surface	Heat-resistant ABS						PEEK
	Pre-amplifier	PES						

*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 in areas exposed to water vapor because the enclosure is not waterproof.

[Characteristics]

Amplifier Units

Item		Product discontinuation Model E2C-EDA series				
Type	NPN output	E2C-EDA11	E2C-EDA6	E2C-EDA21	E2C-EDA7	E2C-EDA0
	PNP output	E2C-EDA41	E2C-EDA8	E2C-EDA51	E2C-EDA9	
Number of control outputs		2	2	1	1	-
Number of external inputs		0	0	1	1	-
Connection method		Pre-wired	Wire-saving connector	Pre-wired	Wire-saving connector	Connector for Sensor Communications Unit
Supply voltage		12 to 24 VDC ±10%, ripple (p-p): 10% max.				
Power consumption		1,080 mW max. (current consumption: 45 mA at power supply voltage of 24 VDC)				
Control output	ON/OFF	Load power supply voltage: 26.4 VDC max.; NPN/PNP open collector output; load current: 50 mA max. (residual voltage: 1 V max.)				
Response time	Super-high-speed mode	150 μs for operation and reset respectively				—
	High-speed mode	300 μs for operation and reset respectively				
	Standard mode	1 ms for operation and reset respectively				
	High-resolution mode	4 ms for operation and reset respectively				
Functions	Differential detection	Switchable between single edge and double edge detection mode Single edge: Can be set to 300 μs, 500 μs, 1 ms, 10 ms, or 100 ms Double edge: Can be set to 500 μs, 1 ms, 2 ms, 20 ms, or 200 ms.				
	Timer function	Select from OFF-delay, ON-delay, or one-shot timer. 1 ms to 5 s (1 to 20 ms set in 1-ms increments, 20 to 200 ms set in 10-ms increments, 200 ms to 1 s set in 100-ms increments, and 1 to 5 s set in 1 s-increments)				
	Zero-reset	Negative values can be displayed. Zero-reset is accompanied by a change of detection distance. After zero-reset, some threshold level may also cause a change of the indication by influence of other settings.				
	Initial reset	Settings can be returned to defaults as required.				
	Mutual interference prevention	Possible for up to 5 Units. *2 Intermittent oscillation method (Response time = (number of Units connected + 1) ×15 ms)				
	Hysteresis settings	Setting range: 10 to 2,000				
	I/O settings	Output setting (Select from channel 2 output, area output, self- diagnosis, or open circuit detection.)		Input setting (Select from teaching, fine positioning, zero-reset, synchronous detection.)		Output setting (Select from channel 2 output, area output, self- diagnosis, or open circuit detection.)
Digital display		Select from the following: Incident level + threshold, incident level percentage +threshold, incident light peak level + incident light bottom level (updated with output), long bar display, incident level + peak hold, incident level + channel				
Display orientation		Switching between normal/reversed display is possible.				
Ambient temperature		Operating: When connecting 1 to 2 Units: –10°C to 55°C, When connecting 3 to 5 Units: –10°C to 50°C, When connecting 6 to 16 Units: –10°C to 45°C When used in combination with an EDR6-F When connecting 3 to 4 Units: –10°C to 50°C, When connecting 5 to 8 Units: –10°C to 45°C, When connecting 9 to 16 Units: –10°C to 40°C Storage: –20°C to 70°C (with no icing)				
Ambient humidity		Operating/storage: 35% to 85% (with no condensation)				
Ambient humidity		20 MΩ min. (at 500 VDC)				
Insulation resistance		AC1,000V 50/60Hz 1min				
Dielectric strength		500 m/s^2 for 3 times each in X, Y, and Z directions				150 m/s^2 for 3 times each in X, Y, and Z directions
Vibration resistance (Destruction)		10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions				10 to 150 Hz with a 0.7-mm double amplitude for 80 min each in X, Y, and Z directions
Weight (packed state)		Approx. 100 g	Approx. 55 g	Approx. 55 g	Approx. 100 g	Approx. 55 g
Material		PBT (polybutylene terephthalate) , Cover: Polycarbonate				

[Characteristics]

