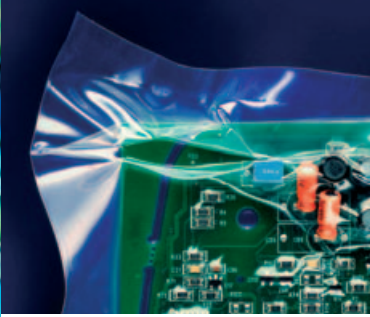


## Light grids



### Light grids

- Through-beam (ELG/MLG) and reflection systems (WLG)
- Two-dimensional detection range
- Recording and counting irregular objects
- Measuring and sorting different heights
- Presence and protrusion monitoring
- Sag monitoring for web-shaped materials
- Teach-in function (MLG/WLG)
- Software-supported user-friendly parameterization and user guidance via application wizards (MLGsetup)



## Contents

### Light grids

ELG	page 1168
MLG	page 1180
Pick2Light	page 1196
WLG 12	page 1200

Light grids →



Through beam  
light grid

# The new dimensions in efficiency and flexibility: Light grid ELG and MLG



The automation light grid MLG is as variable as you require it to be. It has a host of possibilities with regard to size, resolution, configuration and interfaces. The electronics are completely integrated in the compact housing. Height measurement, zone division and monitoring, object recognition, hole and crack detection, slack control and free-passage control are all tasks suitable for the MLG. In addition, the multiple scan function makes it possible to detect not just large objects, but also small ones down to 10 mm.

**F**or monitoring of excess level on pallets, for automatic doors or gates or for reliable counting in a picking station, a single-beam sensor for object detection is frequently inadequate. In such applications the ELG light grid with its parallel beams is the reliable, economic and installation-friendly solution.

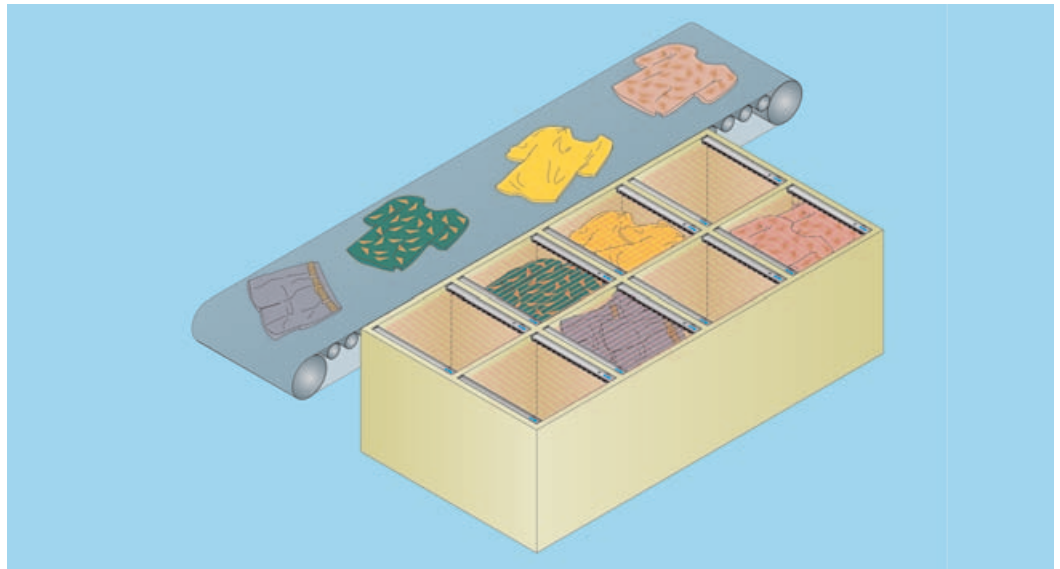
#### Advantages for you:

- Large selection of monitoring heights, beam spacing and scanning ranges etc.,
- cost-effective and fast integration into the system,
- simple commissioning.

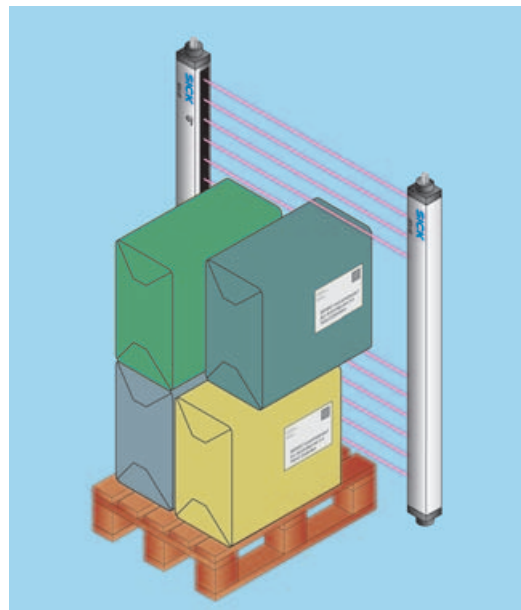
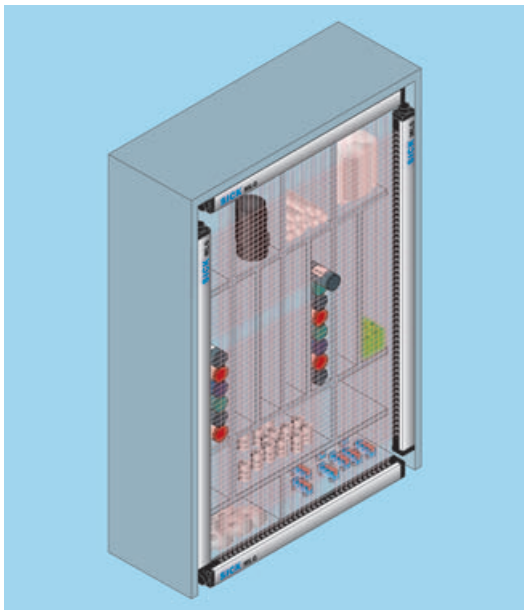
Inputs and outputs as well as the data interface offer a wide range of possible interface combinations. If important parameters, such as the size of the objects to be detected, are unknown or variable, the user-friendly software MLG-setup offers a number of parametering suggestions.

