



# SH4

## TYPE 4 SAFETY LIGHT CURTAINS



- Complete type 4 safety light curtains line
- Finger (14 mm), hand (30 mm), or body protection
- Improved performance and features
- Compact profile (35 x 40 mm)
- Wide range scalable in Basic, Standard and Advanced models
- Simultaneous muting and blanking
- Innovative wireless monitoring and configuration system
- Optical two beams synchronization and anti-interference coding
- Basic functions: alignment, automatic restart
- Standard functions: manual restart, EDM
- Standard Muting functions: 2-signals mono and bidirectional muting, override
- Advanced functions: partial muting, dynamic partial muting, 4-signals muting, reduced resolution, multiple fixed or floating blanking zones






### CODE DESCRIPTION

**SH 4 - 14 - 0300 - SM - 8 - 5**

series	<b>SH</b>	Safety light curtain
type	<b>4</b>	Type 4
detection capability	<b>14</b>	Finger: 14 mm
	<b>30</b>	Hand: 30 mm
	<b>2</b>	Body: 2 Beams
	<b>3</b>	Body: 3 Beams
monitored height	<b>4</b>	Body: 4 Beams
	<b>0300</b>	300 mm
	<b>0450</b>	450 mm
functionality	...	
	<b>2250</b>	2250 mm
	<b>B</b>	Basic
	<b>S</b>	Standard
	<b>SM</b>	Standard muting
receiver main connector	<b>A</b>	Advanced
	<b>C</b>	Cascade
	<b>5</b>	5-pin male M12
	<b>8</b>	8-pin male M12
receiver secondary connector	<b>12</b>	12-pin male M12
		No connector
	<b>5</b>	5-pin female M12
		No connector

# TECHNICAL FEATURES

	SH4-14-****-***-*	SH4-30-****-***-*
Protection	 finger	 hand
Type ( EN61496-1 )	4	
PL ( EN ISO 13849-1 )	e	
SIL ( IEC 61508 )	3	
Protected height	300...2250 mm (with 150 mm steps)	
Detection capability	14 mm	30 mm
Operating range	0.2 ... 10 m	0.2 ... 20 m
Operating distance using muting arms	0.5 ... 7 m	
Operating distance using reflective muting arms	0.5 ... 3 m	
Dead Zone	No dead zone	
Cascade connection	Up to 3 units	
Power supply (Vdc)	24 Vdc ± 20%	
Transmitter consumption	3.5 W max	
Receiver consumption	4.0 W max (without load)	
Safe Outputs	2 OSSD, with short circuit protection	
Auxiliary Outputs	2 PNP, with short circuit protection	
Output current	250 mA max / each output, 500 mA max total outputs	
Capacitive load	1 uF @ 24Vdc max	
Leakage current	< 1 mA	
Response time	from 12 to 30 ms (14 mm res)	from 10 to 19 ms (30 mm res)
Cables length	30 m	
Electrical protection	Class III	
Light source	Infrared LED (850 nm wavelength)	
Effective aperture angle (EAA)	< ± 2.5° at 3 m	
Operating temperature	-30 ... +55 °C	
Storage temperature	-30 ... +60 °C	
Temperature class	T6	
Humidity	15 ... 95 % (no condensation)	
Mechanical protection	IP65, IP 67 (EN 60529)	
Vibrations resistance	10 mm / 3 g, 5 ... 150 Hz frequency (EN 60068-2-6 / Class 3M7 IEC TR 60721-4-3)	
Shock resistance	25 g x 6 ms x 600 (EN 60068-2-27 / Class 3M7 IEC TR 60721-4-3)	
Weight	1.4 Kg/m (single bar, without package)	
Housing Material	Painted aluminium (yellow RAL 1003)	
Caps and covers material	PBT	
Window material	MAKROLON AR 7099 Clear PC	
Functions BASIC models (SH4-*-B-*)	Automatic Restart	
Functions STANDARD models (SH4-*-S-*)	Manual / Automatic Restart, Reset, External Device Monitoring (EDM), Alignment mode	
Functions STANDARD MUTING models (SH4-*-SM-*)	2-signals T Muting / L Muting, Muting dependent Override, Partial muting (half protection height), Muting input filtering and timeout setting, Anti-interference coding	
Functions ADVANCED models (SH4-*-A-*)	4-signals Muting, Dynamic partial muting, Partial Muting (at beams level), Fixed Blanking, External signal fixed blanking teach-in, Floating Blanking, Reduced resolution, Integrated pointer	
Functions CASCADE models (SH4-*-C-*)	Cascade models inherit the same functions of the main unit to which they are connected	
Configuration BASIC models (SH4-*-B-*) and STANDARD models (SH4-*-S-*)	By Wiring	
Configuration STANDARD MUTING models (SH4-*-SM-*)	By DIP-Switches	
Configuration ADVANCED models (SH4-*-A-*)	By DATASENSING SH4 DESIGNER and wi-fi connection	

	SH4-2-****-**-***-*	SH4-3-****-**-***-*	SH4-4-****-**-***-*
			
Protection	body		
Type ( EN61496-1 )	4		
PL ( EN ISO 13849-1 )	e		
SIL ( IEC 61508 )	3		
Protected height	500 mm	800 mm	900 or 1200 mm
Detection capability	500 mm	400 mm	300 or 400 mm
Operating range	Short range: 0.5 ... 15 m (default value); Long range: 5 ... 70 m (selectable)		
Operating distance using muting arms	0.5 ... 7 m		
Operating distance using reflective muting arms	0.5 ... 3 m		
Dead Zone	130 mm Distance from bottom to first beam		
Cascade connection	Not possible		
Power supply (Vdc)	24 Vdc ± 20%		
Transmitter consumption	3.5 W max		
Receiver consumption	4.0 W max (without load)		
Safe Outputs	2 OSSD, with short circuit protection		
Auxiliary Outputs	2 PNP, with short circuit protection		
Output current	250 mA max / each output, 500 mA max total outputs		
Capacitive load	1 uF @ 24Vdc max		
Leakage current	< 1 mA		
Response time	from 12 to 15 ms		
Cables length	30 m receiver; 50 m transmitter		
Electrical protection	Class III		
Light source	Infrared LED (850 nm wavelength)		
Effective aperture angle (EAA)	< ± 2.5° at 3 m		
Operating temperature	-30 ... +55 °C		
Storage temperature	-30 ... +60 °C		
Temperature class	T6		
Humidity	15 ... 95 % (no condensation)		
Mechanical protection	IP65, IP 67 (EN 60529)		
Vibrations resistance	10 mm / 3 g, 5 ... 150 Hz frequency (EN 60068-2-6 / Class 3M7 IEC TR 60721-4-3)		
Shock resistance	25 g x 6 ms x 600 (EN 60068-2-27 / Class 3M7 IEC TR 60721-4-3)		
Weight	1.4 Kg/m (single bar, without package)		
Housing Material	Painted aluminium (yellow RAL 1003)		
Caps and covers material	PBT		
Window material	MAKROLON AR 7099 Clear PC		
Functions BASIC models (SH4-*-B-*)	Automatic Restart		
Functions STANDARD models (SH4-*-S-*)	Manual / Automatic Restart, Reset, External Device Monitoring (EDM), Alignment mode		
Functions STANDARD MUTING models (SH4-*-SM-*)	2-signals T Muting / L Muting, Muting dependent Override, Partial muting (half protection height), Muting input filtering and timeout setting, Anti-interference coding		
Functions ADVANCED models (SH4-*-A-*)	4-signals Muting, Dynamic partial muting, Partial Muting (at beams level), integrated pointer		
Functions CASCADE models (SH4-*-C-*)	Cascade models inherit the same functions of the main unit to which they are connected		
Configuration BASIC models (SH4-*-B-*) and STANDARD models (SH4-*-S-*)	By Wiring		
Configuration STANDARD MUTING models (SH4-*-SM-*)	By DIP-Switches		
Configuration ADVANCED models (SH4-*-A-*)	By DATASENSING SH4 DESIGNER and wi-fi connection		