Amplifier Units

Item		Product discontinuation Model E2NC series			
Type	NPN output	E2NC-EA21	E2NC-EA7TW	E2NC-EA7	E2NC-EA0
	PNP output	E2NC-EA51	E2NC-EA9TW	E2NC-EA9	
Number of control outputs		2	2	1	2
Number of external inputs		1	0	1	-
Connection method		Pre-wired	Wire-saving Connectors	Wire-saving Connectors	Connector for Sensor Communications Unit
Supply voltage		10 to 30 VDC, including 10% ripple (p-p)			Refer to the communication unit specifications.
Power consumption		At Power Supply Voltage of 24 VDC Normal mode: 1,080 mW max. (Current consumption at 45 mA max.), Eco function ON: 840 mW max. (Current consumption at 35 mA max.), Eco function LO: 960 mW max. (Current consumption at 40 mA max.)			
Control output	ON/OFF	Load power supply voltage: 30 VDC max., open collector output Load current: Groups of 1 to 3 Amplifier Units: 100 mA max., Groups of 4 to 30 Amplifier Units: 20 mA max. Residual voltage: At load current of less than 10 mA: 1 V max. At load current of 10 to 100 mA: 2 V max. OFF current: 0.1 mA max.			Refer to the communication unit specifications.
Response time	Super-high- speed mode	Operate or reset: 150 µs			
	High-speed mode	Operate or reset: 300 µs (default setting)			
	Standard mode	Operate or reset: 1 ms			
	High-resolution mode	Operate or reset: 4 ms			
Functions	Differential detection	Single edge: Can be set to 250 µs, 500 µs, 1 ms, 10 ms, or 100 ms.			
	Timer	Select from timer disabled, OFF-delay, ON-delay, one-shot, or ON-delay + OFF-delay timer: 1 to 9,999 ms			
	Zero reset	Provided Zero-reset is accompanied by a change of detection distance. After zero-reset, some threshold level may also cause a change of the indication by influence of other settings.			
	Resetting settings	Select from initial reset (factory defaults) or user reset (saved settings).			
	No. of Units for mutual interference prevention	Up to five units, intermittent oscillation method (response time = (No. of connected units + 1) × 15 ms) Note: The mutual interference prevention function is disabled if Super High Speed mode (SHS) is selected for detection function.			
	Hysteresis width	Select from standard setting or user setting. For a user setting, the hysteresis width can be set from 0 to 9,999.			
	Output 1	Select from normal detection mode, area detection mode or differential detection mode.			
	Output 2	Select from normal detection mode, alarm output mode, error output mode or disconnection detection output mode.		---	Select from normal detection mode, alarm output mode, error output mode or disconnection detection output mode.
	External input	Select from input OFF, 2-point Tuning, Percentage Tuning, Full Auto Tuning, Fine Positioning, zero reset, synchronization detection, or bank switching.	---	Select from input OFF, 2-point Tuning, Percentage Tuning, Full Auto Tuning, Fine Positioning, zero reset, synchronization detection, or bank switching.	---
Indicators		7-segment displays (Sub digital display: green, Main digital display: white) Display direction: Switchable between normal and reversed. OUT indicator (orange), NO/NC indicator (orange), ST indicator (blue) and OUT selection indicator (orange, only on models with 2 outputs)			
Display orientation		Switching between normal/reversed display is possible.			

[Characteristics]

Amplifier Units

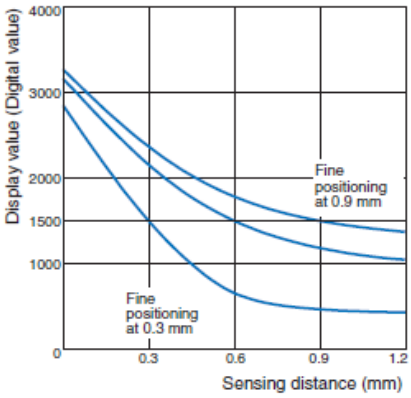
Item		Product discontinuation Model E2NC series			
Type	NPN output	E2NC-EA21	E2NC-EA7TW	E2NC-EA7	E2NC-EA0
	PNP output	E2NC-EA51	E2NC-EA9TW	E2NC-EA9	
Ambient temperature range		Operating: Groups of 1 or 2 Amplifier Units: -25 to 55°C, Groups of 3 to 10 Amplifier Units: -25 to 50°C, Groups of 11 to 16 Amplifier Units: -25 to 45°C, Groups of 17 to 30 Amplifier Units: -25 to 40°C Storage: -30 to 70°C (with no icing or condensation)			Operating: Groups of 1 or 2 Amplifier Units: 0 to 55°C, Groups of 3 to 10 Amplifier Units: 0 to 50°C, Groups of 11 to 16 Amplifier Units: 0 to 45°C, Groups of 17 to 30 Amplifier Units: 0 to 40°C Storage: -30 to 70°C (with no icing or condensation)
Ambient humidity range		Operating and storage: 35 to 85% (with no condensation) within the surrounding air temperature range shown above			
Ambient humidity		20 MΩ min. (at 500 VDC)			
Insulation resistance		AC1,000V 50/60Hz 1min			
Dielectric strength		500 m/s^2 for 3 times each in X, Y, and Z directions			150 m/s^2 for 3 times each in X, Y, and Z directions
Vibration resistance (Destruction)		10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions			
Weight (packed state)		Approx.115g	Approx.60g	Approx.60g	Approx.55g
Material		PBT (polybutylene terephthalate) , Cover: Polycarbonate			

[Operation ratings]