An application assistant helps in setting up the most common applications.

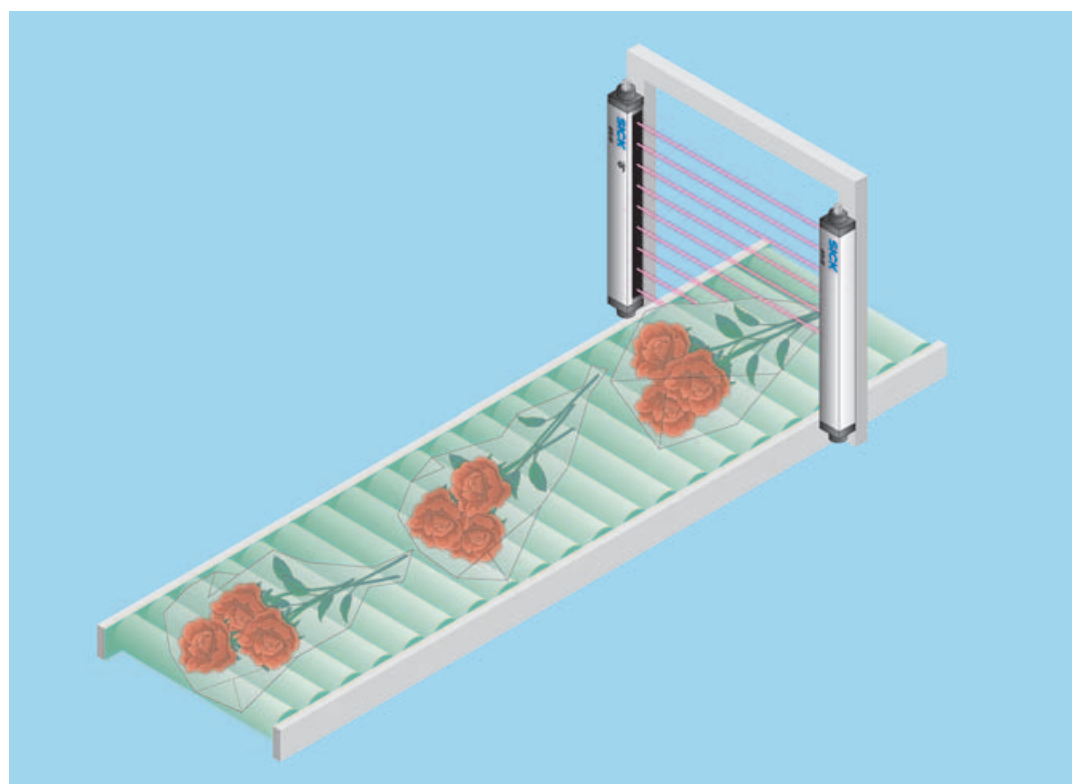
► If the counter is to work reliably, object detection in automatic sorting systems must leave no gaps. Light grids detect even small objects passing.




▼ Access controls with a combination of two light grids. Zone divisions can be easily implemented.



◀ Correctly packed or not? Automatic storage and transport systems function smoothly, if the overhang control detects problem cases in time.



