

Discontinuation Notice of Photoelectric Sensor with Separate Digital Amplifier (Laser-type) Model E3C-LD/LR/LDA series.**Product Discontinuation**

Photoelectric Sensor with Separate Digital Amplifier (Laser-type)

Model E3C-LD series**Model E3C-LR series****Model E3C-LDA series****Recommended Replacement**

Photoelectric Sensor with Separate Digital Amplifier (Laser-type)

Model E3C-LD*N series**(There will be released in March 2022)****Model E3C-LR*N series****(There will be released in March 2022)****Model E3C-LDA*N series****(There will be released in March 2022)****[Final order entry date]**

The end of December, 2021

[Date of The Last Shipping]

The end of June, 2022

[Caution on recommended replacement]

1. No Counter function, Differential function, Package Setting function of External input.
2. No ATC function, have DPC function.
3. The Mobile Console E3X-MC11-SV2 cannot be connected.
4. The Communication Unit E3X-DRT21-S, E3X-CRT, E3X-ECT and E3NW cannot be connected.
5. The mutual interference prevention function does not work when in combination with E3NC.
6. Supply voltage and Load current are different. Please check the Ratings and Specifications for details.

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
Model E3C-LD*N series	**	*	**	**	**	**	**
Model E3C-LD*N series	**	*	**	**	**	**	**
Model E3C-LDA*N series	**	*	*	*	*	*	*

** : Compatible

* : The change is a little/Almost compatible

-- : Not compatible

- : No corresponding specification

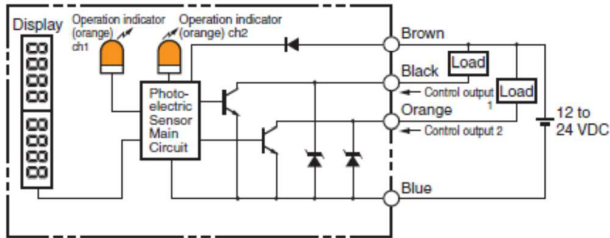
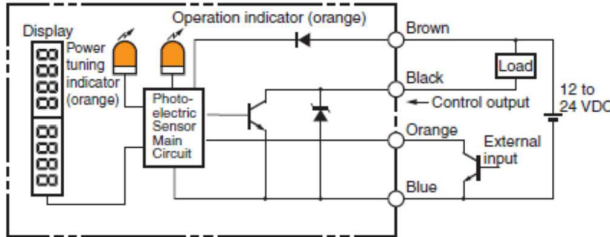
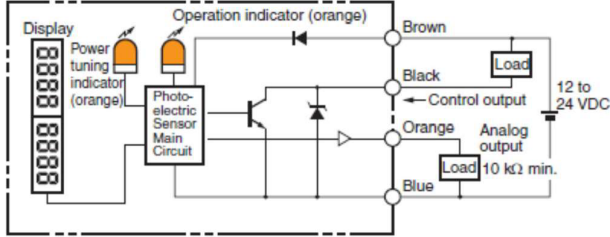
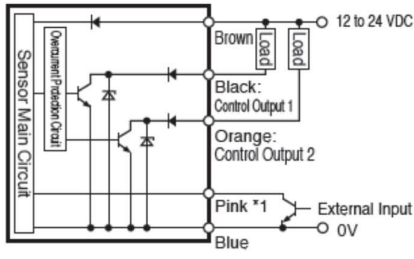
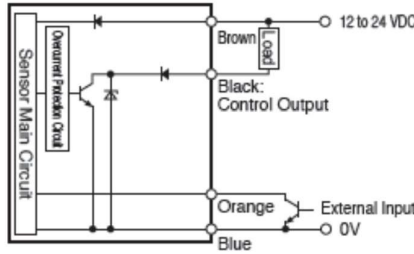
[Product Discontinuation and recommended replacement]

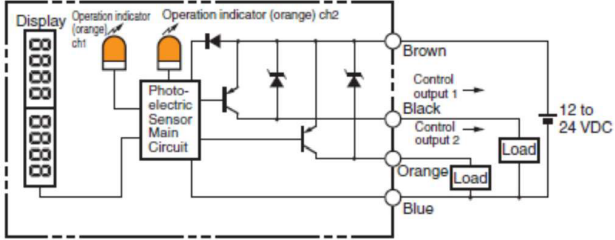
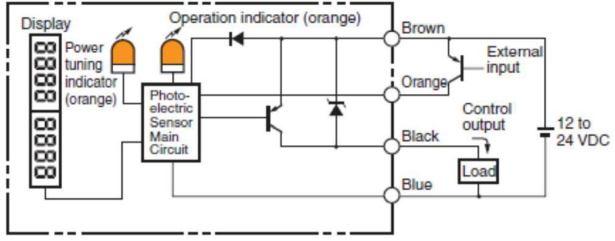
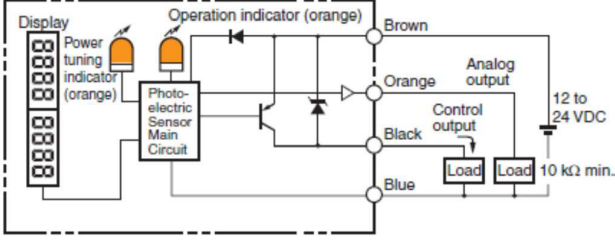
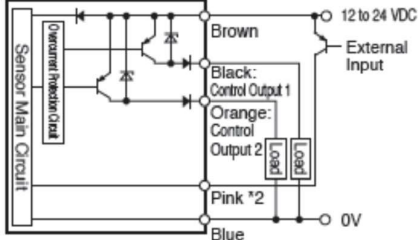
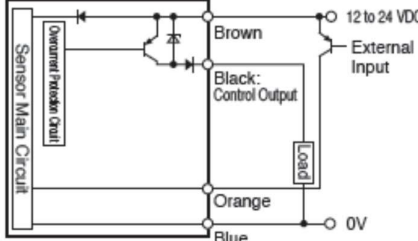
Product discontinuation	Recommended replacement
E3C-LR15	E3C-LR15N 2M
E3C-LR12-1 2M	No recommended replacement
E3C-LR12 6M	E3C-LR12N 2M
E3C-LR12 4M	E3C-LR12N 2M
E3C-LR12 2M	E3C-LR12N 2M
E3C-LR12 0.36M	E3C-LR12N 2M
E3C-LR11-2 2M	No recommended replacement
E3C-LR11 8M	E3C-LR11N 2M
E3C-LR11 4M	E3C-LR11N 2M
E3C-LR11 2M	E3C-LR11N 2M
E3C-LDA9	E3C-LDA9N
E3C-LDA8AT	E3C-LDA8N
E3C-LDA8	E3C-LDA8N
E3C-LDA7	E3C-LDA7N
E3C-LDA6AT	E3C-LDA6N
E3C-LDA6	E3C-LDA6N
E3C-LDA51 2M	E3C-LDA51N 2M
E3C-LDA41AT 2M	E3C-LDA41N 2M
E3C-LDA41AN 2M	No recommended replacement
E3C-LDA41 2M	E3C-LDA41N 2M
E3C-LDA21-4	No recommended replacement
E3C-LDA21 2M	E3C-LDA21N 2M
E3C-LDA11AT 5M	E3C-LDA21N 2M
E3C-LDA11AT 2M	E3C-LDA21N 2M
E3C-LDA11AN 2M	No recommended replacement
E3C-LDA11 5M	E3C-LDA21N 2M
E3C-LDA11 2M	E3C-LDA21N 2M
E3C-LDA0	No recommended replacement
E3C-LD31 2M	E3C-LD11N 2M +E39-P11
E3C-LD21 2M	E3C-LD11N 2M +E39-P11
E3C-LD11 6M	E3C-LD11N 2M
E3C-LD11 4M	E3C-LD11N 2M
E3C-LD11 2M	E3C-LD11N 2M
E3C-LD11 10M	E3C-LD11N 2M