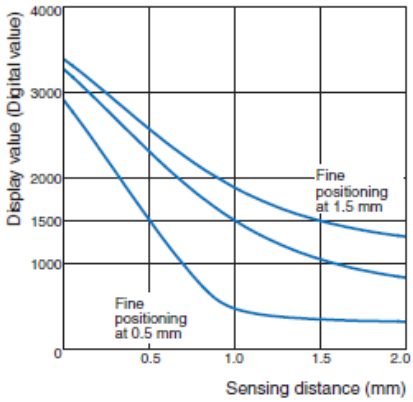
Product discontinuation
Model E2C-EDA series

Sensing Distance vs. Display Values

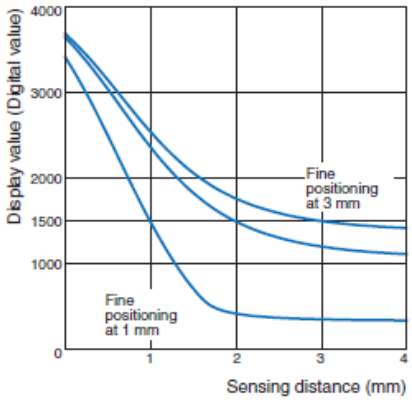
E2C-EDR6-F



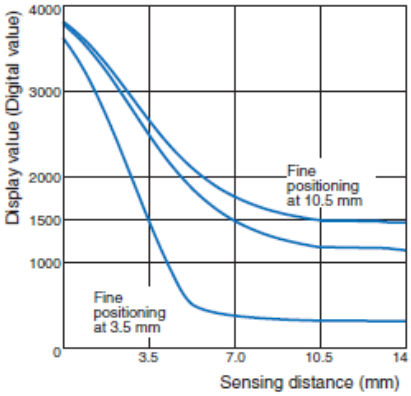
E2C-ED01(-□)



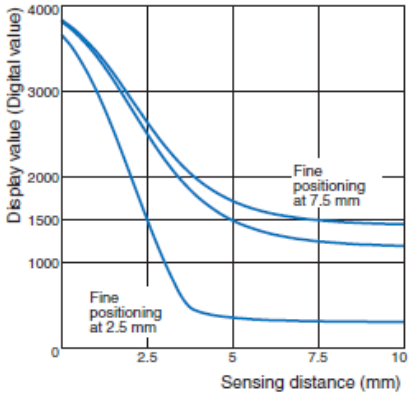
E2C-ED02(-□)/EM02(-□)



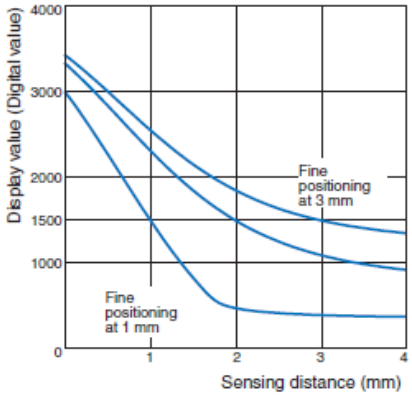
E2C-EM07(-□)



E2C-EV05(-□)

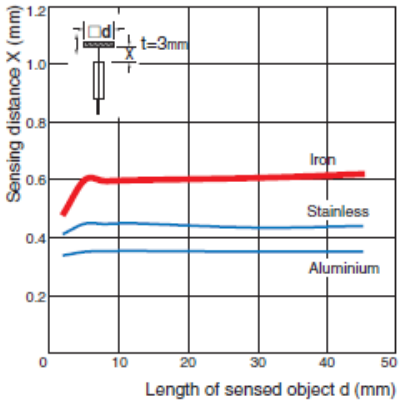


E2C-EM02H

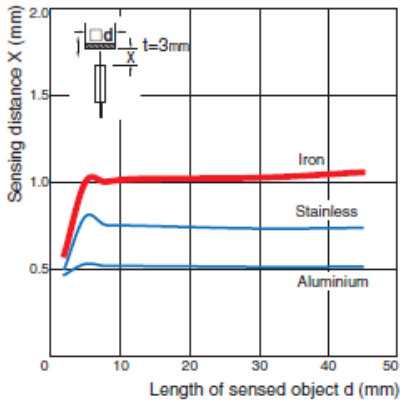


Influence of Sensing Object Size and Material

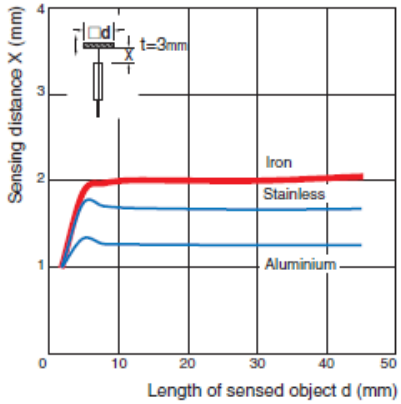
E2C-EDR6-F



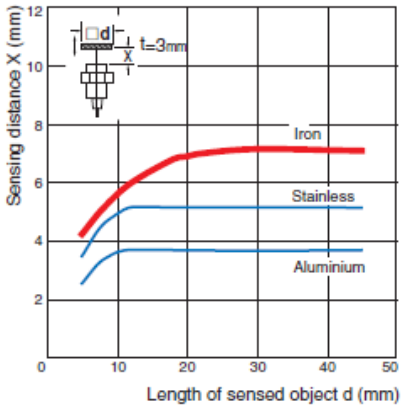
E2C-ED01(-□)