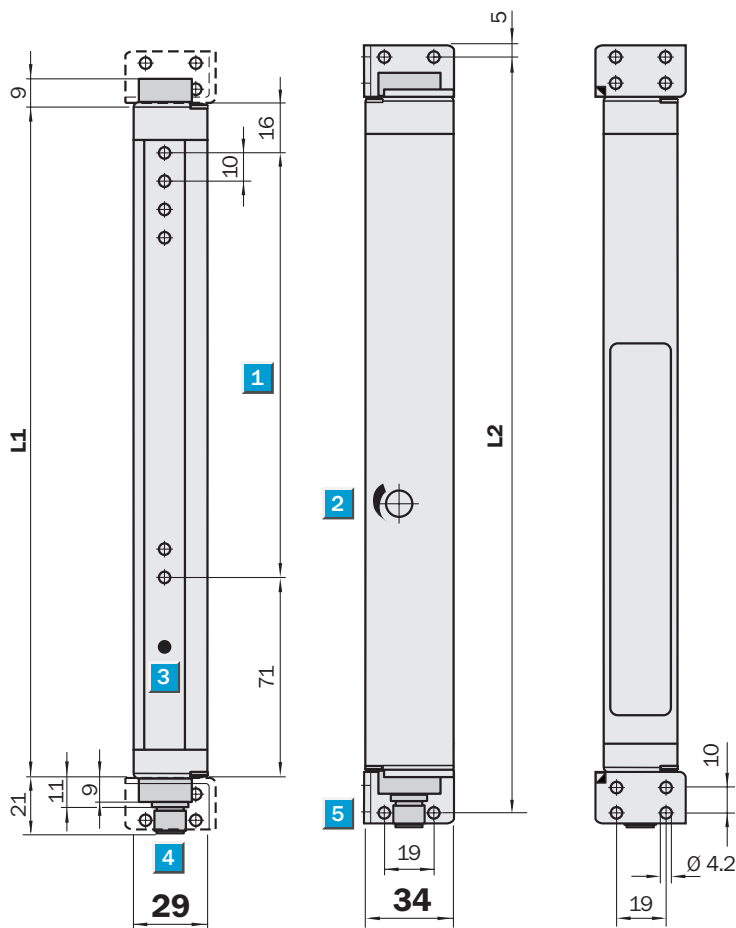
► If irregular objects become the norm, light grids are the first choice for error-free detection.


**3 m range**  
 Through beam light grid

- Beam spacing 10 mm
- Industrial standard outputs
- Optical synchronization
- Compact housing
- Mounting bracket included with delivery



## Dimensional drawing



- 1** Detection height: 100/150 mm
- 2** Sensitivity adjustment
- 3** Status indicator (ELGE)/Power ON (ELGS)
- 4** M12 plug, 4-pin
- 5** Mounting bracket (included with delivery)

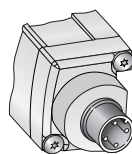
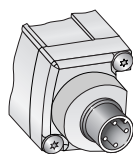
Dimensions „L“ (mm)

1	L1	L2
100 mm	187	217
150 mm	237	267

## Connection type

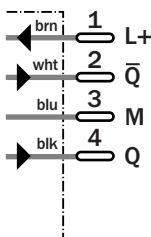
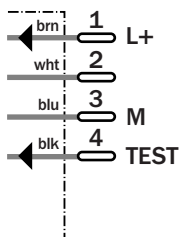
ELGS1-xxxD53x

ELGE1-xxxP53x



Sender  
M12, 4-pin

Receiver  
M12, 4-pin



## See chapter Accessories

Cables and connectors

Mounting systems

Technical data		ELG1-	0100 P531	0150 P531	0100 P533	0150 P533	0150 P571					
<b>Beam spacing</b>	10 mm											
<b>Detection height</b>	100 mm											
	150 mm											
<b>Number of beams</b>	11											
	16											
<b>Range</b>	0 ... 3 m											
	0 ... 5 m											
<b>Multiple scan (3 x)</b>	See optical performance											
<b>Synchronization</b>	Optical synchronization											
Light source	LED, infrared											
<b>Voltage supply <math>V_S</math> 1)</b>	15 ... 30 V DC											
Residual ripple	< 10 % within $V_S$ tolerance											
Current consumption Sender	< 100 mA											
Current consumption Receiver 2)	< 100 mA											
<b>Connection</b>	M12 plug, 4-pin											
<b>Switch output</b>	2 x PNP output 3): $\bar{Q}$ and Q											
<b>Operating mode</b>	Q dark-switching, $\bar{Q}$ light-switching											
Output current $I_A$ max.	100 mA											
Output load	Capacitive load: 100 nF											
	Inductive load: 1H											
<b>Test input »TE«</b>	Sender OFF: Test input to $V_S$											
<b>Response time 4)</b>	Max. 12 ms											
	Max. 24 ms											
	Max. 36 ms											
Initialisation duration after Power ON	Max. 300 ms											
<b>High immunity to ambient light</b>	150.000 lx (sunlight)											
<b>VDE protection class</b>	III											
<b>Circuit protection 5)</b>	A, B, C											
<b>Enclosure rating 6)</b>	IP 65											
<b>Ambient temperature <math>T_A</math></b>	Operation -25 ... +55 °C											
	Storage -40 ... +70 °C											
<b>Mechanical resistance</b>	Vibration: 5 g/10-55 Hz – IEC 68-2-6											
	Shock: 10 g/16 ms – IEC 68-2-29											
<b>Weight</b>	Approx. 350 g											
<b>Material</b>	Housing											
	Front lens											

1) Limit values  
 2) Without load at  $V_S = 24 V$   
 3) NPN on demand  
 4) With resistive load


5) A =  $V_S$ -connections reverse-polarity protected  
 B = Outputs Q and  $\bar{Q}$  short-circuit protected  
 C = Interference pulse suppression

6) For outdoor use only with additional protection

Optical performance				Order information	
Beam spacing	Detection height	MDO: minimum detectable object 7)		Type	Order no.
		in front of ELGS or ELGE	at mid-point between ELGS and ELGE		
10 mm	100/150 mm	15 mm	15 mm 8)	ELG1-0100P531	1026807
				ELG1-0150P531	1026741
				ELG1-0100P533	1026808
				ELG1-0150P533	1026809
				ELG1-0150P571	1028333