[Body color]

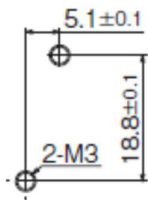
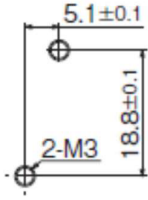
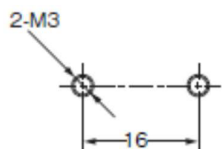
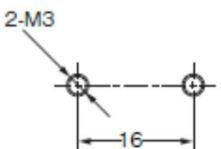
Product discontinuation Model E3C-LD/LR/LDA series	Recommendable replacement Model E3C-LD*N/LR*N/LDA*N series
Black	Black

[Wire connection]


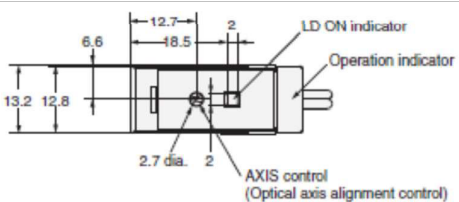
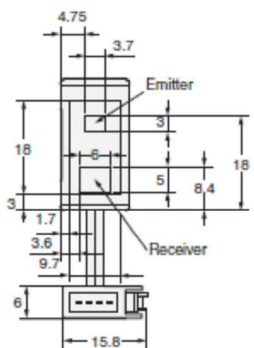
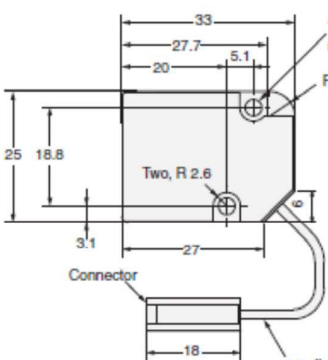
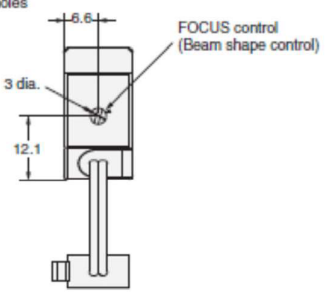
Product discontinuation Model E3C-LD/LR/LDA series	Recommendable replacement Model E3C-LD*N/LR*N/LDA*N series
<p>NPN output</p> <p>Model E3C-LDA11/LDA11AT Model E3C-LDA6/LDA6AT</p>  <p>Model E3C-LDA21 Model E3C-LDA7</p>  <p>Model E3C-LDA11AN</p> 	<p>NPN output</p> <p>Model E3C-LDA21N Model E3C-LDA6N</p>  <p>*1. E3C-LDA21N only</p> <p>Model E3C-LDA7N</p> 

Product discontinuation Model E3C-LD/LR/LDA series	Recommendable replacement Model E3C-LD*N/LR*N/LDA*N series
<p>PNP output</p> <p>Model E3C-LDA41/LDA41AT Model E3C-LDA8/LDA8AT</p>  <p>Model E3C-LDA51 Model E3C-LDA9</p>  <p>Model E3C-LDA41AN</p> 	<p>PNP output</p> <p>Model E3C-LDA51N Model E3C-LDA8N</p>  <p>*2. E3C-LDA51N only</p> <p>Model E3C-LDA9N</p> 

[Mounting dimensions]

Product discontinuation Model E3C-LD/LR/LDA series	Recommendable replacement Model E3C-LD*N/LR*N/LDA*N series
Sensor Heads Model E3C-LD□□/LR□□ 	Sensor Heads Model E3C-LD□□N/LR□□N 
Amplifier Units Model E3C-LDA□□ 	Amplifier Units Model E3C-LDA□□N 