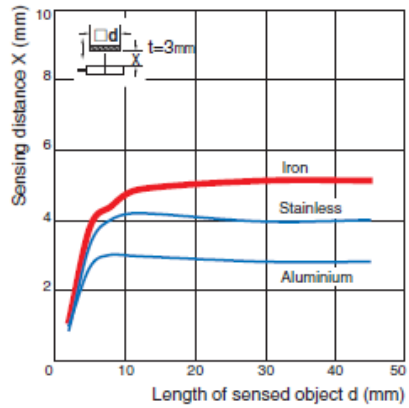
E2C-ED02(-□)/EM02(-□)



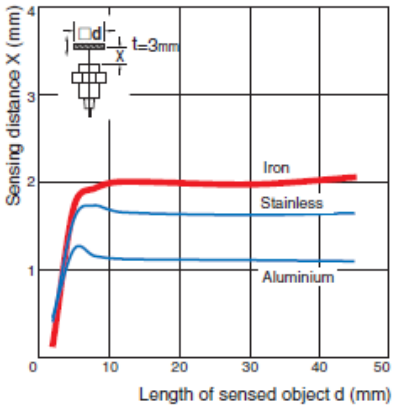
E2C-EM07(-□)



E2C-EV05(-□)



E2C-EM02H

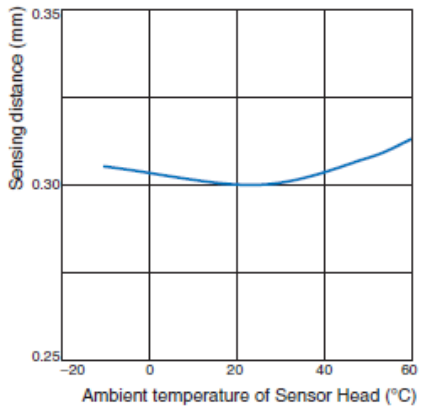


[Operation ratings]

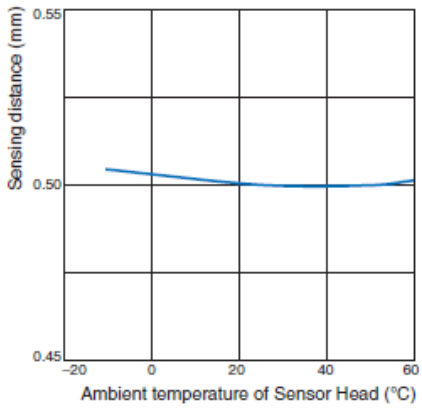
Product discontinuation
Model E2C-EDA series

Influence of Sensor Head Temperature

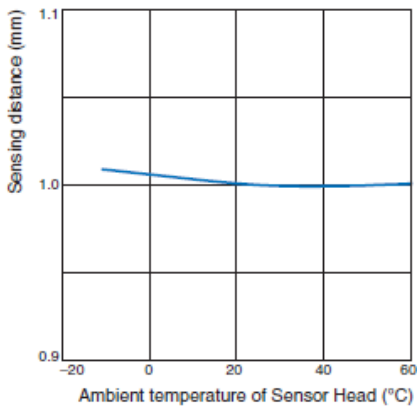
E2C-EDR6-F



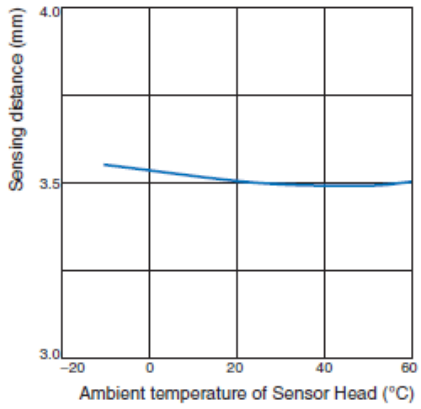
E2C-ED01(-□)



