

PROGRAMMABLE SAFETY LIGHT CURTAIN

SAFEREADY

This technical sheet is intended to provide detailed technical specifications of the SafeReady safety barrier system.



SAFETY SPECIFICATIONS

Safety level	Type 4	EN IEC 61496-1: 2020 EN IEC 61496-2: 2020
	SIL 3	IEC 61508-1: 2010 IEC 61508-2: 2010 IEC 61508-3: 2010 IEC 61508-4: 2010
	Maximum SIL 3	IEC 62061: 2021
	PL e - Category 4	EN ISO 13849-1: 2015
HFT	1	EN ISO 13849-1: 2015
Mission time	20 years	IEC 62061: 2021
FCC	FCC CFR 47 Part 15C	

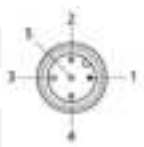
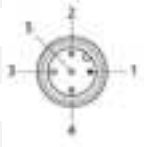
TECHNICAL SPECIFICATIONS

Protected height	mm	150...2250	
Resolutions	mm	14, 20, 30, 40, 50, 90	
Working range (selectable)	m	14mm models	0...3 (low) / 0...8 (high)
		20mm, 30mm, 40mm, 50mm, 90mm	0...5 (low) / 0...18 (high)
Power supply		24 VDC +/-20%	
Max. consumption	W	1 (Emitter)	3 (Receiver)
Safety outputs (n° / type)		2 PNP / 400mA@24VDC	
Safety outputs max capacitance		700 nF	
EDM		Feedback input for external relay control	
Programmable inputs		4	
Response time	ms	Beams without coding:	4...27
		Beams with coding:	10...40
Connections		Basic model:	M12 5 pin connectors
		Standard/Plus model:	M12 (5/8 pin) connectors
Max. length of connections	m	100	
Section dimensions	mm	28 x 33	
Bluetooth®		Low energy (LE), V5.2 (compatible 4.2 or later)	
Bluetooth® connection		Bluetooth® with Reer App mobile and PC, range <15 m	

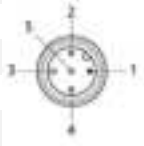
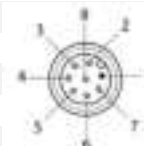
ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-30 °C ...+55 °C		
Storage temperature	-30 °C ...+70 °C		
Humidity	50% @70°C / 90% @20°C		
Altitude	2000 m		
Protection rating	IP 65 / IP 67		
Shock resistance	25 g (Class 3M7) (ref. DIN EN 60068-2-27: 2012)		
Vibration resistance	10 mm / 3g (5...150 Hz) (Class 3M7) (ref. EN 60068-2-6: 2009)		

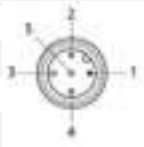
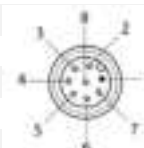
Connections Basic model

Emitter	Number	Color	Signal	Type	Description	Electrical Level
	1	Brown	24VDC	IN	24VDC power supply	19,2VDC... 28,8VDC
	2	White	RANGE 0	IN	Beam power selection	Digital input
	3	Blue	0VDC	IN	0VDC power supply	0VDC
	4	Black	RANGE 1	IN	Beam power selection	Digital input
	5	Grey	CODE	IN	Beam coding selection	Digital input
Receiver	Number	Color	Signal	Type	Description	Electrical Level
	1	Brown	24VDC	IN	24VDC power supply	19,2VDC... 28,8VDC
	2	White	OSSD 1	OUT	Safety output OSSD 1	PNP active high
	3	Blue	0VDC	IN	0VDC power supply	0VDC
	4	Black	OSSD 2	OUT	Safety output OSSD 2	PNP active high
	5	Grey	CODE	IN	Beam coding selection	Digital input

Connections Standard model

Emitter	Number	Color	Signal	Type	Description	Electrical Level
	1	Brown	24VDC	IN	24VDC power supply	19,2VDC... 28,8VDC
	2	White	RANGE 0	IN	Beam power selection	Digital input
	3	Blue	0VDC	IN	0VDC power supply	0VDC
	4	Black	RANGE 1	IN	Beam power selection	Digital input
	5	Grey	CODE	IN	Beam coding selection	Digital input
Receiver	Number	Color	Signal	Type	Description	Electrical Level
	1	White	OSSD 1	OUT	Safety output OSSD 1	PNP active high
	2	Brown	24VDC	IN	24VDC power supply	19,2VDC... 28,8VDC
	3	Green	OSSD 2	OUT	Safety output OSSD 2	PNP active high
	4	Yellow	EDM IN	IN	External K1/K2 input	Digital input
	5	Grey	FUNC 1	IN	Programmable Function	Digital input
	6	Pink	FUNC 2	IN	Programmable Function	Digital input
	7	Blue	0VDC	IN	0VDC power supply	0VDC
	8	Red	RESTART IN	IN	Restart input	Digital input