7) MDO: minimum detectable object for non-moving objects, measured in a direction parallel to ELG

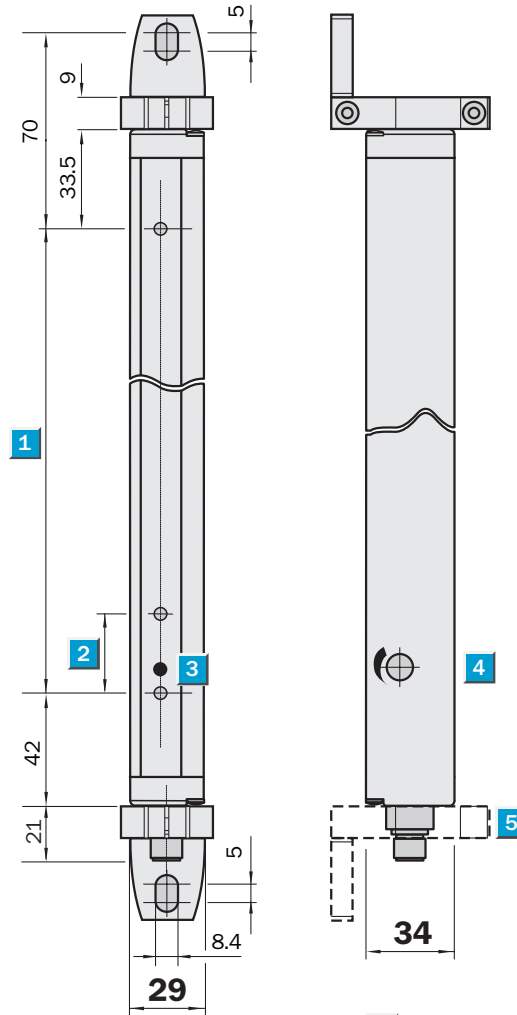
8) At mid-point between ELGS and ELGE with multiple scan


**2 m range**  
 Through beam light grid

- Beam spacing 30 mm
- Industrial standard outputs
- Optical synchronization
- Compact housing
- Sensitivity adjustment



## Dimensional drawing

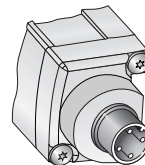
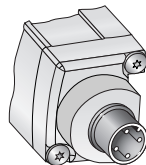


- 1 Detection height (see next page)
- 2 Beam spacing ELG3: 30 mm
- 3 Status indicator (ELGE)/Power ON (ELGS)
- 4 Sensitivity adjustment
- 5 M12 plugs, 4-pin

## Connection type

ELGS3-xxxD51x

ELGE3-xxxP51x

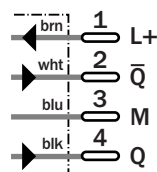
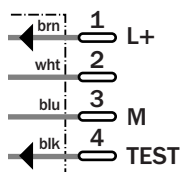


Sender

M12, 4-pin

Receiver

M12, 4-pin



## See chapter Accessories

Cables and connectors  
 Mounting systems

Technical data		ELG3-	0090	0150	0210	0330	0210	0330	0450	0570	0690	0930
<b>Beam spacing</b>	30 mm											
<b>Detection height</b>	See selection table page 1178											
<b>Number of beams</b>	See selection table page 1178											
<b>Range</b>	0 ... 2 m											
<b>Multiple scan</b>	3 x (reduced MDO)											
<b>Synchronization</b>	Optical synchronization											
Light source	LED, infrared											
<b>Voltage supply <math>V_S</math> 1)</b>	15 ... 30 V DC											
Residual ripple	< 10 % within $V_S$ tolerance											
Current consumption Sender	< 100 mA											
Current consumption Receiver 2)	< 100 mA											
<b>Connection</b>	M12 plug, 4-pin											
<b>Switch output</b>	2 x PNP output 3): $\bar{Q}$ and Q											
<b>Operating mode</b>	Q dark-switching, $\bar{Q}$ light-switching											
Output current $I_A$ max.	100 mA											
Output load	Capacitive load: 100 nF Inductive load: 1H											
<b>Response time 4)</b>	Max. 100 ms											
Initialisation duration after Power ON	Max. 300 ms											
<b>Test input »TE«</b>	Sender OFF: Test input to $V_S$											
<b>High immunity to ambient light</b>	150,000 lx (sunlight)											
<b>VDE protection class</b>	III											
<b>Circuit protection 5)</b>	A, B, C											
<b>Enclosure rating 6)</b>	IP 65											
<b>Ambient temperature <math>T_A</math></b>	Operation -25 ... +55 °C Storage -40 ... +70 °C											
<b>Mechanical resistance</b>	Vibration: 5 g/10-55 Hz – IEC 68-2-6 Shock: 10 g/16 ms – IEC 68-2-29											
<b>Weight 7)</b>	Approx. 350 ... 1700 g											
<b>Material</b>	Housing Aluminium anodized Front lens PMMA											