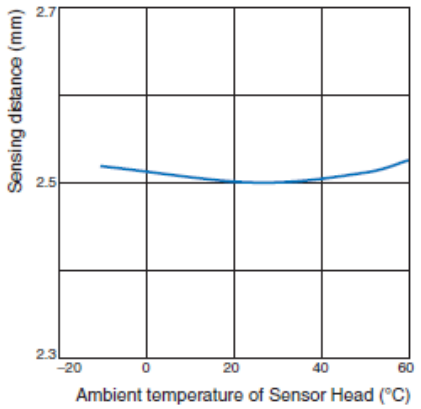
E2C-ED02(-□)/EM02(-□)



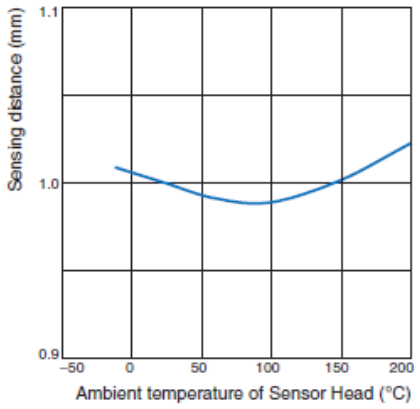
E2C-EM07(-□)



E2C-EV05(-□)



E2C-EM02H

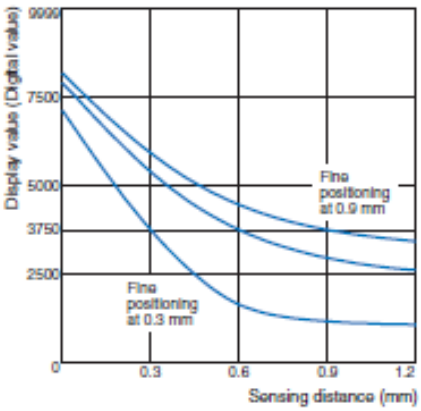


[Operation ratings]

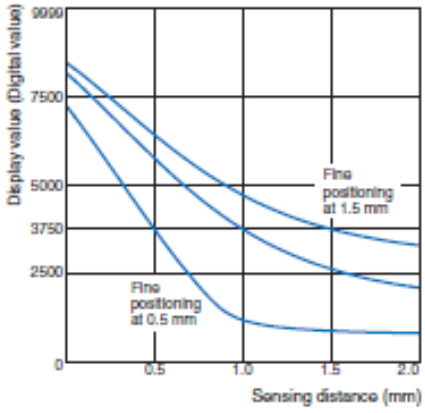
Recommendable replacement
Model E2NC series

Sensing Distance vs. Display Values

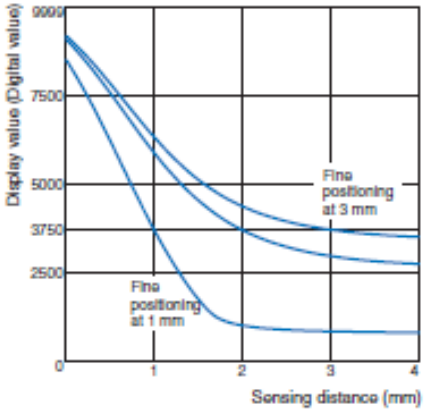
E2NC-EDR6-F



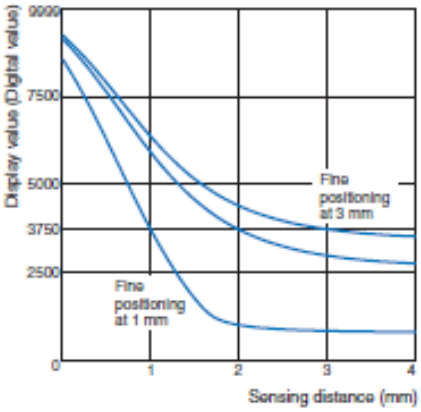
E2NC-ED01(-☐)



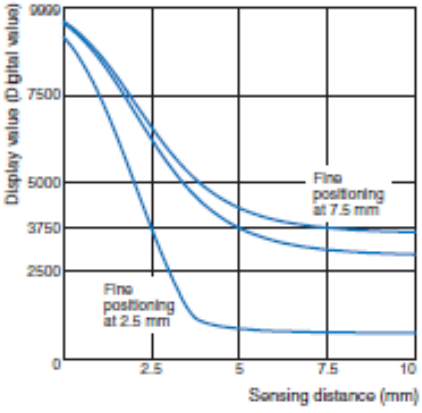
E2NC-ED02(-☐)



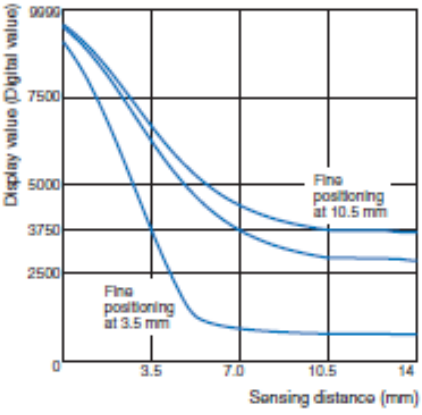
E2NC-EM02(-☐)



