

SE4 SERIES

SAFETY-RELATED PARAMETERS

TYPE	Type 4 (IEC61496-1)	CATEGORY	Cat. 4 (ISO13849-1)
SAFETY INTEGRITY LEVEL	SIL 3 (IEC61508, IEC62061)	PERFORMANCE LEVEL	PLe (ISO13849-1)

TECHNICAL DATA

SUPPLY VOLTAGE (VS)	24 V DC	SAFETY OUTPUT	PNP transistor output x 2 ON state, load current ≤ 100 mA, output voltage ≥ Vs - 2 V OFF state, leakage current ≤ 1 mA, residual voltage ≤ 1 V (Excluding the effect of wire extension)
RIPPLE VOLTAGE	≤ 20 %		
LIGHT SOURCE	Infrared light (850 nm)		
OPTICAL AXIS SPACING	10 mm / 20 mm / 40 mm		
RESOLUTION	14 mm / 30 mm / 50 mm		
SYNCHRONIZATION METHOD	Optical synchronization		NPN transistor output x 2 ON state, load current ≤ 100 mA, output voltage ≤ 2 V OFF state, leakage current ≤ 1 mA, residual voltage ≤ 2 V (Excluding the effect of wire extension)
SCANNING RANGE	A: 0...10 m / B: 0...16 m		
SECTION SIZE	34 x 28 mm		
LOAD CURRENT	Emitter: < 200 mA Receiver: < 200 mA (No-load)		
RESPONSE TIME	4 ... 18 ms (Increase or decrease with the number of beams)	DETECTION FUNCTION	Power-on self-test, real-time self-test during the working process
START TIME	< 3 s	SHORT-CIRCUIT PROTECTION	Yes
		OVERLOAD RESISTANCE	Yes
		REVERSE POLARITY PROTECTION	Yes

ENVIRONMENTAL CONDITIONS

OPERATING ENVIRONMENT HUMIDITY	35 % to 85 % RH (No condensation)	SHOCK RESISTANCE (EN 60068-2-27)	Acceleration 10 g, pulse duration 16 ms, X, Y and Z direction 1000 times each
STORAGE ENVIRONMENT HUMIDITY	35 % to 95 % RH		
PROTECTION CLASS	IP65	VIBRATION RESISTANCE (EN 60068-2-6)	Frequency 10 ... 55 Hz, amplitude 0.35±0.05 mm, X, Y and Z direction 20 times each
STORAGE TEMPERATURE	-40 ... +70 °C		
AMBIENT TEMPERATURE	-10 ... +55 °C	ANTI-AMBIENT LIGHT	Incandescent lamp: 3000 lux Fluorescence: 3000 lux Sunlight: 10000 lux

SE4 SERIES

MTTF PARAMETERS

ELCO MODEL	MTTF (YEAR)	ELCO MODEL	MTTF (YEAR)
SE4P14-150	67	SE4P14-600	24
SE4P14-200	57	SE4P14-750	20
SE4P14-300	42	SE4P14-900	17
SE4P14-450	31	SE4P14-1000	16

MTTF PARAMETERS

ELCO MODEL	MTTF (YEAR)	ELCO MODEL	MTTF (YEAR)
SE4P30-150	86	SE4P30-1050	27
SE4P30-200	72	SE4P30-1200	25
SE4P30-300	63	SE4P30-1350	23
SE4P30-450	49	SE4P30-1500	21
SE4P30-600	41	SE4P30-1650	19
SE4P30-750	35	SE4P30-1700	18
SE4P30-900	30		

MTTF PARAMETERS

ELCO MODEL	MTTF (YEAR)	ELCO MODEL	MTTF (YEAR)
SE4P50-150	100	SE4P50-1050	43
SE4P50-200	90	SE4P50-1200	41
SE4P50-300	82	SE4P50-1350	38
SE4P50-450	70	SE4P50-1500	35
SE4P50-600	61	SE4P50-1650	33
SE4P50-750	53	SE4P50-1800	31
SE4P50-900	48		