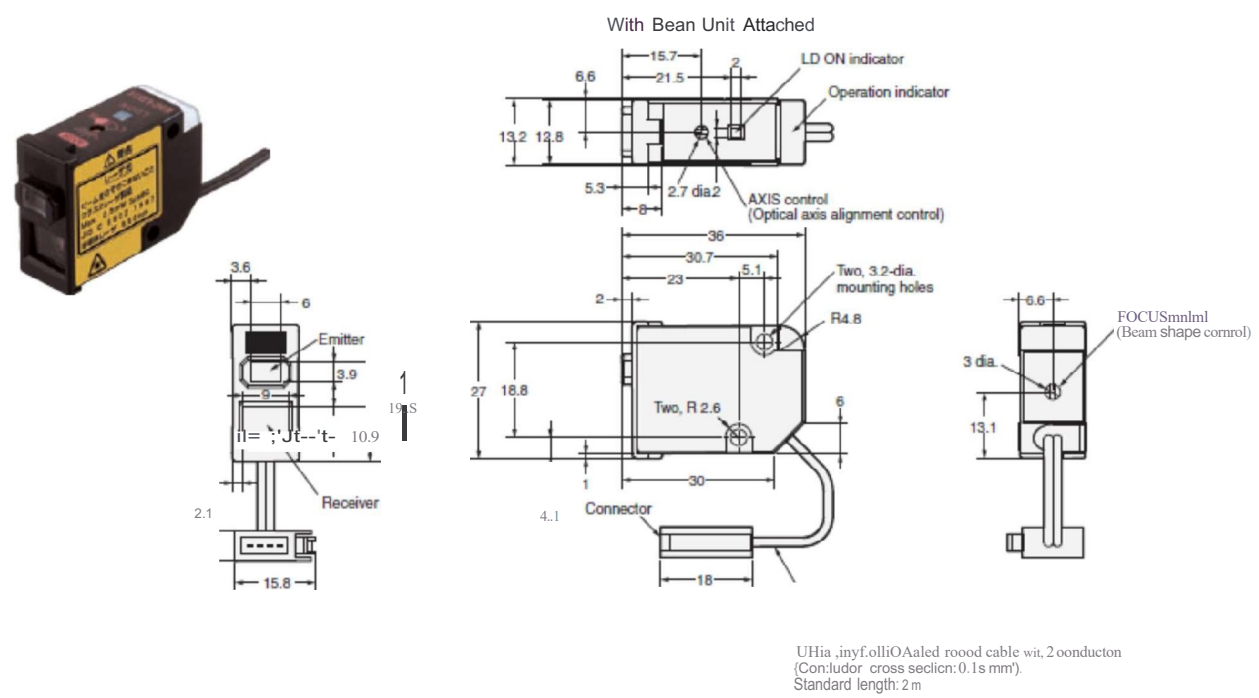
[Dimensions]

Product discontinuation Model E3C-LD/LR/LDA series
Sensor Heads Model E3C-LD11      <p>1.8-dia. vinyl-insulated round cable with 2 conductors (Conductor cross section: 0.15 mm²). Standard length: 2 m</p>

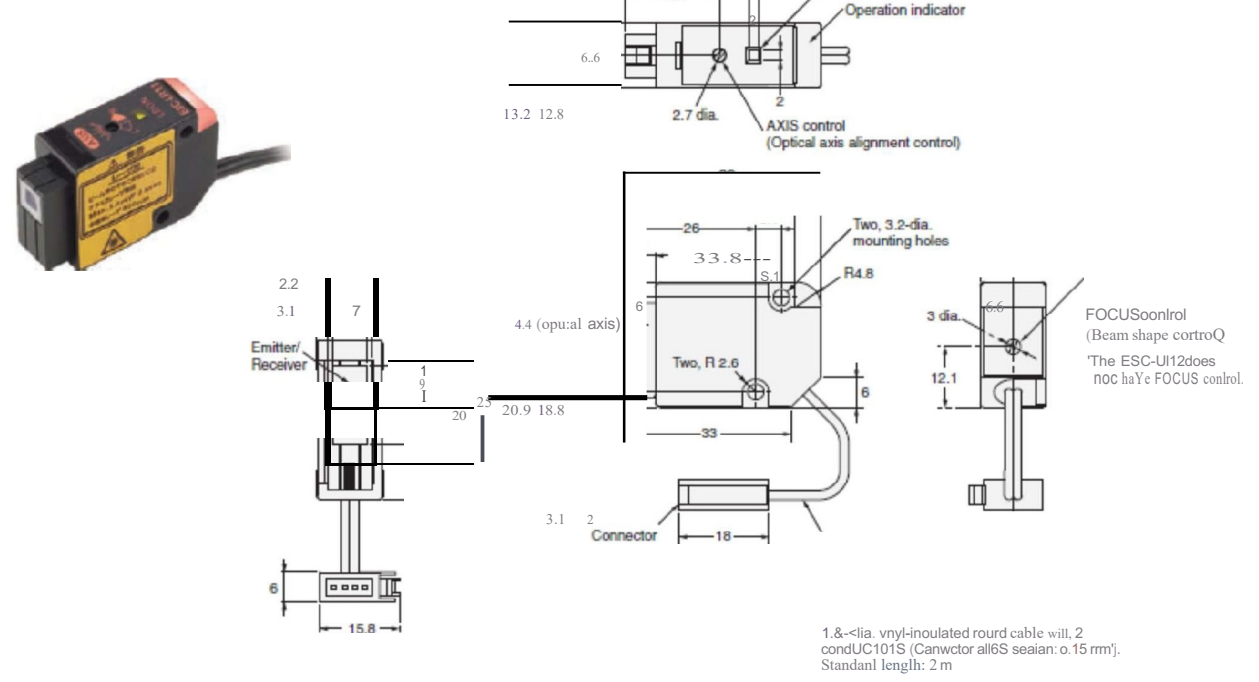
Product discontinuation
Model E3C-LD/LR/LDA series