1) Limit values

2) Without load at  $V_S = 24$  V

3) NPN on demand

4) With resistive load

5) A =  $V_S$ -connections reverse-polarity protected

B = Outputs Q and  $\bar{Q}$  short-circuit protected

C = Interference pulse suppression

6) For outdoor use only with additional protection


7) 350 g for 90 mm detection height, increase 160 g per 100 mm

Optical performance				
Beam spacing	Detection height	MDO: minimum detectable object 8)		
		in front of ELGS or ELGE		at mid-point between ELGS and ELGE
30 mm	90 ... 930 mm	35 mm		25 mm 9)

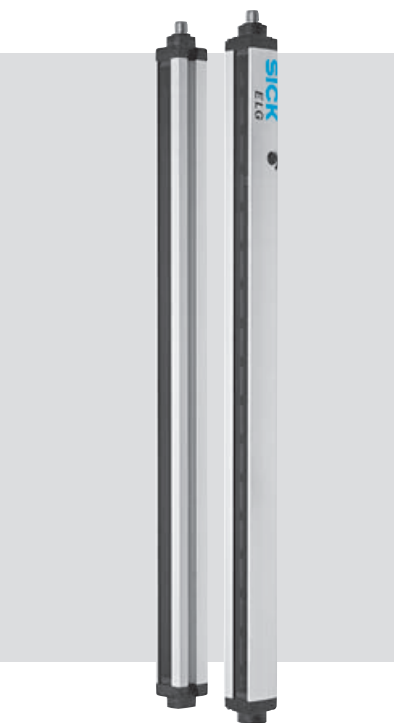
8) MDO: minimum detectable object for non-moving objects, measured in a direction parallel to ELG

9) Only ELG3-XXXXP513 with multiple scan

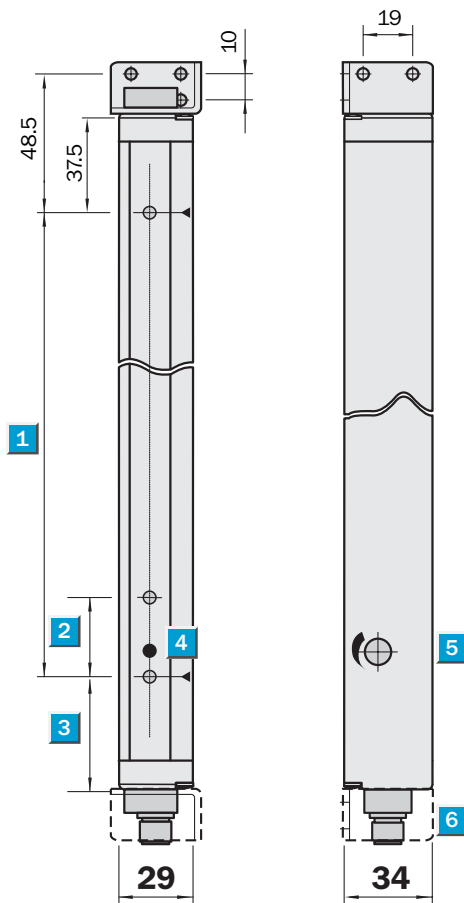



**12 m range**  
 Through beam light grid

- Wide range of options
- High immunity against sunlight
- Optical synchronization
- Compact housing
- Beam spacing 30 mm/60 mm



## Dimensional drawing

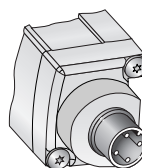
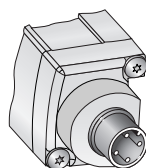


- 1** Detection height (see next page)
- 2** Beam spacing ELG3: 30 mm/ELG6: 60 mm
- 3** Distance to first beam ELG3: 42.5 mm/  
ELG6: 72.5 mm
- 4** Status indicator (ELGE)/Power ON (ELGS)
- 5** Sensitivity adjustment
- 6** M12 plugs, 4-pin

### Connection type

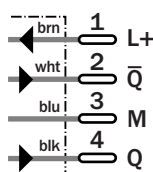
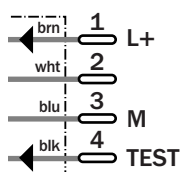
ELGS3-xxxD52x  
ELGS6-xxxD52x