STANDARDS AND DIRECTIVES

EMC DIRECTIVE 2014/30/EU	EN IEC 61000-6-2 EN IEC 61000-6-4
ROHS DIRECTIVE 2011/65/EU	EN IEC 63000

APPROVALS



SE4 SERIES

DETECTION MODE OPPOSED

Model	Function	Resolution (mm)	Protect field height (mm)	Product overall height (mm)	Range (m)
SE4P14-150	Emitter + Receiver	14	120	145	Max. 10
SE4P14-200	Emitter + Receiver	14	200	225	Max. 10
SE4P14-300	Emitter + Receiver	14	280	305	Max. 10
SE4P14-450	Emitter + Receiver	14	440	465	Max. 10
SE4P14-600	Emitter + Receiver	14	600	625	Max. 10
SE4P14-750	Emitter + Receiver	14	760	785	Max. 10
SE4P14-900	Emitter + Receiver	14	920	945	Max. 10
SE4P14-1000	Emitter + Receiver	14	1000	1025	Max. 10
SE4P30-150	Emitter + Receiver	30	120	145	Max. 10
SE4P30-200	Emitter + Receiver	30	200	225	Max. 10
SE4P30-300	Emitter + Receiver	30	280	305	Max. 10
SE4P30-450	Emitter + Receiver	30	440	465	Max. 10
SE4P30-600	Emitter + Receiver	30	600	625	Max. 10
SE4P30-750	Emitter + Receiver	30	760	785	Max. 10
SE4P30-900	Emitter + Receiver	30	920	945	Max. 10
SE4P30-1050	Emitter + Receiver	30	1080	1105	Max. 10
SE4P30-1200	Emitter + Receiver	30	1160	1185	Max. 10
SE4P30-1350	Emitter + Receiver	30	1320	1345	Max. 10
SE4P30-1500	Emitter + Receiver	30	1480	1505	Max. 10
SE4P30-1650	Emitter + Receiver	30	1640	1665	Max. 10
SE4P30-1700	Emitter + Receiver	30	1720	1745	Max. 10
SE4P50-150	Emitter + Receiver	50	120	145	Max. 10
SE4P50-200	Emitter + Receiver	50	200	225	Max. 10
SE4P50-300	Emitter + Receiver	50	280	305	Max. 10
SE4P50-450	Emitter + Receiver	50	440	465	Max. 10
SE4P50-600	Emitter + Receiver	50	600	625	Max. 10
SE4P50-750	Emitter + Receiver	50	760	785	Max. 10
SE4P50-900	Emitter + Receiver	50	920	945	Max. 10
SE4P50-1050	Emitter + Receiver	50	1080	1105	Max. 10
SE4P50-1200	Emitter + Receiver	50	1160	1185	Max. 10
SE4P50-1350	Emitter + Receiver	50	1320	1345	Max. 10
SE4P50-1500	Emitter + Receiver	50	1480	1505	Max. 10
SE4P50-1650	Emitter + Receiver	50	1640	1665	Max. 10
SE4P50-1800	Emitter + Receiver	50	1800	1825	Max. 10