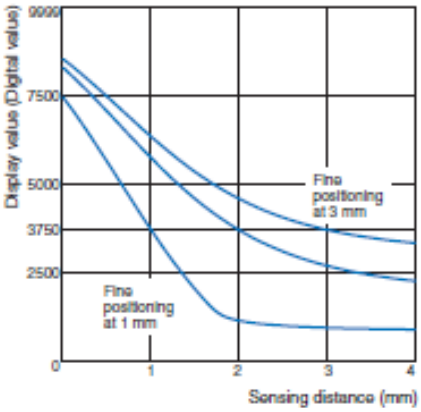
E2NC-EV05(-☐)



E2NC-EM07M(-☐)



E2NC-EM02H

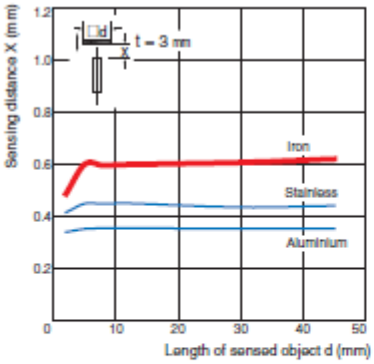


[Operation ratings]

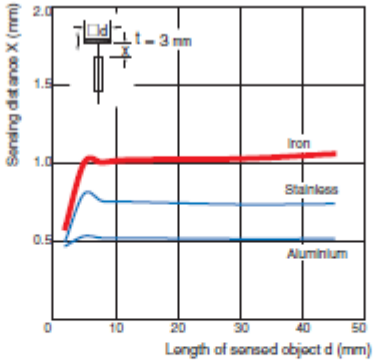
Recommendable replacement
Model E2NC series

Influence of Sensing Object Size and Material

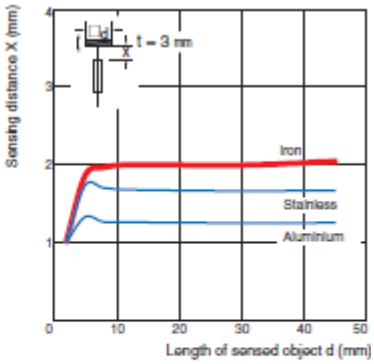
E2NC-EDR6-F



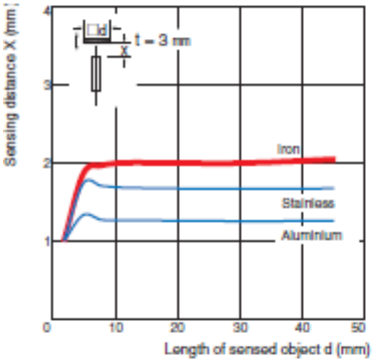
E2NC-ED01(-□)



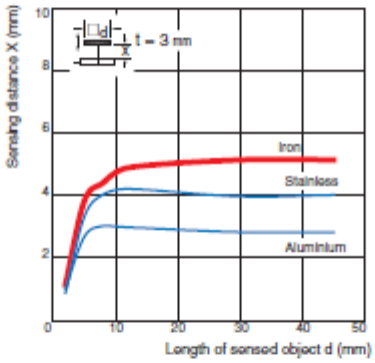
E2NC-EM02(-□)



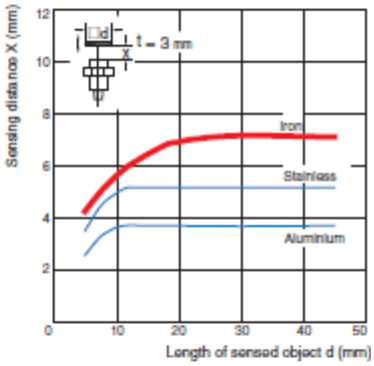
E2NC-ED02(-□)



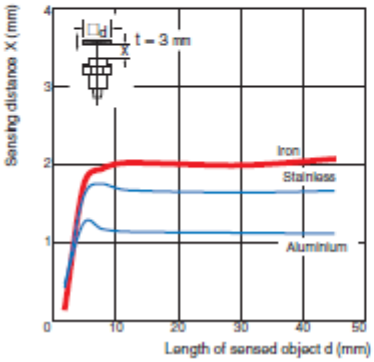
E2NC-EV05(-□)



E2NC-EM07M(-□)



E2NC-EM02H

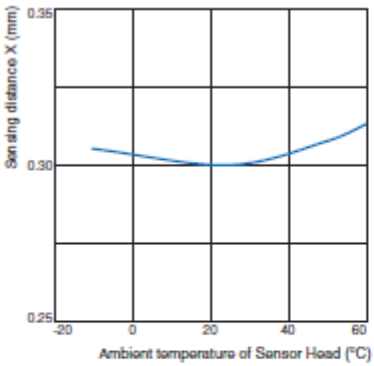


[Operation ratings]