Sensor Heads

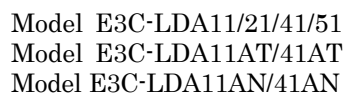
Model E3C-LD21/31



Model E3C-LR11/21



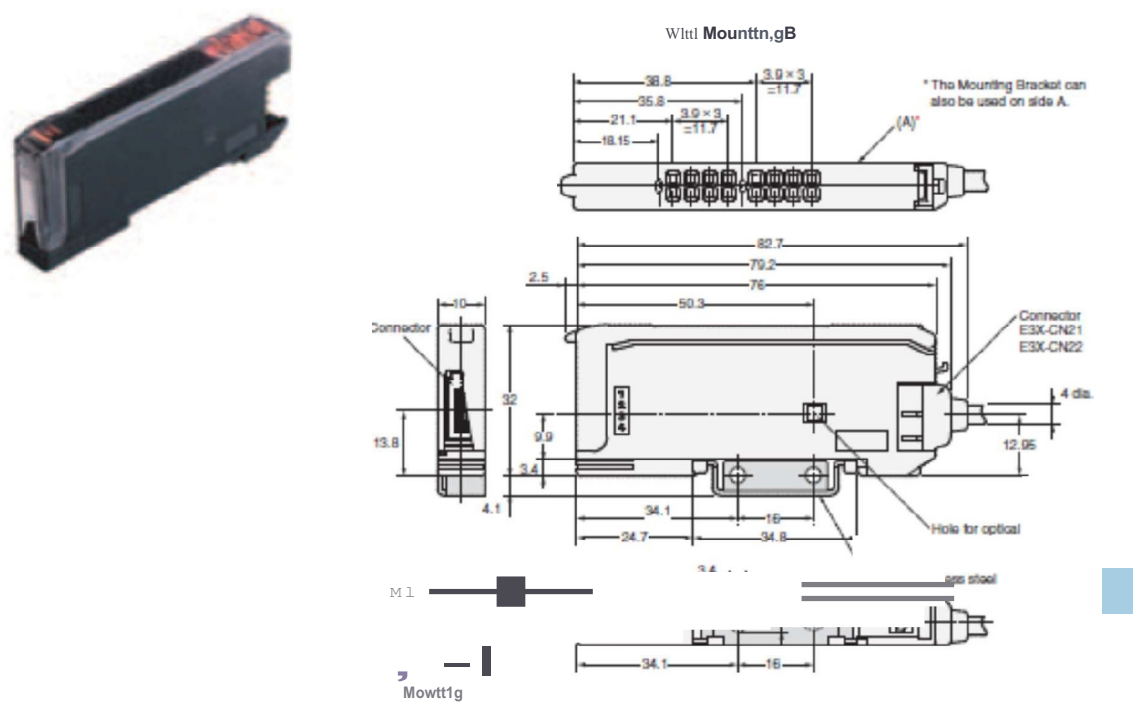
Model E3C-LR15



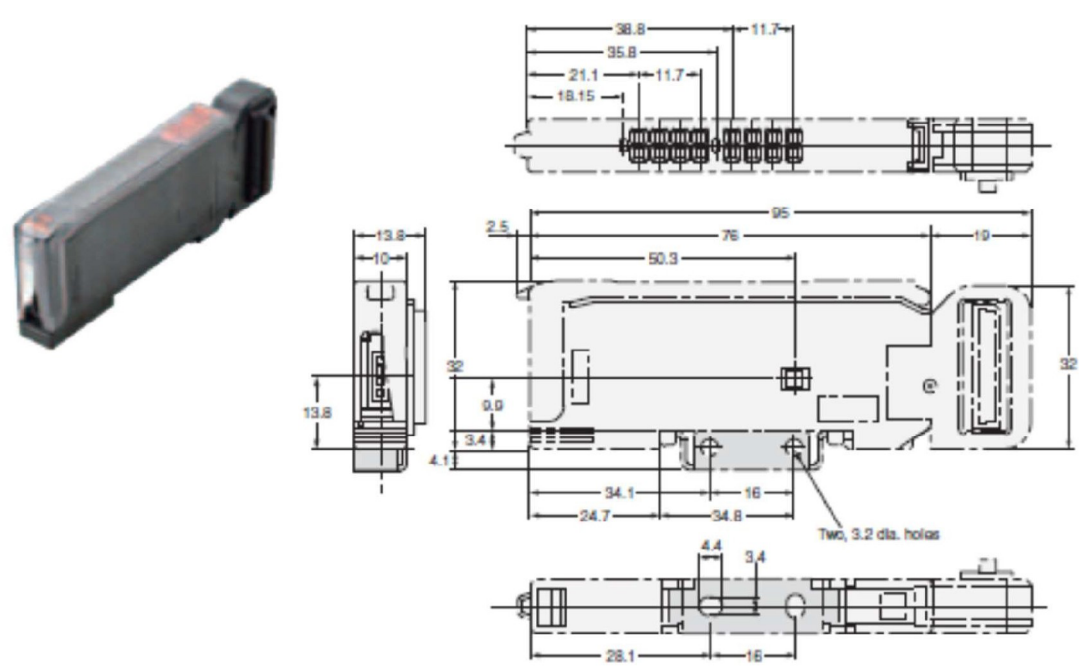
Product discontinuation
Model E3C-LD/LR/LDA series