ELGE3-xxxP52x  
ELGE6-xxxP52x  
ELGE3-xxxN52x



Sender  
M12, 4-pin

Receiver  
M12, 4-pin



### See chapter Accessories

Cables and connectors  
Mounting systems

Technical data		ELGX-	0450	0570	0690	0930	1050	1410	1650	1890	2070	2370
<b>Beam spacing</b>	See selection table page 1178											
<b>Detection height</b>	See selection table page 1178											
<b>Number of beams</b>	See selection table page 1178											
<b>Range</b>	0 ... 12 m											
<b>Synchronization</b>	Optical synchronization											
Light source	LED, infrared											
<b>Voltage supply <math>V_S</math> <sup>1)</sup></b>	15 ... 30 V DC											
Residual ripple	< 10 % within $V_S$ tolerance											
Current consumption Sender	< 100 mA											
Current consumption Receiver <sup>2)</sup>	< 100 mA											
<b>Connection</b>	M12 plug, 4-pin (cable optional)											
<b>Switch output <sup>3)</sup></b>	2 x PNP output: $\bar{Q}$ and Q											
<b>Operating mode</b>	Q dark-switching, $\bar{Q}$ light-switching											
Output current $I_A$ max.	100 mA											
Output load	Capacitive load: 100 nF Inductive load: 1H											
<b>Response time <sup>4)</sup></b>	Max. 390 ms											
Initialisation duration after Power ON	Max. 300 ms											
<b>Test input »TE«</b>	Sender OFF: Test input to $V_S$											
<b>High immunity to ambient light</b>	150,000 lx (sunlight)											
<b>VDE protection class</b>	III											
<b>Circuit protection <sup>5)</sup></b>	A, B, C											
<b>Enclosure rating <sup>6)</sup></b>	IP 65											
<b>Ambient temperature <math>T_A</math></b>	Operation -25 ... +55 °C Storage -40 ... +70 °C											
<b>Mechanical resistance</b>	Vibration: 5 g/10-55 Hz – IEC 68-2-6 Shock: 10 g/16 ms – IEC 68-2-29											
<b>Weight <sup>7)</sup></b>	Approx. 950 ... 3300 g											
<b>Material</b>	Housing	Aluminium anodized										
	Front lens	PMMA										

<sup>1)</sup> Limit values

<sup>2)</sup> Without load at  $V_S = 24$  V

<sup>3)</sup> NPN on demand

<sup>4)</sup> With resistive load

<sup>5)</sup> A =  $V_S$ -connections reverse-polarity protected

B = Outputs Q and  $\bar{Q}$  short-circuit protected

C = Interference pulse suppression

<sup>6)</sup> For outdoor use only with additional protection

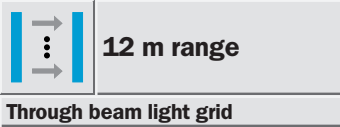
<sup>7)</sup> 950 g for 450 mm detection height, increase 160 g per 100 mm

Optical performance <sup>8)</sup>				
Beam spacing	Detection height	MDO: minimum detectable object <sup>9)</sup>		
		in front of ELGS or ELGE		at mid-point between ELGS and ELGE
30 mm	150 ... 2370 mm	35 mm		25 mm <sup>10)</sup>
60 mm	900 ... 2460 mm	65 mm		35 mm <sup>10)</sup>

<sup>8)</sup> During parallel assembly of 2 ELG pairs, maintain minimum separation distance, or configure such that the light direction is opposed.

<sup>9)</sup> MDO: minimum detectable object for non-moving objects, measured in a direction parallel to ELG

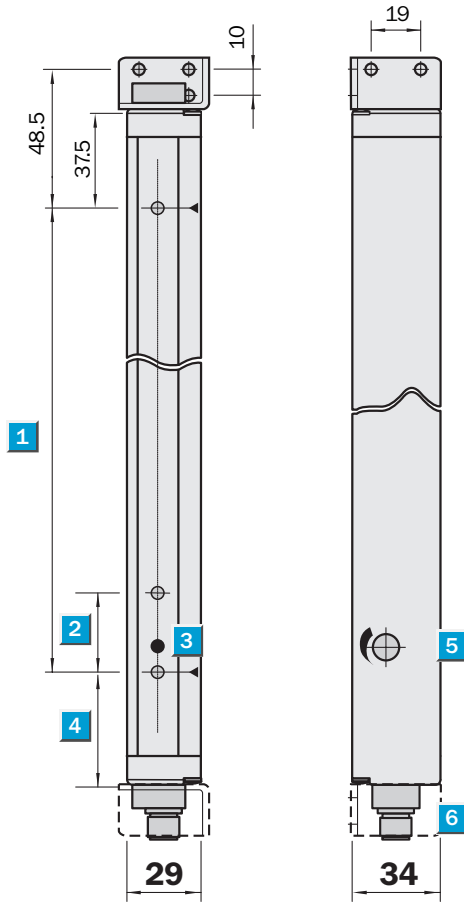
<sup>10)</sup> Only ELG3-xxxxP523/ELG6-xxxxP523 with multiple scan



- Wide range of options
- High immunity against sunlight
- Optical synchronisation
- Relay output 1 x u
- Compact housing
- Beam spacing 30 mm/60 mm



## Dimensional drawing



- 1** Detection height  
(see next page)
- 2** Beam spacing  
ELG3: 30 mm/ELG6: 60 mm
- 3** Status indicator (ELGE)/  
Power ON (ELGS)
- 4** Distance to first beam  
ELG3: 38.5 mm/ELG6: 68.5 mm
- 5** Sensitivity adjustment
- 6** M12 plug or cable

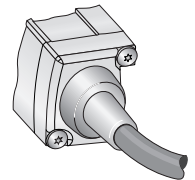
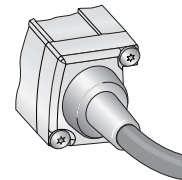
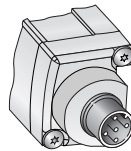
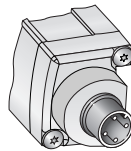
## Connection type