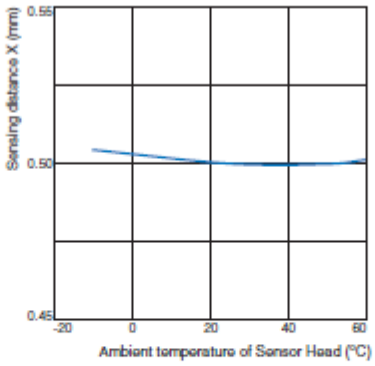
Recommendable replacement
Model E2NC series

Influence of Sensor Head Temperature

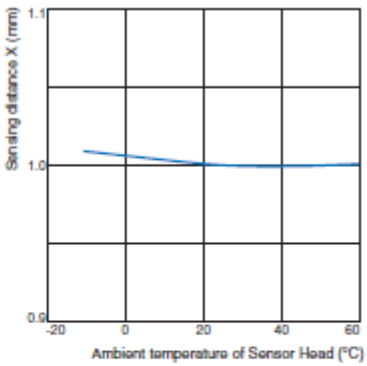
E2NC-EDR6-F



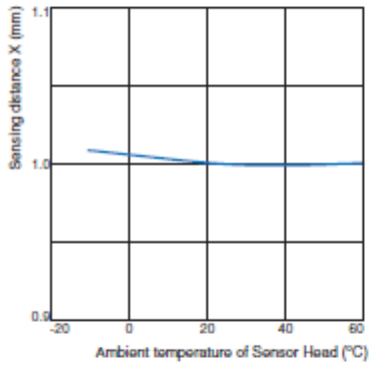
E2NC-ED01(-☐)



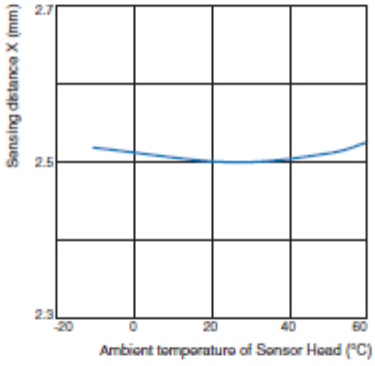
E2NC-ED02(-☐)



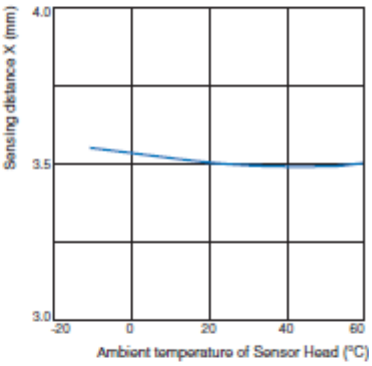
E2NC-EM02(-☐)



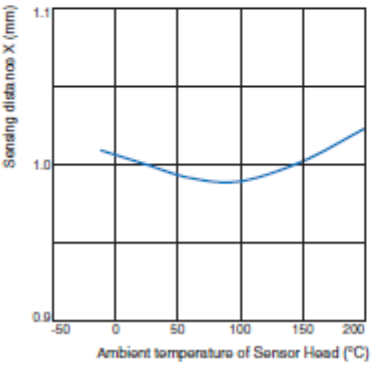
E2NC-EV05(-☐)



E2NC-EM07M(-☐)



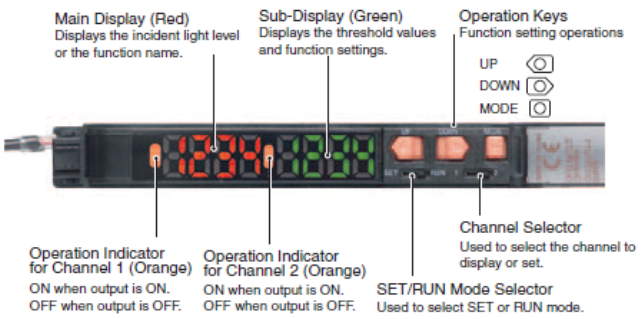
E2NC-EM02H



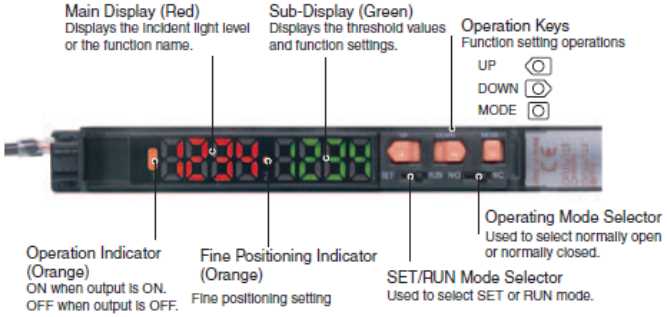
[Operation methods]