Amplifier Units

Model E3C-LDA6/7/8/9/6AT/8AT



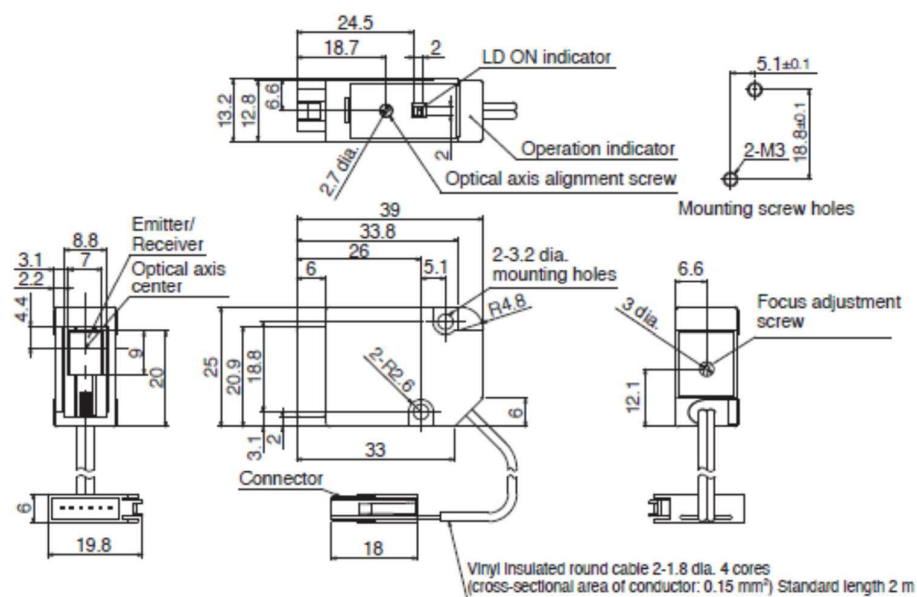
Model E3C-LDA0



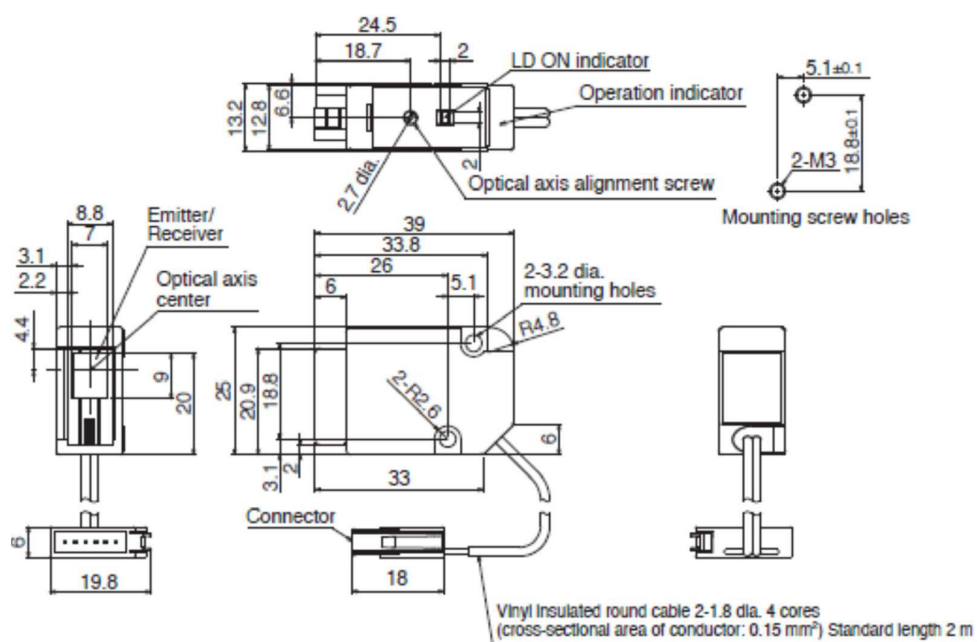
Recommendable replacement
Model E3C-LD*N/LR*N/LDA*N series