SE4 SERIES

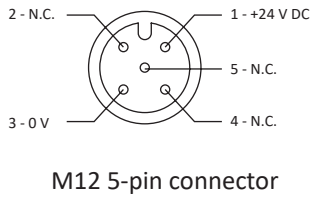
DETECTION MODE OPPOSED

Model	Function	Resolution (mm)	Protect field height (mm)	Product overall height (mm)	Range (m)
SE4P14-150L	Emitter + Receiver	14	120	145	Max. 16
SE4P14-200L	Emitter + Receiver	14	200	225	Max. 16
SE4P14-300L	Emitter + Receiver	14	280	305	Max. 16
SE4P14-450L	Emitter + Receiver	14	440	465	Max. 16
SE4P14-600L	Emitter + Receiver	14	600	625	Max. 16
SE4P14-750L	Emitter + Receiver	14	760	785	Max. 16
SE4P14-900L	Emitter + Receiver	14	920	945	Max. 16
SE4P14-1000L	Emitter + Receiver	14	1000	1025	Max. 16
SE4P30-150L	Emitter + Receiver	30	120	145	Max. 16
SE4P30-200L	Emitter + Receiver	30	200	225	Max. 16
SE4P30-300L	Emitter + Receiver	30	280	305	Max. 16
SE4P30-450L	Emitter + Receiver	30	440	465	Max. 16
SE4P30-600L	Emitter + Receiver	30	600	625	Max. 16
SE4P30-750L	Emitter + Receiver	30	760	785	Max. 16
SE4P30-900L	Emitter + Receiver	30	920	945	Max. 16
SE4P30-1050L	Emitter + Receiver	30	1080	1105	Max. 16
SE4P30-1200L	Emitter + Receiver	30	1160	1185	Max. 16
SE4P30-1350L	Emitter + Receiver	30	1320	1345	Max. 16
SE4P30-1500L	Emitter + Receiver	30	1480	1505	Max. 16
SE4P30-1650L	Emitter + Receiver	30	1640	1665	Max. 16
SE4P30-1700L	Emitter + Receiver	30	1720	1745	Max. 16
SE4P50-150L	Emitter + Receiver	50	120	145	Max. 16
SE4P50-200L	Emitter + Receiver	50	200	225	Max. 16
SE4P50-300L	Emitter + Receiver	50	280	305	Max. 16
SE4P50-450L	Emitter + Receiver	50	440	465	Max. 16
SE4P50-600L	Emitter + Receiver	50	600	625	Max. 16
SE4P50-750L	Emitter + Receiver	50	760	785	Max. 16
SE4P50-900L	Emitter + Receiver	50	920	945	Max. 16
SE4P50-1050L	Emitter + Receiver	50	1080	1105	Max. 16
SE4P50-1200L	Emitter + Receiver	50	1160	1185	Max. 16
SE4P50-1350L	Emitter + Receiver	50	1320	1345	Max. 16
SE4P50-1500L	Emitter + Receiver	50	1480	1505	Max. 16
SE4P50-1650L	Emitter + Receiver	50	1640	1665	Max. 16
SE4P50-1800L	Emitter + Receiver	50	1800	1825	Max. 16

SE4 SERIES

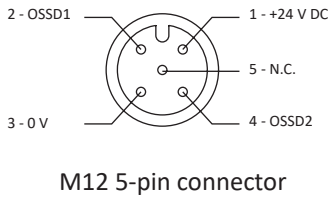
WIRING DIAGRAMS

Fig. 1 Emitter



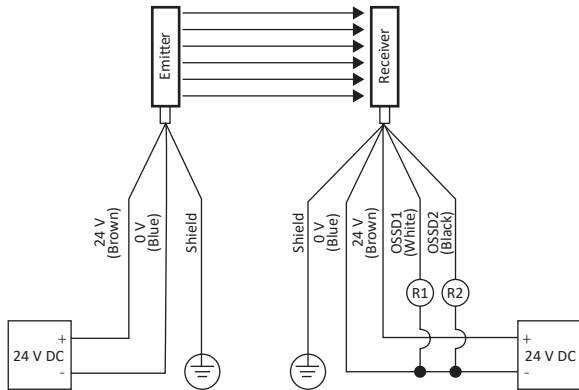
Pin	Color	Function
1	brown	+24 V DC
2	white	N.C.
3	blue	0 V
4	black	N.C.
5	grey	N.C.

Fig. 2 Receiver

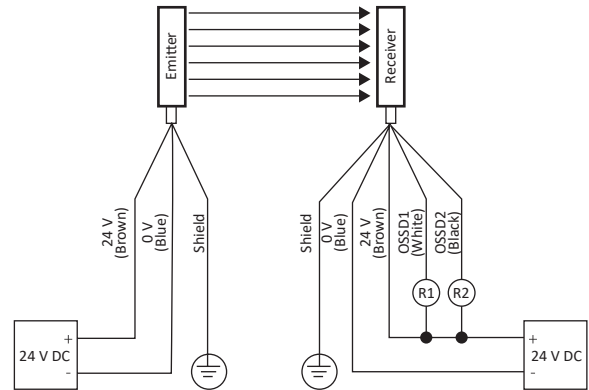


Pin	Color	Function
1	brown	+24 V DC
2	white	OSSD1
3	blue	0 V
4	black	OSSD2
5	grey	N.C.