Product discontinuation
Model E2C-EDA series

E2C-EDA11/EDA41/EDA6/EDA8/EDA0

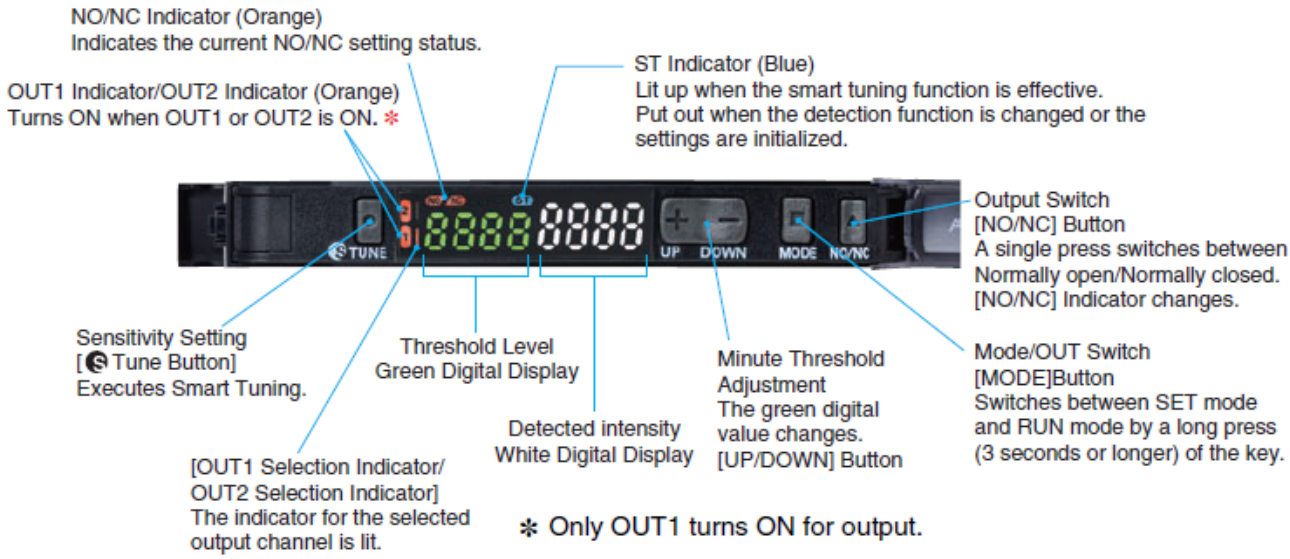


E2C-EDA21/EDA51/EDA7/EDA9



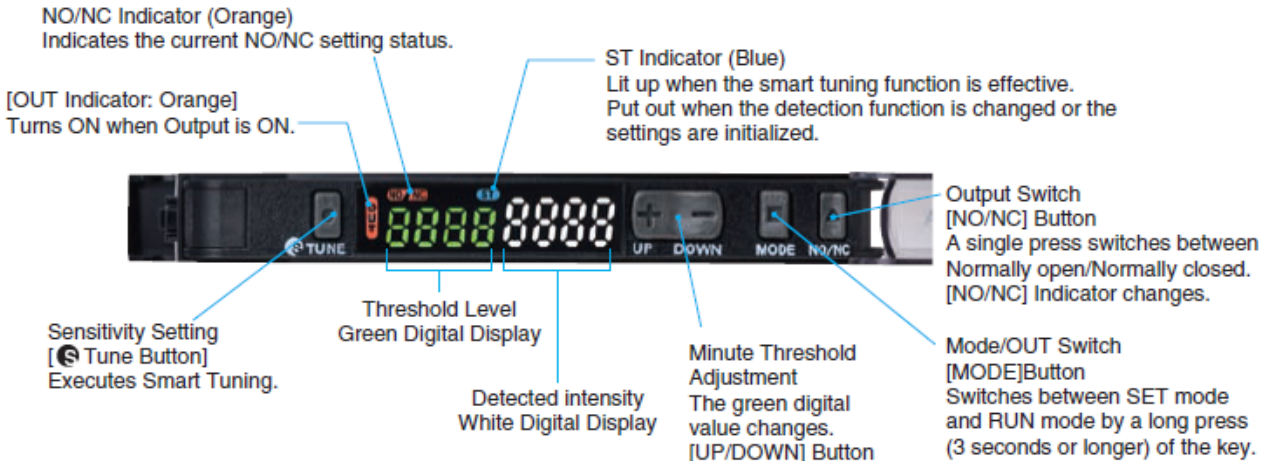
Recommendable replacement
Model E2NC series

E2NC-EA21/EA51/EA7TW/EA9TW/EA0



✻ Only OUT1 turns ON for output.

E2NC-EA7/EA9



Specifications and prices in this product news are as of the issue date and are subject to change without notice.
Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.