## AVAILABLE MODELS

Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
14 mm	0.2... 10 m	basic	5 poles	300	30	9	14	<b>SH4-14-0300-B-5</b> (957920001)
				450	45	10	18	<b>SH4-14-0450-B-5</b> (957920002)
				600	60	12	22	<b>SH4-14-0600-B-5</b> (957920003)
				750	75	13	26	<b>SH4-14-0750-B-5</b> (957920004)
				900	90	15	30	<b>SH4-14-0900-B-5</b> (957920005)
				1050	105	16	33	<b>SH4-14-1050-B-5</b> (957920006)
				1200	120	18	37	<b>SH4-14-1200-B-5</b> (957920007)
				1350	135	20	41	<b>SH4-14-1350-B-5</b> (957920008)
				1500	150	21	45	<b>SH4-14-1500-B-5</b> (957920009)
				1650	165	23	49	<b>SH4-14-1650-B-5</b> (957920010)
				1800	180	24	52	<b>SH4-14-1800-B-5</b> (957920011)
				1950	195	26	56	<b>SH4-14-1950-B-5</b> (957920012)
				2100	210	27	60	<b>SH4-14-2100-B-5</b> (957920013)
2250	225	29	64	<b>SH4-14-2250-B-5</b> (957920014)				
14 mm	0.2... 10 m	standard	8 poles	300	30	9	14	<b>SH4-14-0300-S-8</b> (957920015)
				450	45	10	18	<b>SH4-14-0450-S-8</b> (957920016)
				600	60	12	22	<b>SH4-14-0600-S-8</b> (957920017)
				750	75	13	26	<b>SH4-14-0750-S-8</b> (957920018)
				900	90	15	30	<b>SH4-14-0900-S-8</b> (957920019)
				1050	105	16	33	<b>SH4-14-1050-S-8</b> (957920020)
				1200	120	18	37	<b>SH4-14-1200-S-8</b> (957920021)
				1350	135	20	41	<b>SH4-14-1350-S-8</b> (957920022)
				1500	150	21	45	<b>SH4-14-1500-S-8</b> (957920023)
				1650	165	23	49	<b>SH4-14-1650-S-8</b> (957920024)
				1800	180	24	52	<b>SH4-14-1800-S-8</b> (957920025)
				1950	195	26	56	<b>SH4-14-1950-S-8</b> (957920026)
				2100	210	27	60	<b>SH4-14-2100-S-8</b> (957920027)
2250	225	29	64	<b>SH4-14-2250-S-8</b> (957920028)				

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)

Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
14 mm	0.2 ... 10 m	standard muting	8 poles	300	30	9	14	<b>SH4-14-0300-SM-8</b> (957920043)
				450	45	10	18	<b>SH4-14-0450-SM-8</b> (957920044)
				600	60	12	22	<b>SH4-14-0600-SM-8</b> (957920045)
				750	75	13	26	<b>SH4-14-0750-SM-8</b> (957920046)
				900	90	15	30	<b>SH4-14-0900-SM-8</b> (957920047)
				1050	105	16	33	<b>SH4-14-1050-SM-8</b> (957920048)
				1200	120	18	37	<b>SH4-14-1200-SM-8</b> (957920049)
				1350	135	20	41	<b>SH4-14-1350-SM-8</b> (957920050)
				1500	150	21	45	<b>SH4-14-1500-SM-8</b> (957920051)
				1650	165	23	49	<b>SH4-14-1650-SM-8</b> (957920052)
				1800	180	24	52	<b>SH4-14-1800-SM-8</b> (957920053)
				1950	195	26	56	<b>SH4-14-1950-SM-8</b> (957920054)
				2100	210	27	60	<b>SH4-14-2100-SM-8</b> (957920055)
				2250	225	29	64	<b>SH4-14-2250-SM-8</b> (957920056)
14 mm	0.2 ... 10 m	standard muting	8 and 5 poles	300	30	9	14	<b>SH4-14-0300-SM-8-5</b> (957920565)
				450	45	10	18	<b>SH4-14-0450-SM-8-5</b> (957920566)
				600	60	12	22	<b>SH4-14-0600-SM-8-5</b> (957920567)
				750	75	13	26	<b>SH4-14-0750-SM-8-5</b> (957920568)
				900	90	15	30	<b>SH4-14-0900-SM-8-5</b> (957920569)
				1050	105	16	33	<b>SH4-14-1050-SM-8-5</b> (957920570)
				1200	120	18	37	<b>SH4-14-1200-SM-8-5</b> (957920571)
				1350	135	20	41	<b>SH4-14-1350-SM-8-5</b> (957920572)
				1500	150	21	45	<b>SH4-14-1500-SM-8-5</b> (957920573)
				1650	165	23	49	<b>SH4-14-1650-SM-8-5</b> (957920574)
				1800	180	24	52	<b>SH4-14-1800-SM-8-5</b> (957920575)
				1950	195	26	56	<b>SH4-14-1950-SM-8-5</b> (957920576)
				2100	210	27	60	<b>SH4-14-2100-SM-8-5</b> (957920577)
				2250	225	29	64	<b>SH4-14-2250-SM-8-5</b> (957920578)

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)

Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
14 mm	0.2 ... 10 m	advanced	12 poles	300	30	9	14	<b>SH4-14-0300-A-12</b> (957920147)
				450	45	10	18	<b>SH4-14-0450-A-12</b> (957920148)
				600	60	12	22	<b>SH4-14-0600-A-12</b> (957920149)
				750	75	13	26	<b>SH4-14-0750-A-12</b> (957920150)
				900	90	15	30	<b>SH4-14-0900-A-12</b> (957920151)
				1050	105	16	33	<b>SH4-14-1050-A-12</b> (957920152)
				1200	120	18	37	<b>SH4-14-1200-A-12</b> (957920153)
				1350	135	20	41	<b>SH4-14-1350-A-12</b> (957920154)
				1500	150	21	45	<b>SH4-14-1500-A-12</b> (957920155)
				1650	165	23	49	<b>SH4-14-1650-A-12</b> (957920156)
				1800	180	24	52	<b>SH4-14-1800-A-12</b> (957920157)
				1950	195	26	56	<b>SH4-14-1950-A-12</b> (957920158)
				2100	210	27	60	<b>SH4-14-2100-A-12</b> (957920159)
				2250	225	29	64	<b>SH4-14-2250-A-12</b> (957920160)
14 mm	0.2 ... 10 m	advanced	12 and 5 poles	300	30	9	14	<b>SH4-14-0300-A-12-5</b> (957920161)
				450	45	10	18	<b>SH4-14-0450-A-12-5</b> (957920162)
				600	60	12	22	<b>SH4-14-0600-A-12-5</b> (957920163)
				750	75	13	26	<b>SH4-14-0750-A-12-5</b> (957920164)
				900	90	15	30	<b>SH4-14-0900-A-12-5</b> (957920165)
				1050	105	16	33	<b>SH4-14-1050-A-12-5</b> (957920166)
				1200	120	18	37	<b>SH4-14-1200-A-12-5</b> (957920167)
				1350	135	20	41	<b>SH4-14-1350-A-12-5</b> (957920168)
				1500	150	21	45	<b>SH4-14-1500-A-12-5</b> (957920169)
				1650	165	23	49	<b>SH4-14-1650-A-12-5</b> (957920170)
				1800	180	24	52	<b>SH4-14-1800-A-12-5</b> (957920171)
				1950	195	26	56	<b>SH4-14-1950-A-12-5</b> (957920172)
				2100	210	27	60	<b>SH4-14-2100-A-12-5</b> (957920173)
				2250	225	29	64	<b>SH4-14-2250-A-12-5</b> (957920174)

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)

Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
14 mm	0.2 ... 10 m	cascade	5 and 5 poles	300	30	9	14	<b>SH4-14-0300-C-5-5</b> (957920029)
				450	45	10	18	<b>SH4-14-0450-C-5-5</b> (957920030)
				600	60	12	22	<b>SH4-14-0600-C-5-5</b> (957920031)
				750	75	13	26	<b>SH4-14-0750-C-5-5</b> (957920032)
				900	90	15	30	<b>SH4-14-0900-C-5-5</b> (957920033)
				1050	105	16	33	<b>SH4-14-1050-C-5-5</b> (957920034)
				1200	120	18	37	<b>SH4-14-1200-C-5-5</b> (957920035)
				1350	135	20	41	<b>SH4-14-1350-C-5-5</b> (957920036)
				1500	150	21	45	<b>SH4-14-1500-C-5-5</b> (957920037)
				1650	165	23	49	<b>SH4-14-1650-C-5-5</b> (957920038)
				1800	180	24	52	<b>SH4-14-1800-C-5-5</b> (957920039)
				1950	195	26	56	<b>SH4-14-1950-C-5-5</b> (957920040)
				2100	210	27	60	<b>SH4-14-2100-C-5-5</b> (957920041)
2250	225	29	64	<b>SH4-14-2250-C-5-5</b> (957920042)				
30 mm	0.2 ... 20 m	basic	5 poles	300	12	7	10	<b>SH4-30-0300-B-5</b> (957920057)
				450	18	8	12	<b>SH4-30-0450-B-5</b> (957920058)
				600	24	9	13	<b>SH4-30-0600-B-5</b> (957920059)
				750	30	9	15	<b>SH4-30-0750-B-5</b> (957920060)
				900	36	10	17	<b>SH4-30-0900-B-5</b> (957920061)
				1050	42	11	18	<b>SH4-30-1050-B-5</b> (957920062)
				1200	48	12	20	<b>SH4-30-1200-B-5</b> (957920063)
				1350	54	12	22	<b>SH4-30-1350-B-5</b> (957920064)
				1500	60	13	23	<b>SH4-30-1500-B-5</b> (957920065)
				1650	66	14	25	<b>SH4-30-1650-B-5</b> (957920066)
				1800	72	14	27	<b>SH4-30-1800-B-5</b> (957920067)
				1950	78	15	28	<b>SH4-30-1950-B-5</b> (957920068)
				2100	84	16	30	<b>SH4-30-2100-B-5</b> (957920069)
2250	90	17	32	<b>SH4-30-2250-B-5</b> (957920070)				

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)



Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
30 mm	0.2 ... 20 m	standard	8 poles	300	12	7	10	<b>SH4-30-0300-S-8</b> (957920071)
				450	18	8	12	<b>SH4-30-0450-S-8</b> (957920072)
				600	24	9	13	<b>SH4-30-0600-S-8</b> (957920073)
				750	30	9	15	<b>SH4-30-0750-S-8</b> (957920074)
				900	36	10	17	<b>SH4-30-0900-S-8</b> (957920075)
				1050	42	11	18	<b>SH4-30-1050-S-8</b> (957920076)
				1200	48	12	20	<b>SH4-30-1200-S-8</b> (957920077)
				1350	54	12	22	<b>SH4-30-1350-S-8</b> (957920078)
				1500	60	13	23	<b>SH4-30-1500-S-8</b> (957920079)
				1650	66	14	25	<b>SH4-30-1650-S-8</b> (957920080)
				1800	72	14	27	<b>SH4-30-1800-S-8</b> (957920081)
				1950	78	15	28	<b>SH4-30-1950-S-8</b> (957920082)
				2100	84	16	30	<b>SH4-30-2100-S-8</b> (957920083)
				2250	90	17	32	<b>SH4-30-2250-S-8</b> (957920084)
30 mm	0.2 ... 20 m	standard muting	8 poles	300	12	7	10	<b>SH4-30-0300-SM-8</b> (957920099)
				450	18	8	12	<b>SH4-30-0450-SM-8</b> (957920100)
				600	24	9	13	<b>SH4-30-0600-SM-8</b> (957920101)
				750	30	9	15	<b>SH4-30-0750-SM-8</b> (957920102)
				900	36	10	17	<b>SH4-30-0900-SM-8</b> (957920103)
				1050	42	11	18	<b>SH4-30-1050-SM-8</b> (957920104)
				1200	48	12	20	<b>SH4-30-1200-SM-8</b> (957920105)
				1350	54	12	22	<b>SH4-30-1350-SM-8</b> (957920106)
				1500	60	13	23	<b>SH4-30-1500-SM-8</b> (957920107)
				1650	66	14	25	<b>SH4-30-1650-SM-8</b> (957920108)
				1800	72	14	27	<b>SH4-30-1800-SM-8</b> (957920109)
				1950	78	15	28	<b>SH4-30-1950-SM-8</b> (957920110)
				2100	84	16	30	<b>SH4-30-2100-SM-8</b> (957920111)
				2250	90	17	32	<b>SH4-30-2250-SM-8</b> (957920112)

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)



Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
30 mm	0.2 ... 20 m	standard muting	8 and 5 poles	300	12	7	10	<b>SH4-30-0300-SM-8-5</b> (957920085)
				450	18	8	12	<b>SH4-30-0450-SM-8-5</b> (957920086)
				600	24	9	13	<b>SH4-30-0600-SM-8-5</b> (957920087)
				750	30	9	15	<b>SH4-30-0750-SM-8-5</b> (957920088)
				900	36	10	17	<b>SH4-30-0900-SM-8-5</b> (957920089)
				1050	42	11	18	<b>SH4-30-1050-SM-8-5</b> (957920090)
				1200	48	12	20	<b>SH4-30-1200-SM-8-5</b> (957920091)
				1350	54	12	22	<b>SH4-30-1350-SM-8-5</b> (957920092)
				1500	60	13	23	<b>SH4-30-1500-SM-8-5</b> (957920093)
				1650	66	14	25	<b>SH4-30-1650-SM-8-5</b> (957920094)
				1800	72	14	27	<b>SH4-30-1800-SM-8-5</b> (957920095)
				1950	78	15	28	<b>SH4-30-1950-SM-8-5</b> (957920096)
				2100	84	16	30	<b>SH4-30-2100-SM-8-5</b> (957920097)
				2250	90	17	32	<b>SH4-30-2250-SM-8-5</b> (957920098)
30 mm	0.2 ... 20 m	advanced	12 poles	300	12	7	10	<b>SH4-30-0300-A-12</b> (957920189)
				450	18	8	12	<b>SH4-30-0450-A-12</b> (957920190)
				600	24	9	13	<b>SH4-30-0600-A-12</b> (957920191)
				750	30	9	15	<b>SH4-30-0750-A-12</b> (957920192)
				900	36	10	17	<b>SH4-30-0900-A-12</b> (957920193)
				1050	42	11	18	<b>SH4-30-1050-A-12</b> (957920194)
				1200	48	12	20	<b>SH4-30-1200-A-12</b> (957920195)
				1350	54	12	22	<b>SH4-30-1350-A-12</b> (957920196)
				1500	60	13	23	<b>SH4-30-1500-A-12</b> (957920197)
				1650	66	14	25	<b>SH4-30-1650-A-12</b> (957920198)
				1800	72	14	27	<b>SH4-30-1800-A-12</b> (957920199)
				1950	78	15	28	<b>SH4-30-1950-A-12</b> (957920200)
				2100	84	16	30	<b>SH4-30-2100-A-12</b> (957920201)
				2250	90	17	32	<b>SH4-30-2250-A-12</b> (957920202)

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)







Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
30 mm	0.2 ... 20 m	advanced	5 and 12 poles	300	12	7	10	<b>SH4-30-0300-A-12-5</b> (957920203)
				450	18	8	12	<b>SH4-30-0450-A-12-5</b> (957920204)
				600	24	9	13	<b>SH4-30-0600-A-12-5</b> (957920205)
				750	30	9	15	<b>SH4-30-0750-A-12-5</b> (957920206)
				900	36	10	17	<b>SH4-30-0900-A-12-5</b> (957920207)
				1050	42	11	18	<b>SH4-30-1050-A-12-5</b> (957920208)
				1200	48	12	20	<b>SH4-30-1200-A-12-5</b> (957920209)
				1350	54	12	22	<b>SH4-30-1350-A-12-5</b> (957920210)
				1500	60	13	23	<b>SH4-30-1500-A-12-5</b> (957920211)
				1650	66	14	25	<b>SH4-30-1650-A-12-5</b> (957920212)
				1800	72	14	27	<b>SH4-30-1800-A-12-5</b> (957920213)
				1950	78	15	28	<b>SH4-30-1950-A-12-5</b> (957920214)
				2100	84	16	30	<b>SH4-30-2100-A-12-5</b> (957920215)
				2250	90	17	32	<b>SH4-30-2250-A-12-5</b> (957920216)
30 mm	0.2 ... 20 m	cascade	5 and 5 poles	300	12	7	10	<b>SH4-30-0300-C-5-5</b> (957920113)
				450	18	8	12	<b>SH4-30-0450-C-5-5</b> (957920114)
				600	24	9	13	<b>SH4-30-0600-C-5-5</b> (957920115)
				750	30	9	15	<b>SH4-30-0750-C-5-5</b> (957920116)
				900	36	10	17	<b>SH4-30-0900-C-5-5</b> (957920117)
				1050	42	11	18	<b>SH4-30-1050-C-5-5</b> (957920118)
				1200	48	12	20	<b>SH4-30-1200-C-5-5</b> (957920119)
				1350	54	12	22	<b>SH4-30-1350-C-5-5</b> (957920120)
				1500	60	13	23	<b>SH4-30-1500-C-5-5</b> (957920121)
				1650	66	14	25	<b>SH4-30-1650-C-5-5</b> (957920122)
				1800	72	14	27	<b>SH4-30-1800-C-5-5</b> (957920123)
				1950	78	15	28	<b>SH4-30-1950-C-5-5</b> (957920124)
				2100	84	16	30	<b>SH4-30-2100-C-5-5</b> (957920125)
				2250	90	17	32	<b>SH4-30-2250-C-5-5</b> (957920126)

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)

Capability	Range	Functionality	Receiver connector	Protected height (mm)	beams	Response time (ms) with Anti-Interference code disabled	Response time (ms) with Anti-Interference code enabled	Model
body detection	0.5 ... 70 m	basic	5 poles	500	2	12	23	<b>SH4-2-0500-B-5</b> (957920127)
				800	3	15	27	<b>SH4-3-0800-B-5</b> (957920128)
				900	4	15	29	<b>SH4-4-0900-B-5</b> (957920129)
				1200	4	15	29	<b>SH4-4-1200-B-5</b> (957920130)
		standard	8 poles	500	2	12	23	<b>SH4-2-0500-S-8</b> (957920131)
				800	3	15	27	<b>SH4-3-0800-S-8</b> (957920132)
				900	4	15	29	<b>SH4-4-0900-S-8</b> (957920133)
				1200	4	15	29	<b>SH4-4-1200-S-8</b> (957920134)
		standard muting	8 poles	500	2	12	23	<b>SH4-2-0500-SM-8</b> (957920139)
				800	3	15	27	<b>SH4-3-0800-SM-8</b> (957920140)
				900	4	15	29	<b>SH4-4-0900-SM-8</b> (957920141)
				1200	4	15	29	<b>SH4-4-1200-SM-8</b> (957920142)
		standard muting	8 and 5 poles	500	2	12	23	<b>SH4-2-0500-SM-8-5</b> (957920135)
				800	3	15	27	<b>SH4-3-0800-SM-8-5</b> (957920136)
				900	4	15	29	<b>SH4-4-0900-SM-8-5</b> (957920137)
				1200	4	15	29	<b>SH4-4-1200-SM-8-5</b> (957920138)
		advanced	12 and 5 poles	500	2	12	23	<b>SH4-2-0500-A-12-5</b> (957920231)
				800	3	15	27	<b>SH4-3-0800-A-12-5</b> (957920232)
				900	4	15	29	<b>SH4-4-0900-A-12-5</b> (957920233)
				1200	4	15	29	<b>SH4-4-1200-A-12-5</b> (957920234)

For units in cascade, the overall response time is given by this formula. 2 units: (sum of units response time + 1 ms); 3 units: (sum of units response time - 1 ms)