ELGSx-xxxxD52x

ELGEx-xxxxR52x

ELGS3-xxxxD12x  
ELGS3-xxxxD22x

ELGE3-xxxxR12x  
ELGE3-xxxxR22x

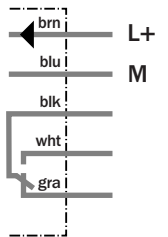
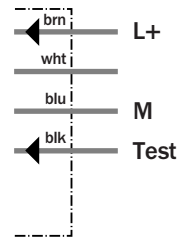
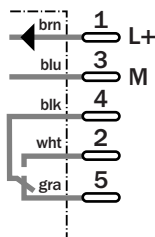
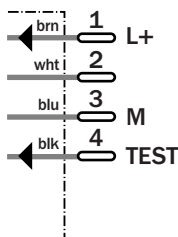


Sender  
M12, 4-pin

Receiver  
M12, 5-pin

Sender  
Cable, 4 wires

Receiver  
Cable, 5 wires



## See chapter Accessories

Cables and connectors

Mounting systems

Technical data		ELG	3-0450 R221	3-0930 R121	3-0930 R221	3-0930 R521	3-1890 R121	6-0900 R521	6-0900 R523	6-1380 R523	6-1860 R521	6-2460 R521
<b>Beam spacing</b>	30 mm											
	60 mm											
<b>Detection height</b>	450 mm											
	900 mm/930 mm											
	1380 mm											
	1860 mm/1890 mm											
	2460 mm											
<b>Number of beams</b>	16											
	24											
	32											
	42											
	64											
<b>Range</b>	0 ... 12 m											
<b>Synchronisation</b>	Optical synchronisation											
<b>Light source</b>	LED, infrared											
<b>Multiple scan (3 x)</b>	Increased resolution											
<b>Voltage supply V<sub>S</sub><sup>1)</sup></b>	15 ... 30 V DC											
<b>Ripple</b>	< 10 % within V <sub>S</sub> tolerances											
<b>Current consumption sender</b>	< 100 mA											
<b>Current consumption receiver<sup>2)</sup></b>	< 100 mA											
<b>Connection</b>	M12 plug											
	Cable, 5 m											
	Cable, 15 m											
<b>Switching output</b>	Relay SPDT isolated NO/NC											
<b>ELGE, operating mode</b>	Light-suitening											
<b>Switching current I<sub>A</sub> max.<sup>3)</sup></b>	0.5 A (AC or DC)											
<b>Switching voltage V<sub>A</sub> max.</b>	25 V AC or 60 V DC, EN 50 178											
<b>Response time/switching frequency<sup>4)</sup></b>	Max. 500 ms; 1/s											
<b>Initialisation duration after Power ON</b>	Max. 300 ms											
<b>Test input »TE«</b>	Sender OFF: Test input to V <sub>S</sub>											
<b>High Immunity to ambient light</b>	150,000 lx (sun light)											
<b>VDE protection class</b>	III											
<b>Circuit protection<sup>5)</sup></b>	A, C											
<b>Enclosure rating<sup>6)</sup></b>	IP 65											
<b>Ambient temperature T<sub>A</sub></b>	Operation	-25 ... +55 °C										
	Storage	-40 ... +70 °C										
<b>Mechanical resistance</b>	Vibration:	5 g/10-55 Hz – IEC 68-2-6										
	Shock:	10 g/10 ms – IEC 68-2-29										
<b>Weight<sup>7)</sup></b>	Approx. 950 ... 4150 g											
<b>Material</b>	Housing	Aluminium anodized										
	Front lens	PMMA										

1) Limit values

2) Without load at V<sub>S</sub> = 24 V

3) Provide suitable spark suppression for inductive or capacitive loads

4) With resistive load

5) A = V<sub>S</sub>-connections reverse-polarity protected

C = Interference pulse suppression

6) For outdoor use only with additional protection

7) 950 g for 450 mm detection height, increment 160 g per 100 mm

Optical performance <sup>8)</sup>		
Beam spacing	Detection height	MDO: Minimum detectable object size <sup>9)</sup>
30 mm	450 ... 2500 mm	35 mm <sup>10)</sup> , 35 mm <sup>11)</sup> /25 mm <sup>12)</sup>
60 mm	450 ... 2500 mm	65 mm <sup>10)</sup> , 65 mm <sup>11)</sup> /35 mm <sup>12)</sup>

8) During parallel assembly of 2 ELG pairs, maintain minimum separation distance, or configure such that the light direction is opposed.

9) MDO: Minimum Detectable Object size for non-moving objects measured in a direction parallel to the ELG

10) In front of ELGS or ELGE

11) At mid-point between ELGS and ELGE

12) At mid-point between ELGS and ELGE with 3 x multiple scan

Order information			
Type	Order no.	Type	Order no.
ELG3-0450R221	1024268	ELG6-0900R521	1026181
ELG3-0930R121	1025785	ELG6-0900R523	1025453
ELG3-0930R221	1026176	ELG6-1380R523	1025451
ELG3-0930R521	1025449	ELG6-1860R521	1026182
ELG3-1890R121	1026180	ELG6-2460R521	1026183