Connections Plus model

Emitter	Number	Color	Signal	Type	Description	Electrical Level
	1	Brown	24VDC	IN	24VDC power supply	19,2VDC... 28,8VDC
	2	White	RANGE 0	IN	Beam power selection	Digital input
	3	Blue	0VDC	IN	0VDC power supply	0VDC
	4	Black	RANGE 1	IN	Beam power selection	Digital input
	5	Grey	CODE	IN	Beam coding selection	Digital input
Receiver	Number	Color	Signal	Type	Description	Electrical Level
	1	White	OSSD 1	OUT	Safety output OSSD 1	PNP active high
	2	Brown	24VDC	IN	24VDC power supply	19,2VDC... 28,8VDC
	3	Green	OSSD 2	OUT	Safety output OSSD 2	PNP active high
	4	Yellow	PROG 1	IN	Programmable Function	Digital input
	5	Grey	PROG 2	IN	Programmable Function	Digital input
	6	Pink	PROG 3	IN	Programmable Function	Digital input
	7	Blue	0VDC	IN	0VDC power supply	0VDC
	8	Red	PROG 4	IN	Programmable Function	Digital input

List of Models

14mm Resolution Models	151	301	451	601	751	901	1051	1201	1351	1501	1651	1801	
Number of beams	15	30	45	60	75	90	105	120	135	150	165	180	
Response time	ms												
Protected height	mm	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800
Total barrier height	mm	164	314	464	614	764	914	1064	1214	1364	1514	1664	1814

20mm Resolution Models	152	302	452	602	752	902	1052	1202	1352	1502	1652	1802	
Number of beams	15	30	45	60	75	90	105	120	135	150	165	180	
Response time	ms												
Protected height	mm	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800
Total barrier height	mm	185	335	485	635	785	935	1085	1235	1385	1535	1685	1835

30mm Resolution Models	153	303	453	603	753	903	1053	1203	1353	1503	1653	1803	1953	2103	
Number of beams	8	16	24	32	40	48	56	64	72	80	88	96	104	112	
Response time	ms														
Total barrier height	mm	185	335	485	635	785	935	1085	1235	1385	1535	1685	1835	1985	2135

40mm Resolution Models	154	304	454	604	754	904	1054	1204	1354	1504	1654	1804	1954	2104	2254
Number of beams	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
Response time															
Protected height	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250
Total barrier height	185	335	485	635	785	935	1085	1235	1385	1535	1685	1835	1985	2135	2285

50mm Resolution Models	155	305	455	605	755	905	1055	1205	1355	1505	1655	1805	1955	2105	2255
Number of beams	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Response time															
Protected height	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250
Total barrier height	185	335	485	635	785	935	1085	1235	1385	1535	1685	1835	1985	2135	2285

90mm Resolution Models	309	459	609	759	909	1059	1209	1359	1509	1659	1809	1955	2105	2255
Number of beams	4	6	8	10	12	14	16	18	20	22	24	26	28	30
Response time	ms													
Protected height	mm300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250
Total barrier height	mm325	475	625	775	925	1075	1225	1375	1525	1675	1825	1975	2125	2275

LED SIGNALS

LED	COLOR	MEANING
TOP CAP	RED ●	Light curtain occupied, outputs disabled
	GREEN ●	Light curtain free, outputs enabled
	BLUE ●	Light curtain connected via BT *
	YELLOW ●	- Light curtain free, outputs disabled, awaiting restart - Alignment procedure
ALIGN 1	YELLOW ●	The four LEDS must be ON to reach a perfect alignment
ALIGN 2	YELLOW ●	
ALIGN 3	YELLOW ●	
ALIGN 4	YELLOW ●	
CLEAR	YELLOW ●	Light curtain free, outputs disabled, awaiting restart
BLANKING	YELLOW ●	Blanking/Muting function enabled *
BREAK GUARD	RED ●	Light curtain occupied, outputs disabled
	GREEN ●	Light curtain free, outputs enabled
BLUETOOTH BEAMS CODE	BLUE ●	Light curtain connected via BT *
	YELLOW ●	OFF=code A / ON=code B

* Plus models only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirements; the device can be used in portable exposure conditions without restriction.