## CONNECTION DIAGRAMS (RECEIVER MAIN CONNECTOR)

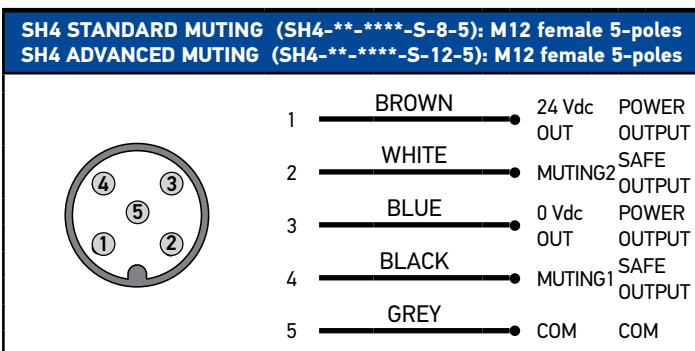
SH4 BASE (SH4-**-****-B-xx-5): M12 male 5-poles		SH4 STANDARD (SH4-**-****-S-8): M12 male 8-poles	
	<p>1 — BROWN — 24 Vdc — POWER</p> <p>2 — WHITE — 0 Vdc — SAFE OUTPUT</p> <p>3 — BLUE — COM — POWER</p> <p>4 — BLACK — OSSD2 — SAFE OUTPUT</p> <p>5 — GREY — COM — COM</p>		<p>1 — WHITE — RESTART/RESET — INPUT</p> <p>2 — BROWN — 24Vdc — POWER</p> <p>3 — GREEN — EDM / SELECTION — INPUT</p> <p>4 — YELLOW — EDM — INPUT</p> <p>5 — GREY — OSSD1 — SAFE OUTPUT</p> <p>6 — PINK — OSSD2 — SAFE OUTPUT</p> <p>7 — BLUE — 0 Vdc — POWER</p> <p>8 — RED — MAN/AUTO SELECTION — INPUT</p>
SH4 STANDARD MUTING (SH4-**-****-SM-8): M12 male 8-poles		SH4 STANDARD MUTING (SH4-**-****-S-8-5): M12 male 8-poles	
	<p>1 — WHITE — RESTART/RESET/EDM/OVERRIDE — INPUT</p> <p>2 — BROWN — 24Vdc — POWER</p> <p>3 — GREEN — MUTING1 — INPUT</p> <p>4 — YELLOW — MUTING2 — INPUT</p> <p>5 — GREY — OSSD1 — SAFE OUTPUT</p> <p>6 — PINK — OSSD2 — SAFE OUTPUT</p> <p>7 — BLUE — 0 Vdc — POWER</p> <p>8 — RED — MUTING LAMP — OUTPUT</p>		<p>1 — WHITE — RESTART/RESET — INPUT</p> <p>2 — BROWN — 24Vdc — POWER</p> <p>3 — GREEN — EDM / SELECTION — INPUT</p> <p>4 — YELLOW — EDM — INPUT</p> <p>5 — GREY — OSSD1 — SAFE OUTPUT</p> <p>6 — PINK — OSSD2 — SAFE OUTPUT</p> <p>7 — BLUE — 0 Vdc — POWER</p> <p>8 — RED — OVVERRIDE 2 — INPUT</p>
SH4 ADVANCED (SH4-**-****-A-12): M12 male 12-poles		SH4 ADVANCED (SH4-**-****-A-12-5): M12 male 12-poles	
	<p>1 — BROWN — 24 Vdc — POWER</p> <p>2 — BLUE — 0 Vdc — POWER</p> <p>3 — WHITE — CONFIGURABLE INPUT — INPUT</p> <p>4 — GREEN — CONFIGURABLE INPUT — INPUT</p> <p>5 — PINK — OSSD2 — SAFE OUTPUT</p> <p>6 — YELLOW — CONFIGURABLE INPUT — INPUT</p> <p>7 — BLACK — CONFIGURABLE INPUT/OUTPUT — INPUT/OUTPUT</p> <p>8 — GREY — OSSD1 — SAFE OUTPUT</p> <p>9 — RED — CONFIGURABLE INPUT — INPUT</p> <p>10 — VIOLET — CONFIGURABLE INPUT/OUTPUT — INPUT/OUTPUT</p> <p>11 — GREY/PINK — OVVERRIDE 2 — OUTPUT</p> <p>12 — RED/BLUE — CONFIGURABLE INPUT — INPUT</p>		<p>1 — BROWN — 24 Vdc — POWER</p> <p>2 — BLUE — 0 Vdc — POWER</p> <p>3 — WHITE — CONFIGURABLE INPUT — INPUT</p> <p>4 — GREEN — CONFIGURABLE INPUT — INPUT</p> <p>5 — PINK — OSSD2 — SAFE OUTPUT</p> <p>6 — YELLOW — CONFIGURABLE INPUT — INPUT</p> <p>7 — BLACK — CONFIGURABLE INPUT — INPUT</p> <p>8 — GREY — OSSD1 — SAFE OUTPUT</p> <p>9 — RED — OVVERRIDE 2 — INPUT</p> <p>10 — VIOLET — CONFIGURABLE INPUT/OUTPUT — INPUT/OUTPUT</p> <p>11 — GREY/PINK — CONFIGURABLE INPUT/OUTPUT — INPUT/OUTPUT</p> <p>12 — RED/BLUE — N/A</p>

**NOTES:**

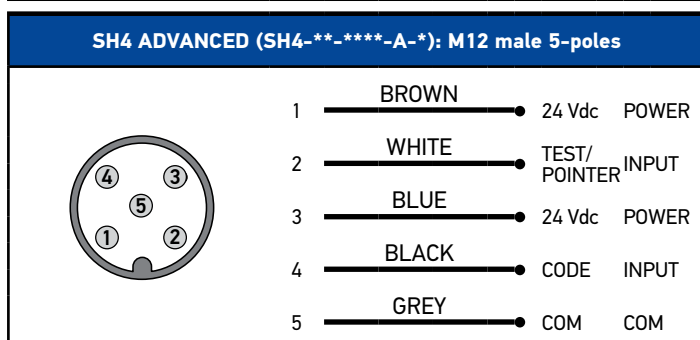
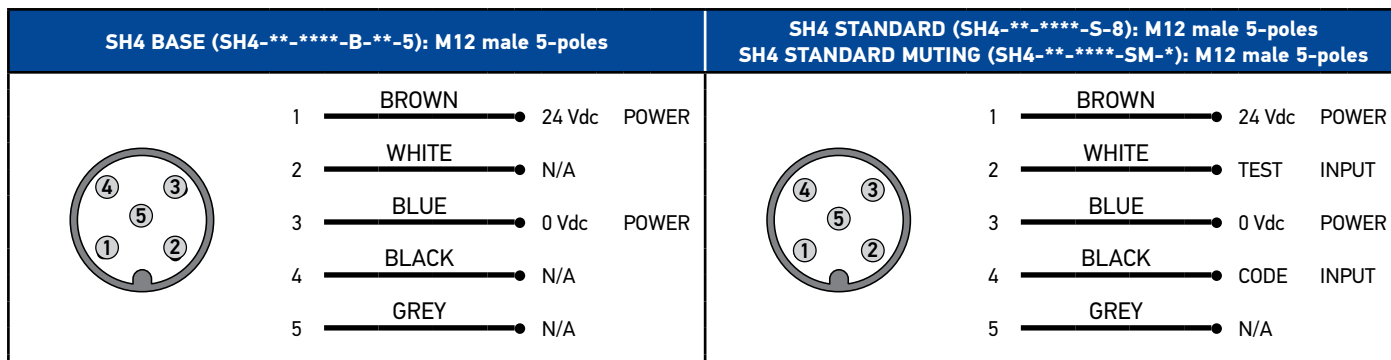
Inputs and Outputs of SH4 ADVANCED can be reconfigured with DATASENSING SH4 DESIGNER APP between the following:

INPUTS				OUTPUTS
• Reset	• EDM	• Muting3	• Override1	• Lamp
• Restart	• Muting1	• Muting4	• Teach in	• Override status
• Align	• Muting2	• Muting Enable	• Beam Tolerance	

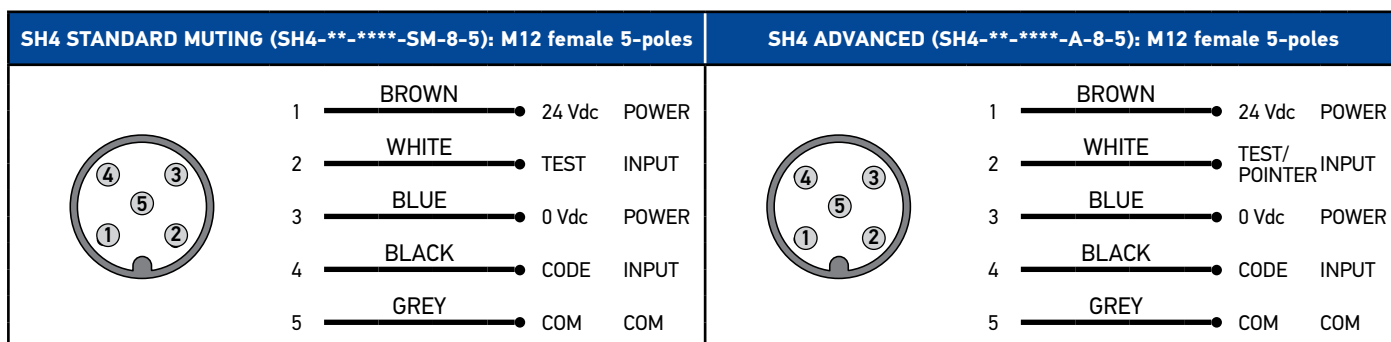
## CONNECTION DIAGRAMS (RECEIVER SECONDARY CONNECTOR)



## CONNECTION DIAGRAMS (TRANSMITTER MAIN CONNECTOR)



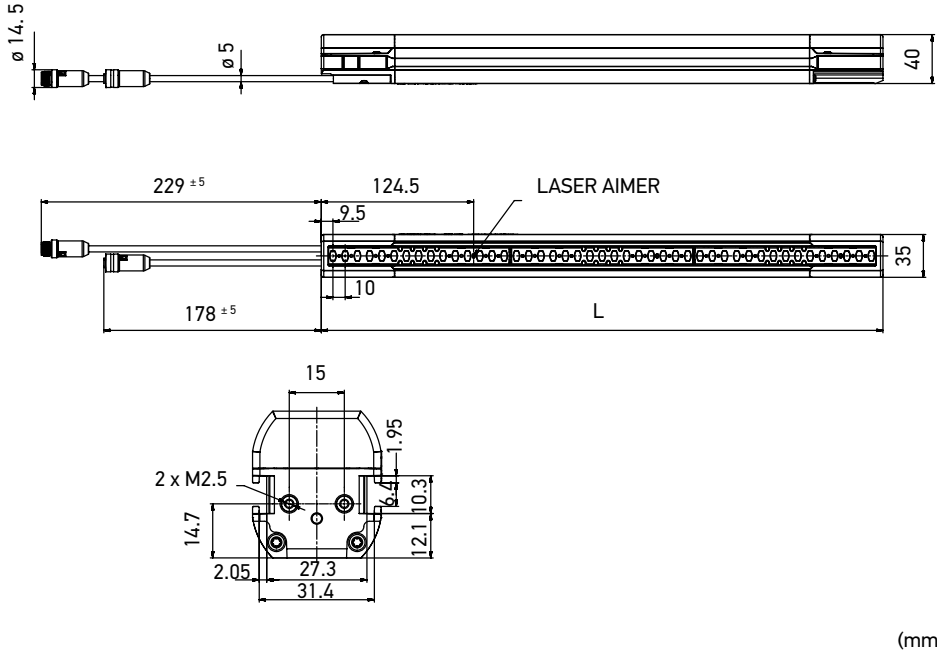
## CONNECTION DIAGRAMS (TRANSMITTER SECONDARY CONNECTOR)



NOTE: PIN2 on transmitter main connector of body resolution models (SH4-2/3/4-\*-\*\*) can be used for selection of short or long range.

## DIMENSIONS (FINGER)

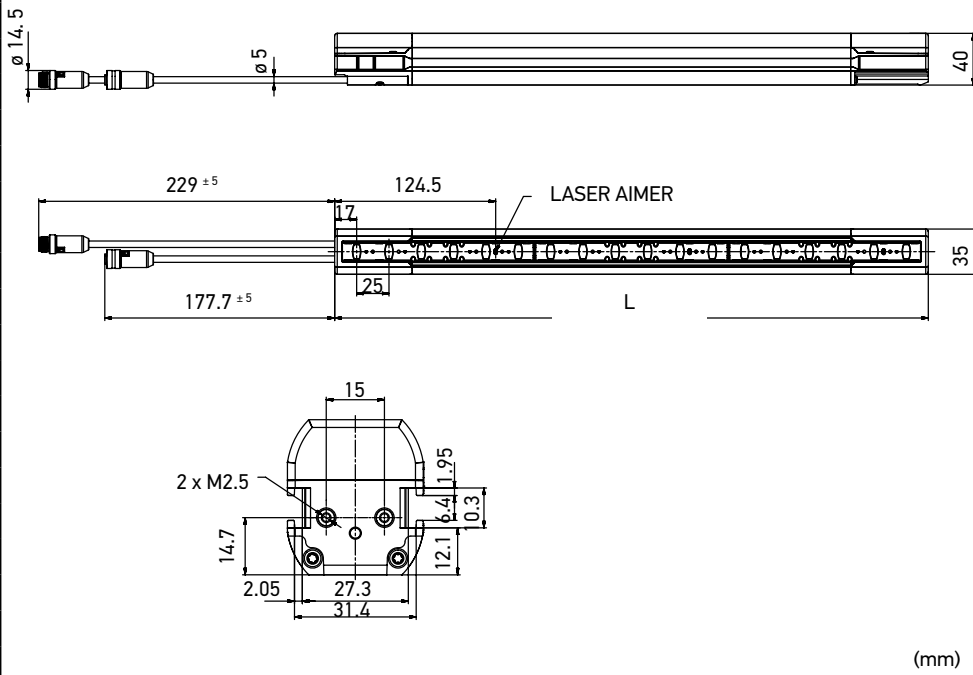
SH4-14-\*\*\*-\*\*-\*\*



Model	L (mm)
SH4-14-0300-**-**	309
SH4-14-0450-**-**	459
SH4-14-0600-**-**	609
SH4-14-0750-**-**	759
SH4-14-0900-**-**	909
SH4-14-1050-**-**	1059
SH4-14-1200-**-**	1209
SH4-14-1300-**-**	1359
SH4-14-1500-**-**	1509
SH4-14-1650-**-**	1659
SH4-14-1800-**-**	1809
SH4-14-1950-**-**	1959
SH4-14-2100-**-**	2109
SH4-14-2250-**-**	2259
SH4-14-2400-**-**	2409
SH4-14-2550-**-**	2559
SH4-14-2700-**-**	2709
SH4-14-2850-**-**	2859
SH4-14-3000-**-**	3009