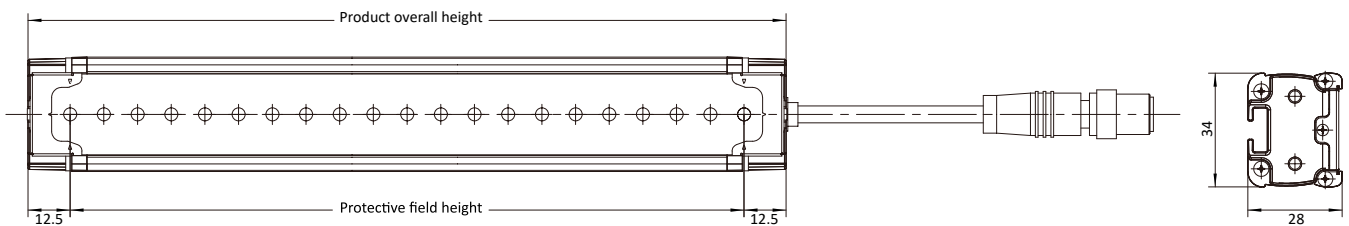
PNP Wiring



NPN Wiring



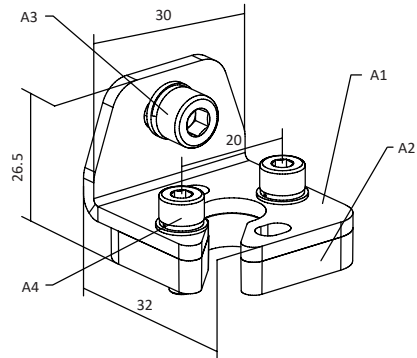
DIMENSIONS



SE4 SERIES

MOUNTING BRACKET

Front and side mounting brackets, each pair of safety light curtains with four mounting brackets (BT-VC).
 BT-VCS, 1 set, contains 4 pieces BT-VC.



ACCESSORIES DETAIL LIST

Part Number	Part Name	Material
A1	Front and Side Mounting Bracket	Stainless Steel
A2	Front and Side Mounting Vibration Damping Pad	TPU
A3	Hex Socket Screw (M5*12)	Stainless Steel
A4	Hex Socket Screw (M4*12)	Stainless Steel

Connector	Adaptation	Connector cable model	Description
	Emitter + Receiver	CO-M12-2000E-5GF	Female, M12, 5-pin, Straight, A-coded, 2 m
	Emitter + Receiver	CO-M12-5000E-5GF	Female, M12, 5-pin, Straight, A-coded, 5 m
	Emitter + Receiver	CO-M12-10000E-5GF	Female, M12, 5-pin, Straight, A-coded, 10 m
	Emitter + Receiver	CO-M12-15000E-5GF	Female, M12, 5-pin, Straight, A-coded, 15 m
	Emitter + Receiver	CO-M12-20000E-5GF	Female, M12, 5-pin, Straight, A-coded, 20 m
	Emitter + Receiver	CO-M12-25000E-5GF	Female, M12, 5-pin, Straight, A-coded, 25 m
	Emitter + Receiver	CO-M12-30000E-5GF	Female, M12, 5-pin, Straight, A-coded, 30 m
	Emitter + Receiver	CO-M12-35000E-5GF	Female, M12, 5-pin, Straight, A-coded, 35 m
	Emitter + Receiver	CO-M12-40000E-5GF	Female, M12, 5-pin, Straight, A-coded, 40 m

SE4 SERIES

SALES AND SERVICE

Tianjin Elco Automation Co., Ltd

No. 12, 4th XEDA Branch Road
Xiqing Economic-Technological Development Area
Tianjin 300385, P.R. China
Office Phone: 022 23788282
E-Mail: info@elco.cn
www.elco-holding.com.cn

Elco Industrie Automation GmbH

Benzstrasse 7
71720 Oberstenfeld,
Deutschland
Office Phone: +49 7062 / 6599-260
E-Mail: info@elco-automation.de
www.elco-automation.de

Elco Automation LLC

1097 Highway 101 South, Suite D-3 Greer
South Carolina 29651, USA
Office Phone: +1 864-581-7431
E-Mail: infousa@elcoautomation.com
www.elcoautomation.com

Elco Industrial Automation Pvt Ltd.

No 80, 1st Main, 2nd Cross, Royal Enclave,
Sidedahalli, Nagasandra Bangalore 560073, India
Office Phone: +91-7259931777
E-Mail: info@elcoautomation.in
www.elcoautomation.com

Elco Automation Korea Ltd.

706, 17 Daehak 4-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do, Republic of Korea, 16226
Office Phone: +82-31-216-7890
E-Mail: sales@elcoautomation.co.kr
www.elcoautomation.com