

Specifications

Item	Pre-wired models	Fiber amplifier connector models	M8 connector models	
	E3X-DA_1-S	E3X-DA7-S, E3X-DA9-S	E3X-DA_3-S, E3X-DA_4-S	
Light source (wave length)	Red LED (650 nm)		Red LED (625 nm)	
Power supply voltage	12 to 24 VDC \pm 10%; ripple (p-p): 10% max			
Protective circuits	Reverse polarity protection, output short circuit protection, mutual interference prevention ^{*1}			
Response time	Super-high-speed mode ^{*2}	80 μ s for operation and reset max.	55 μ s for operation and reset max.	
	Standard mode	1 ms for operation and reset		
	High resolution mode	4 ms for operation and reset		
	Wet process 'tough mode'	16 ms for operation and reset	*3	
Sensitivity setting	Teaching and digital up/down keys			
Functions	Power tuning	Light emission power and reception gain, digital control method		
	Timer	OFF-delay, ON-delay, 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)		
	Auto power control (APC)	LED power monitoring and auto-control function by LED emission current adjustment.		
	Active-threshold control (ATC)	Monitoring of received light average and deviation adjustment of threshold for output 1	*3	
	Twin output	Output 1: incident level Output 2: incident level or alarm output	Output 1: incident level Output 2: incident level or alarm output (not available if external input is used)	*3
	External input	External teach or function trigger (power tuning, emitter OFF, ATC start)	External teach or function trigger (power tuning, emitter OFF, ATC start) (not available if output 2 is used)	*3
	Differential operation	Single edge or double edge detection mode		*3
	Wet process 'tough mode'	Incident level triggering on floating average of received light.		*3
Power saving 'Eco' functions	LED: ON/OFF switchable (external input) Display: ON/ DIM / OFF selectable (Eco mode ^{*4})		*3	
Digital display	Incident level + threshold or user specific			

^{*1.} The reverse polarity protection for the pre-wired and fiber amplifier connector models is for the power supply and the output. For M8 connector models the reverse polarity protection is for the power supply.

^{*2.} The communication function and mutual interference prevention function are disabled if detection is set to Super-high-speed Mode.

^{*3.} For fiber amplifiers with these functions and connecting with M8 connector, order the fiber amplifier connector models above and the pigtail connector E3X-CN21-M3J-2 with 30 cm PVC cable and M8 plug.

^{*4.} When the ECO Mode is enabled, the rated sensing distance is approx. 1/2 and the incident level is approx. 1/3 of the normal levels.

Input Specifications

	Contact input (relay or switch)	Non-contact input (transistor)
NPN	ON: Shorted to 0 V (sourcing current: 1 mA max.). OFF: Open or shorted to Vcc.	ON: 1.5 V max. (sourcing current: 1 mA max.) OFF: Vcc - 1.5 V to Vcc (leakage current: 0.1 mA max.)
PNP	ON: Shorted to Vcc (sinking current: 3 mA max.). OFF: Open or shorted to 0 V.	ON: Vcc - 1.5 V to Vcc (sinking current: 3 mA max.) OFF: 1.5 V max. (leakage current: 0.1 mA max.)

Amplifier unit connectors

		E3X-CN21_
Rated current	2.5 A	
Rated voltage	50 V	
Contact resistance	20 m Ω max. (20 mVDC max., 100 mA max.) (The figure is for connection to the amplifier unit and the adjacent connector. It does not include the conductor resistance of the cable.)	
No. of insertions	Destruction: 50 times (The figure for the number of insertions is for connection to the amplifier unit and the adjacent connector.)	
Materials	Housing	Polybutylene terephthalate (PBT)
	Contacts	Phosphor bronze/gold-plated nickel
Weight (packed state)	Approx. 55 g	

Exemplary sensing distances

(measured with E3X-DA51-S 2M) *1

(Unit: mm)

Type		Tough Mode	High-resolution Mode	Standard Mode	High-speed Mode	Super-high-speed Mode
Through-beam	E32-T11N/ E32-TC200BR(B4R)	2,000	1,400	1,000	700	280
	E32-T14LR/E32-T15YR/ E32-T15ZR	750	550	450	260	100
	E32-T21R/E32-T22R/ E32-T222R/ E32-TC200FR(F4R)	450	300	250	150	60
	E32-T24R	170	120	100	50	20
	E32-TC200/E32-T12/ E32-T15X/E32-TC200B(B4)	2,800	2,000	1,550	1,000	400
	E32-T14L/E32-T15Y/ E32-T15Z	1,700	1,200	950	600	240
	E32-TC200A	2,500	1,800	1,350	900	360
	E32-TC200E/E32-T22/ E32-T222/ E32-TC200F(F4)	750	550	450	250	100
	E32-T24	450	300	250	150	60
	E32-T11/E32-T12B/ E32-T15XB	2,500	1,800	1,350	900	360
	E32-T21/E32-T221B/ E32-T22B	680	480	400	220	90
	E32-T11U	2,500	1,800	1,350	900	360
	E32-T17L	20,000*1	20,000*1	20,000*1	20,000*1	8,000

*1. The sensing distances with M8 connector models E3X-DA[3-S and E3X-DA[4-S are approximately 50% of the exemplary values measured with E3X-DA51-S.

Reflective Models

(Unit: mm)

Type		Tough Mode	High-resolution Mode	Standard Mode	High-speed Mode	Super-high-speed Mode
Diffuse-reflective	E32-D11N/ E32-D12R/E32-D15XR/ E32-DC200BR(B4R)	840	600	350	240	100
	E32-D14LR	220	160	100	60	28
	E32-D15YR/E32-D15ZR	200	140	100	52	24
	E32-D211R/E32-D21R/ E32-D22R/ E32-DC200FR(F4R)	140	100	60	40	16
	E32-D24R	70	52	30	20	8
	E32-DC200/E32-D15X/ E32-DC200B(B4)	1,400	1,000	600	400	180
	E32-D12	1,120	800	450	320	140
	E32-D14L	560	400	220	160	72
	E32-D15Y/E32-D15Z	480	340	200	130	60
	E32-D211/E32-DC200E/ E32-D22/ E32-DC200F(F4)	360	260	160	100	44
	E32-D24	140	100	60	40	16
	E32-D11/E32-D15XB	840	600	350	240	100
	E32-D21B/E32-D221B	300	220	280	90	40
	E32-D21/E32-D22B	140	100	60	40	16
	E32-D11U	840	600	350	240	100