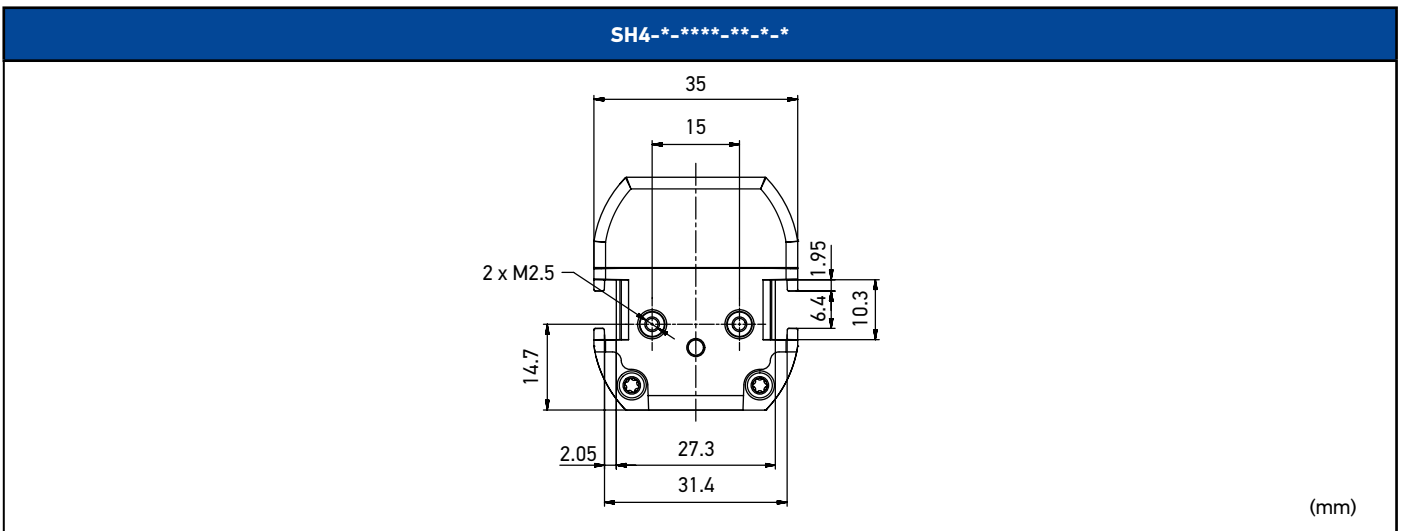
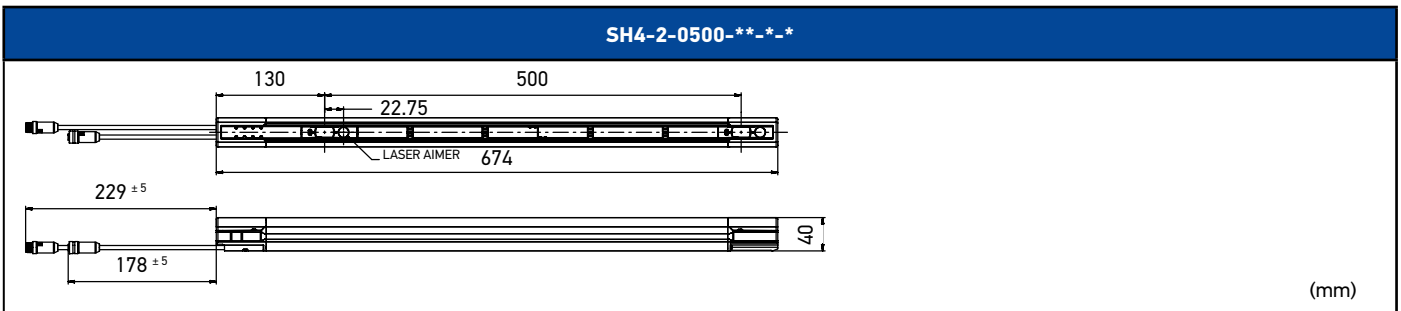
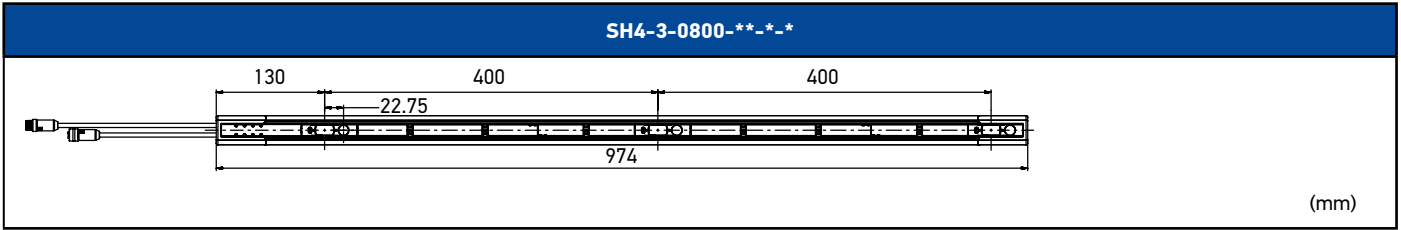
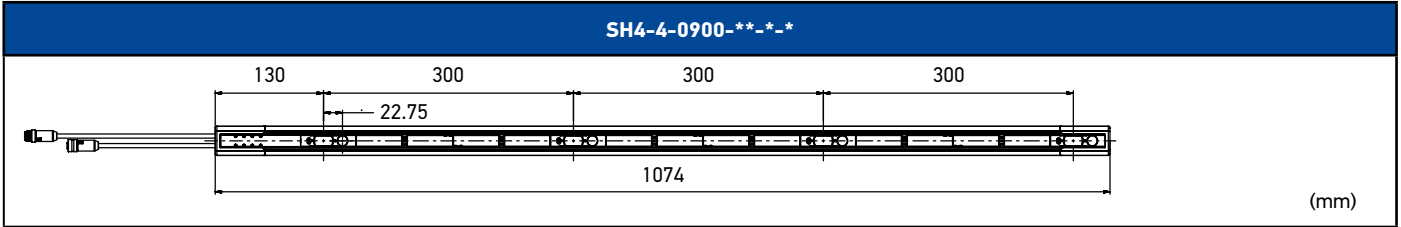
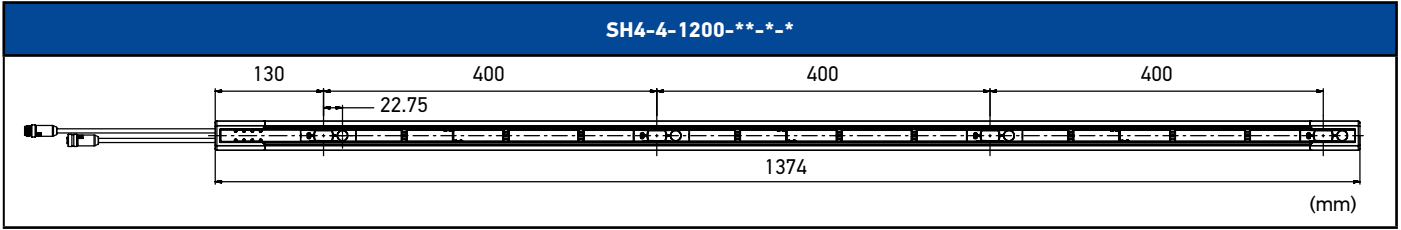
## DIMENSIONS (HAND)