Sensor Heads

Model E3C-LR11N



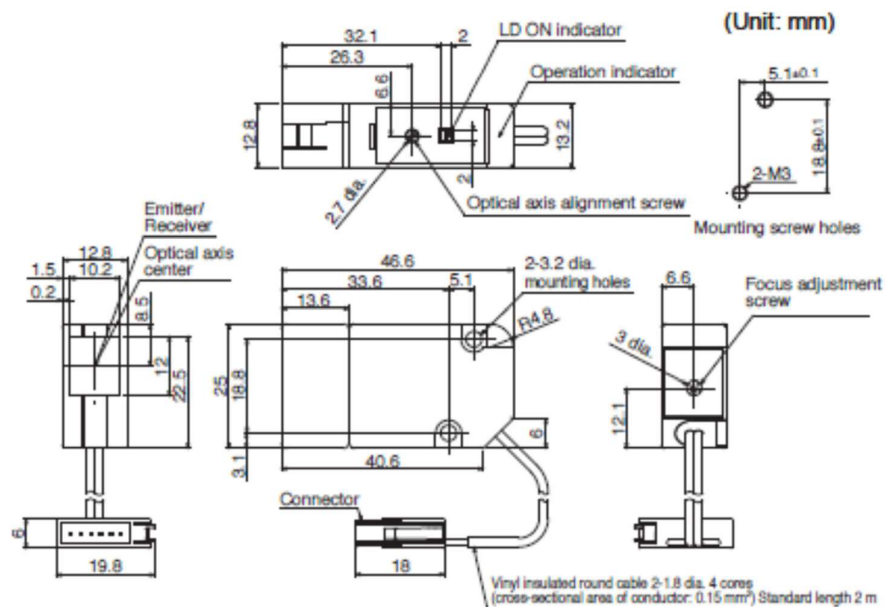
Model E3C-LR12N



**Recommendable replacement
Model E3C-LD*N/LR*N/LDA*N series**

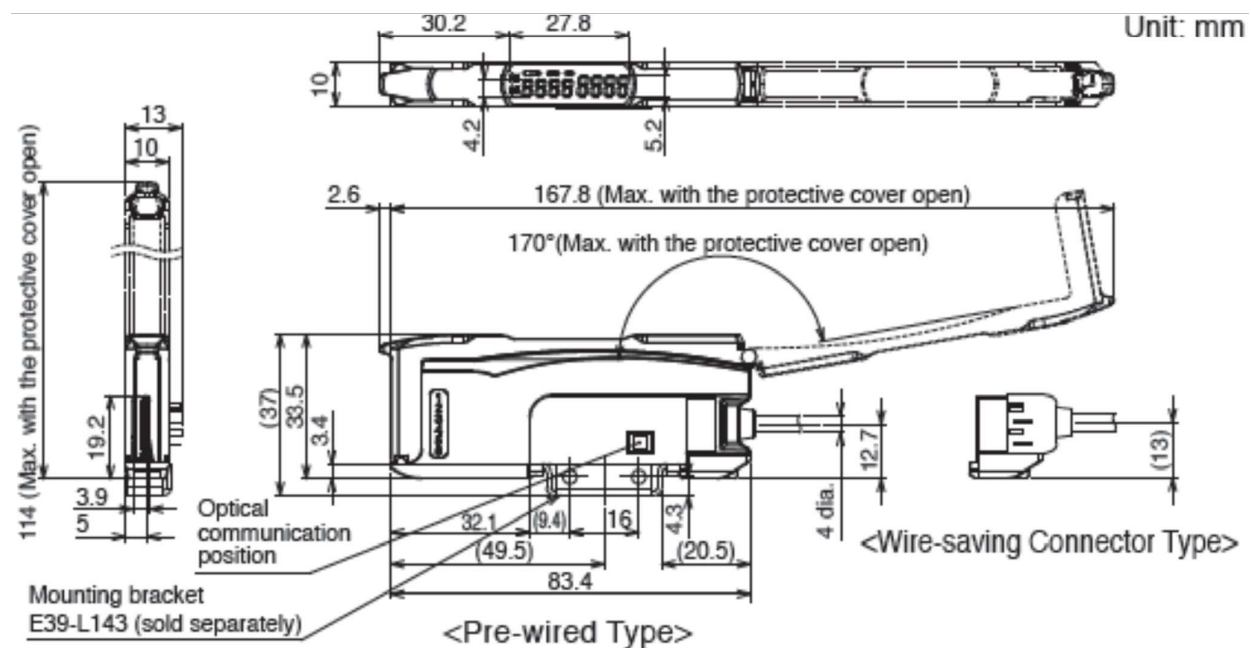
Sensor Heads

Model E3C-LR15N



Amplifier Units

Model E3C-LDA21N/51N/6N/7N/8N/9N



[Characteristics]
Sensor Heads
Diffuse-reflective

Item	Product discontinuation Model E3C-LD series			Recommendable replacement Model E3C-LD*N series		
	E3C-LD11	E3C-LD21 (Line beam)	E3C-LD31 (Area beam)	E3C-LD11N	E3C-LD11N + E39-P11 (Line beam)	E3C-LD11N + E39-P21 (Area beam)
Light source (wavelength)	Red semiconductor laser diode (650 nm), 3 mW max. (JIS Class 2, IEC/EN Class 2, and FDA Class II)					
Sensing distance	High-resolution mode: 30 to 1,000 mm Standard mode: 30 to 700 mm Super-high-speed mode: 30 to 250 mm			Giga Mode (GIGA): 30 to 1,000 mm Standard Mode (Std): 30 to 700 mm High-speed Mode (HS): 30 to 250 mm Super High-speed Mode (SHS): 30 to 250 mm		
Focus	0.8 mm max. (at 300 mm)	33 mm (at 150 mm)	33×15 mm (at 150 mm)	0.8 mm max. (at 300 mm)	33 mm (at 150 mm)	33×15 mm (at 150 mm)
Focus adjustment	Supported					
Optical axis alignment	Supported					
Indicators	LD ON indicator: Green, Operation indicator: Orange					
Ambient operating illumination	Incandescent lamp: 3,000 lx					
Ambient temperature	Operating: -10 to 55°C, Storage: -25 to 70°C (with no icing or condensation)					
Ambient humidity	Operating/storage: 35% to 85% (with no condensation)					
Insulation resistance	20 MΩ min. at 500 VDC					
Dielectric strength	1,000 VAC at 50/60 Hz for 1 minute					
Shock resistance	Destruction: 300 m/s ² 6 directions 3 times each (up/down, right/left, forward/backward)					
Vibration resistance	10 to 150 Hz (double amplitude of 0.7 mm) in X, Y, and Z directions for 80 min each					
Enclosure rating	IP40					
Connection method	Connector (standard cable length: 2 m)					
Materials	Case and cover: ABS, Front surface filter: Acrylic resin					
Weight (packed state)	Approx. 85 g			Approx. 85 g	(E39-P□□ sold separately)	

Coaxial Retro-reflective (with M.S.R. function)

Item	Product discontinuation Model E3C-LR series			Recommendable replacement Model E3C-LR*N series		
	E3C-LR11	E3C-LR12	E3C-LR15	E3C-LR11N	E3C-LR12N	E3C-LR15N
Light source (wavelength)	Red semiconductor laser diode (650 nm), 3 mW max. (JIS Class 2, IEC/EN Class 2, and FDA Class II)	Red semiconductor laser diode (650 nm), 1 mW max. (JIS Class 1, IEC/EN Class 1 and FDA Class II)	Red semiconductor laser diode (650 nm), 3 mW max. (JIS Class 2, IEC/EN Class 2, and FDA Class II)	Red semiconductor laser diode (650 nm), 3 mW max. (JIS Class 2, IEC/EN Class 2, and FDA Class II)	Red semiconductor laser diode (650 nm), 1 mW max. (JIS Class 1, IEC/EN Class 1 and FDA Class II)	Red semiconductor laser diode (650 nm), 3 mW max. (JIS Class 2, IEC/EN Class 2, and FDA Class II)
Sensing distance	High-resolution mode: 7 m Standard mode: 5 m Super-high-speed mode: 2 m			Giga Mode (GIGA): 7 m Standard Mode (Std): 5 m High-speed Mode (HS): 2 m Super High-speed Mode (SHS): 2 m		
Focus	0.8 mm .min. dia. (at 1 m)	About 2.0 mm dia. (at 1 m)	0.8 mm .min. dia. (at 0.3 m)	0.8 mm .min. dia. (at 1 m)	About 2.0 mm dia. (at 1 m)	0.8 mm .min. dia. (at 0.3 m)
Focus adjustment	Supported	Not Supported	Supported	Supported	Not Supported	Supported
Optical axis alignment	Supported					
Indicators	LD ON indicator: Green, Operation indicator: Orange					
Ambient operating illumination	Incandescent lamp: 3,000 lx					
Ambient temperature	Operating: -10 to 55°C, Storage: -25 to 70°C (with no icing or condensation)					
Ambient humidity	Operating/storage: 35% to 85% (with no condensation)					
Insulation resistance	20 MΩ min. at 500 VDC					
Dielectric strength	1,000 VAC at 50/60 Hz for 1 minute					
Shock resistance	Destruction: 300 m/s ² 6 directions 3 times each (up/down, right/left, forward/backward)					
Vibration resistance	10 to 150 Hz (double amplitude of 0.7 mm) in X, Y, and Z directions for 80 min each					
Enclosure rating	IP40					
Connection method	Connector (standard cable length: 2 m)					
Materials	Case and cover: ABS, Front surface filter: Glass					
Weight (packed state)	Approx. 100 g					