SH30-30-\*\*\*-\*\*-\*\*



Model	L (mm)
SH4-30-0300-**-**	309
SH4-30-0450-**-**	459
SH4-30-0600-**-**	609
SH4-30-0750-**-**	759
SH4-30-0900-**-**	909
SH4-30-1050-**-**	1059
SH4-30-1200-**-**	1209
SH4-30-1300-**-**	1359
SH4-30-1500-**-**	1509
SH4-30-1650-**-**	1659
SH4-30-1800-**-**	1809
SH4-30-1950-**-**	1959
SH4-30-2100-**-**	2109
SH4-30-2250-**-**	2259
SH4-30-2400-**-**	2409
SH4-30-2550-**-**	2559
SH4-30-2700-**-**	2709
SH4-30-2850-**-**	2859
SH4-30-3000-**-**	3009

# DIMENSIONS (BODY)





## ACCESSORIES: BRACKETS

ST-K4ROT-SH			
	Model	Order nr.	Compatibility
<p>(mm)</p>	Metal top-bottom rotating fixing brackets kit (4 brackets) for SH4	95ASE0042	SH4

ST-KSTD				
	Model	Order nr.	Compatibility	Notes
<p>(mm)</p>	Metal angled fixing brackets kit (4 brackets) for SH4	95ACC1670	SH4, SG2/SG4, SG BODY COMPACT, SG BODY BIG	The angled fixing bracket is included in the package of SH4 but it can be ordered separately for substitutions

## ACCESSORIES: TRANSMITTER AND RECEIVER CABLES

SH4 BASE (SH4-**-***-B-**-*)		
Receiver main connector	Length (m)	Order code
CS-A1-03-U-03	3	95ASE1170
CS-A1-03-U-05	5	95ASE1180
CS-A1-03-U-10	10	95ASE1190
CS-A1-03-U-15	15	95ASE1200
CS-A1-03-U-25	25	95ASE1210
CS-A1-03-U-50	50	95A252700
SH4 STANDARD (SH4-**-***-S/SM-**-*)		
Receiver main connector	Length (m)	Order code
CS-A1-06-U-03	3	95ASE1220
CS-A1-06-U-05	5	95ASE1230
CS-A1-06-U-10	10	95ASE1240
CS-A1-06-U-15	15	95ASE1250
CS-A1-06-U-25	25	95ASE1260
CS-A1-06-U-50	50	95A252710
SH4 ADVANCED (SH4-**-***-A-**-*)		
Receiver main connector	Length (m)	Order code
CS-A1-10-U-03	3	95A252720
CS-A1-10-U-05	5	95A252730
CS-A1-10-U-10	10	95A252740
CS-A1-10-U-15	15	95A252750
CS-A1-10-U-25	25	95A252760
CS-A1-10-U-50	50	95A252770
SH4 all models		
Transmitter main connector	Length (m)	Order code
CS-A1-03-U-03	3	95ASE1170
CS-A1-03-U-05	5	95ASE1180
CS-A1-03-U-10	10	95ASE1190
CS-A1-03-U-15	15	95ASE1200
CS-A1-03-U-25	25	95ASE1210
CS-A1-03-U-50	50	95A252700
SH4 all Muting models (SH4-**-***-SM/A-*-5)		
Receiver/Transmitter secondary connector	Length (m)	Order code
CD12M/0B-050B1	5	CD12M/0B-050B1
CD12M/0B-100B1	10	CD12M/0B-100B1

## ACCESSORIES: CASCADE CABLES

CS-H2-03-B-**-*		
Model	Length (m)	Order code
CS-H2-03-B-01	1 m	95ASE0031
CS-H2-03-B-03	3 m	95ASE0032
CS-H2-03-B-10	10 m	95ASE0033

Cascade cables have 5 poles, M12 male connector on one side, and M12 female connector on the opposite side. They can be used to cascade SH4 safety light curtains (refer to manual for technical details)

## ACCESSORIES: PLUGS

The following are spare parts that can be ordered in substitution of the parts included in SH4 family safety light curtains.

SH-PLUG-**-*			
(mm)			
Model	Main connector	Secondary connector	Order code
SH-PLUG-5	5-pin M12 male	none	95ASE0047
SH-PLUG-8	8-pin M12 male	none	95ASE0048
SH-PLUG-12	12-pin M12 male	none	95ASE0049
SH-PLUG-5-5	5-pin M12 male	5-pin M12 female	95ASE0050
SH-PLUG-8-5	8-pin M12 male	5-pin M12 female	95ASE0051
SH-PLUG-12-5	12-pin M12 male	5-pin M12 female	95ASE0052

## ACCESSORIES: SH-TARGET

SH-TARGET			
Model	Description	Order code	
SH-TARGET	Retroreflector target for SH4 BODY alignment	95ASE0046	

## ACCESSORIES: M12 MALE-MALE ADAPTER

SH-MMA			
Model	Description	Order code	Notes
SH-MMA	M12 Male-Male Adapter	95ASE0044	SH-MMA can be used to convert the SH4 secondary connector (M12 female) in a M12 male, in order to reuse SG muting accessories and cables. It is not needed when using muting accessories designed for SH4.

## ACCESSORIES: LASER POINTER

SH-LP			
Model	Description	Order code	Notes
SH-LP	Laser pointer class 2	95ASE0030	SH-LP is a laser pointer with a plastic bracket that can be quickly connected to the profile of SH4 safety light curtains in order to ease the alignment of transmitter and receiver.

(mm)

## ACCESSORIES: CABLES FOR MUTING

CV-**-02-B-007			
Model	Description	Order code	Order code
CV-Y4-02-B-007	M12 4-poles T muting cable for SH4	95ASE0037	
CV-L2-02-B-007	M12 4-poles L muting cable for SH4	95ASE0038	

(mm)

## ACCESSORIES: SH MUTING CONNECTION BOX

SH-M-CB			
Model	Description	Order code	Order code
SH-M-CB	SH Muting connection box	95ASE0039	

(mm)

# SH4

TYPE 4  
SAFETY LIGHT  
CURTAINS