Amplifier Units

Item		Product discontinuation Model E3C-LDA series							
Model	NPN output	E3C-LDA21	E3C-LDA7	E3C-LDA11	E3C-LDA6	E3C-LDA0	E3C-LDA11AT	E3C-LDA6AT	E3C-LDA11AN
	PNP output	E3C-LDA51	E3C-LDA9	E3C-LDA41	E3C-LDA8		E3C-LDA41AT	E3C-LDA8AT	E3C-LDA41AN
Control output		1	1	2	2	-	2	2	Control output:1 Voltage output: 1
External input		1	1	0	0	-	0	0	0
Connection method		Pre-wired	Wire-saving connector	Pre-wired	Wire-saving connector	Sensor Communications Unit	Pre-wired	Wire-saving connector	Pre-wired
Supply voltage		12 to 24 VDC ±10%, ripple (p-p) 10% max.							
Power consumption		1,080 mW max. (current consumption: 45 mA max. at power supply voltage of 24 VDC)							
Control output	ON/OFF output	Load power supply voltage: 26.4 VDC max.; NPN/PNP (depends on model) open collector Load current: 50 mA max.; residual voltage: 1 V max.							
	Analog output	Not Supported							Voltage output: 1 to 5 (connected load 10 kΩ min.)
Response time		Super-highspeed mode:80 μs for operation and reset High-speed mode:250 μs for operation and reset Standard mode:1 ms for operation and reset High-resolution mode:4 ms for operation and reset		Super-highspeed mode:100 μs for operation and reset High-speed mode:250 μs for operation and reset Standard mode:1 ms for operation and reset High-resolution mode:4 ms for operation and reset		High-speed mode:250 μs for operation and reset Standard mode:1 ms for operation and reset High-resolution mode:4 ms for operation and reset	Super-highspeed mode:100 μs for operation and reset High-speed mode:250 μs for operation and reset Standard mode:1 ms for operation and reset High-resolution mode:4 ms for operation and reset		
Functions	DPC Function	Not Supported							
	Differential detection	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)							Not Supported
	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.							
	Reset	Initial reset							
	Counter	Switchable between up counter and down counter.		Not Supported					
	I/O settings	External input setting (Select from teaching, power tuning, zero reset, light OFF, or counter reset.)		Output setting (Select from channel 2 output, area output, or self-diagnosis.)			Output setting (Select from channel 2 output, area output, self-diagnosis, or ATC error output.)		Analog output setting (Offset voltage can be adjusted.)
Maximum connectable Units		16 units				30 units	16 units		
Number of units for mutual interference prevention		Super-highspeed mode: 0 unit High-speed mode, Standard mode and High-resolution mode:10 units							
Ambient temperature range		Operating: Groups of 1 to 2 Amplifiers: -25°C to 55°C, Groups of 3 to 10 Amplifiers: -25°C to 50°C, Groups of 11 to 16 Amplifiers: -25°C to 45°C, Storage: -30°C to 70°C (with no icing)							
Ambient humidity range		Operating and storage: 35% to 85% (with no condensation)							
Insulation resistance		20 MΩ at 500 VDC							
Dielectric strength		1,000 VAC at 50/60 Hz for 1 min.							
Shock resistance		Destruction: 500 m/s2, 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. 100 g	Approx. 55 g	Approx. 100 g	Approx. 55 g	Approx. 55 g	Approx. 100 g	Approx. 55 g	Approx. 100 g
Materials		Case : Polybutylene terephthalate (PBT), Cover : Polycarbonate, Cable covering: PVC							

Item		Recommendable replacement Model E3C-LDA*N series		
Model	NPN output	E3C-LDA21N	E3C-LDA6N	E3C-LDA7N
	PNP output	E3C-LDA51N	E3C-LDA8N	E3C-LDA9N
Control output		2	2	1
External input		1	0	1
Connection method		Pre-wired	Wire-saving connector	
Supply voltage		12 to 24 VDC ±10%, ripple (p-p) 10% max.		
Power consumption		1,080 mW max. (current consumption: 45 mA max. at power supply voltage of 24 VDC)		
Control output	ON/OFF output	Load power supply voltage: 24 VDC, open collector output type (depends on the NPN/PNP output format) Load current: 100 mA max. for 1 to 3 units use, 20 mA max. for 4 or more units joined. Residual voltage: Load current less than 10 mA: 1 V max., load current 10 to 100 mA: 2 V max. Off-state current: 0.1 mA max.		
	Analog output	Not Supported		
Response time		Super-high-speed mode (SHS): 80 μs High-speed mode (HS) : 250 μs Standard mode (Stnd) : 1ms Giga mode (GIGA) : 4ms		
Functions	DPC Function	Supported		
	Differential detection	Not Supported		
	Timer function	Select from OFF-delay, ON-delay, or one-shot timer. (1 to 9999 ms set in 1-ms increments.)		
	Zero-reset	Negative values can be displayed.		
	Reset	Initial reset		
	Counter	Not Supported		
	I/O settings	Output 1 setting (Select from Normal detection mode or Area detection mode.) Output 2 setting (Select from Normal detection mode, Alarm output mode or Error output mode.)	Output 1 setting (Select from Normal detection mode or Area detection mode.) External input setting (Select from teaching, power tuning, zero reset or light OFF)	
Maximum connectable Units		16 units		
Number of units for mutual interference prevention		Super-high-speed mode (SHS) : 0 unit High-speed mode (HS), Standard mode (Stnd) and Giga mode (GIGA) : 10 units		
Ambient temperature range		Operating: 1 to 2 amplifiers connected: -25°C to 55°C, 3 to 10 amplifiers connected: -25°C to 50°C, 11 to 16 amplifiers connected: -25°C to 45°C Storage: -30°C to 70°C (with no icing or condensation)		
Ambient humidity range		Operating and storage: 35% to 85% (with no condensation)		
Insulation resistance		20 MΩ at 500 VDC		
Dielectric strength		1,000 VAC at 50/60 Hz for 1 min.		
Shock resistance		Destruction: 500 m/s2, 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. 115 g	Approx. 60 g	
Materials		Case and cover: Polycarbonate (PC), Cable covering: PVC		

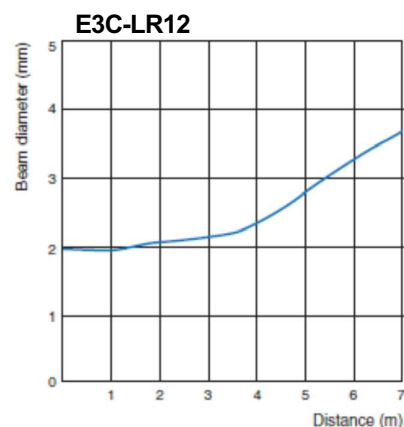
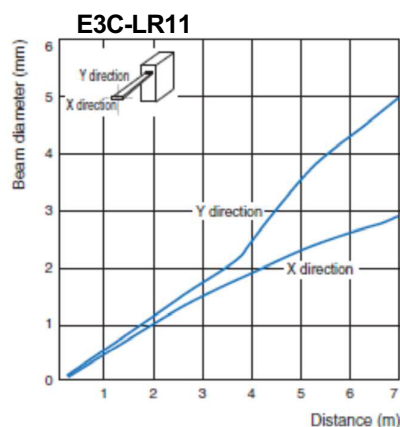
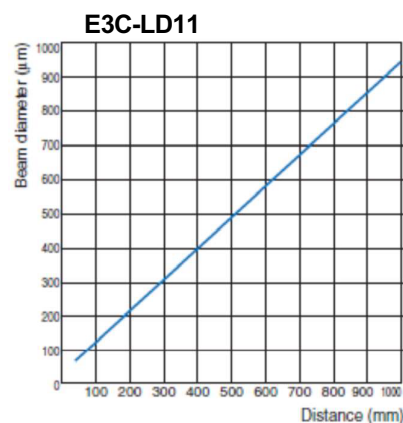
Case

Case

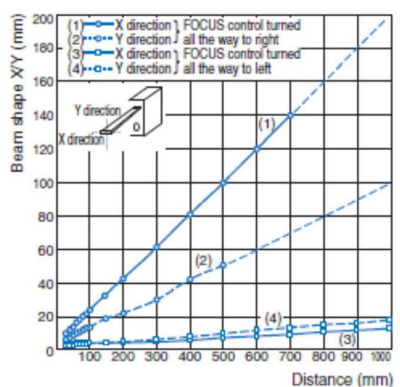
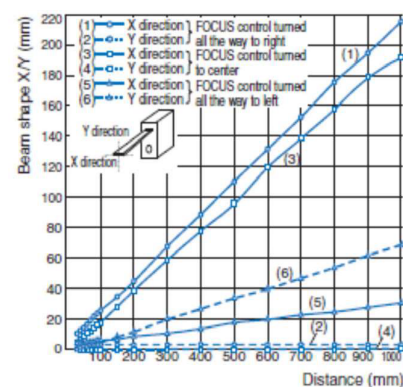
[Operation ratings]

Product discontinuation
Model E3C-LD/LR/LDA series

Minimum Beam Diameter vs. Sensing Distance



Beam Shape vs. Sensing Distance

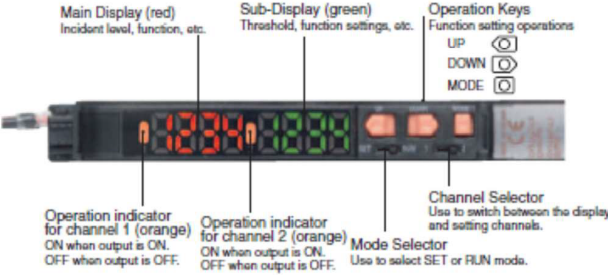
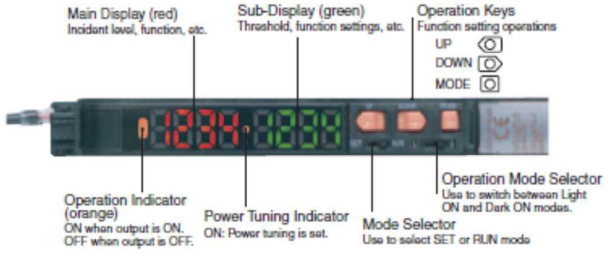
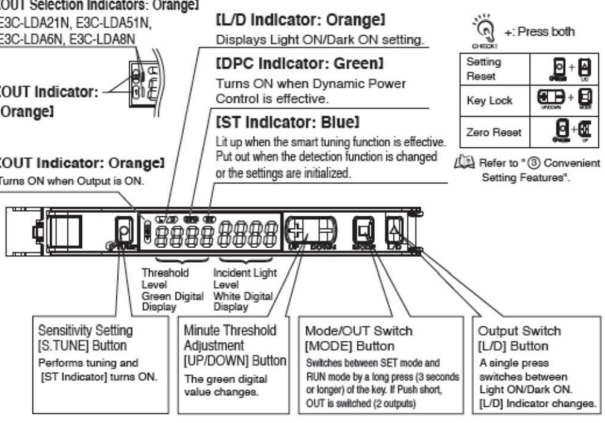


Note: The dashed lines indicate non-visible regions of the beam shape.

Recommendable replacement
Model E3C-LD*N/LR*N/LDA*N series

Each Operation ratings of the Recommendable replacement is equivalent to the Product discontinuation product.

[Operation methods]

<p>Product discontinuation Model E3C-LD/LR/LDA series</p>	<p>Recommendable replacement Model E3C-LD*N/LR*N/LDA*N series</p>
<p>E3C-LDA11/41/6/8/0</p>  <p>E3C-LDA21/51/7/9</p> 	<p>E3C-LDA21N/51N/6N/8N7N/9N</p>  <p>I/OUT Selection Indicators: Orange E3C-LDA21N, E3C-LDA51N, E3C-LDA6N, E3C-LDA8N</p> <p>I/OUT Indicator: Orange Turns ON when Output is ON.</p> <p>I/D Indicator: Orange Displays Light ON/Dark ON setting.</p> <p>DPC Indicator: Green Turns ON when Dynamic Power Control is effective.</p> <p>ST Indicator: Blue Lit up when the smart tuning function is effective. Put out when the detection function is changed or the settings are initialized.</p> <p>Sensitivity Setting [S.TUNE] Button Performs tuning and [ST Indicator] turns ON.</p> <p>Minute Threshold Adjustment [UP/DOWN] Button The green digital value changes.</p> <p>Mode/I/OUT Switch [MODE] Button Switches between SET mode and RUN mode by a long press (3 seconds or longer) of the key. If Push short, OUT is switched (2 outputs).</p> <p>Output Switch [L/D] Button A single press switches between Light ON/Dark ON. [L/D] Indicator changes.</p> <p>Setting Reset Key Lock Zero Reset</p> <p>Refer to "Convenient Setting Features".</p>

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.