# ELG light grid

## Selection table/Order information

### ELG1 Short Range, range = 0 ... 3 m/beam spacing 10 mm

Type	Order no.	Height	No. of beams	Interface/Multiple scan
ELG1-0100P531	1026807	100 mm	11	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG1-0100P533	1026808	100 mm	11	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG1-0150P531	1026741	150 mm	16	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG1-0150P533	1026809	150 mm	16	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input

### ELG3 Short Range, range = 0 ... 2 m/beam spacing 30 mm

Type	Order no.	Height	No. of beams	Interface/Multiple scan
ELG3-0090P513	1025443	90 mm	4	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-0150P513	1025578	150 mm	6	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-0210P513	1025438	210 mm	8	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-0330P513	1025576	330 mm	12	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-0210P511	1025510	210 mm	8	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0330P511	1025575	330 mm	12	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0450P511	1025490	450 mm	16	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0570P511	1025501	570 mm	20	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0690P511	1025499	690 mm	24	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0930P511	1025492	930 mm	32	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input

### ELG Long Range, range = 0 ... 12 m/beam spacing 30 mm

Type	Order no.	Height	No. of beams	Interface/Multiple scan
ELG3-0150P521	1026475	150 mm	6	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0210P521	1025574	210 mm	8	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0450P521	1025440	450 mm	16	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0450P561	1027894	450 mm	16	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, beam coded
ELG3-0690P521	1025568	690 mm	24	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0810P521	1025577	810 mm	28	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0810P523	1026177	810 mm	28	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-0930P521	1025511	930 mm	32	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1050P521	1025570	1050 mm	36	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1170P521	1025579	1170 mm	40	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1410P521	1025502	1410 mm	48	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1410P523	1026179	1410 mm	48	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-1650P521	1025503	1650 mm	56	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1890P521	1025504	1890 mm	64	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-2070P521	1025505	2070 mm	70	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-2070P523	1025572	2070 mm	70	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-2370P521	1025573	2370 mm	80	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-2370P523	1026178	2370 mm	80	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG3-0210N521	1025613	210 mm	8	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0450N521	1025614	450 mm	16	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0690N521	1025615	690 mm	24	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-0930N521	1025616	930 mm	32	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1170N521	1025617	1170 mm	40	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1410N521	1025618	1410 mm	48	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1650N521	1025620	1650 mm	56	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG3-1890N521	1025621	1890 mm	64	NPN, 1 x $\bar{Q}$ , 1 x Q, Test input

### ELG Long Range, range = 0 ... 12 m/beam spacing 60 mm

Type	Order no.	Height	No. of beams	Interface/Multiple scan
ELG6-0900P521	1025447	900 mm	16	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG6-1080P521	1025586	1080 mm	19	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG6-1380P521	1025587	1380 mm	24	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG6-1380P523	1025588	1380 mm	24	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG6-1860P521	1025589	1860 mm	32	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG6-1860P523	1025593	1860 mm	32	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG6-2040P523	1025594	2040 mm	35	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan
ELG6-2340P521	1025596	2340 mm	40	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input
ELG6-2460P523	1024293	2460 mm	42	PNP, 1 x $\bar{Q}$ , 1 x Q, Test input, multiple scan

## Selection table/Order information

## ELG Long Range – Relay, range = 0 ... 12 m/beam spacing 30 mm

Type	Order no.	Height	No. of beams	Interface/Multiple scan
ELG3-0450R221	1024268	450 mm	16	Relay output 1 x u, cable 15 m
ELG3-0930R121	1025785	930 mm	32	Relay output 1 x u, cable 5 m
ELG3-0930R221	1026176	930 mm	32	Relay output 1 x u, cable 15 m
ELG3-0930R521	1025449	930 mm	32	Relay output 1 x u
ELG3-0930R523	1026537	930 mm	32	Relay output 1 x u, multiple scan
ELG3-1890R121	1026180	1890 mm	64	Relay output 1 x u, cable 5 m

## ELG Long Range – Relay, range = 0 ... 12 m/beam spacing 60 mm

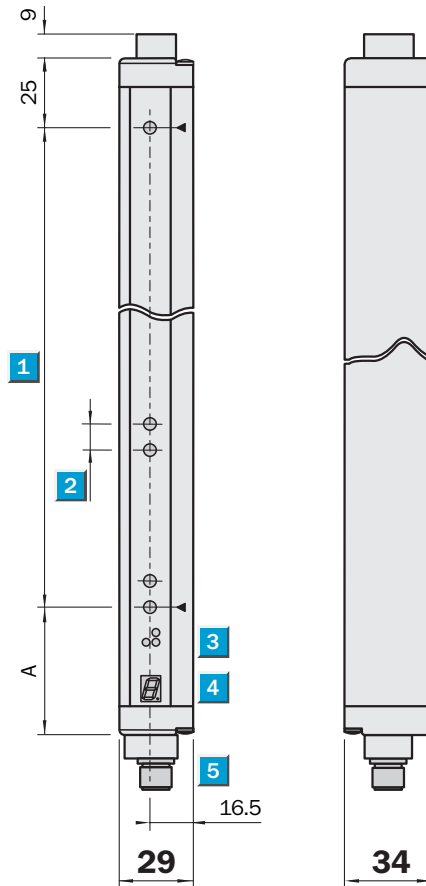
Type	Order no.	Height	No. of beams	Interface/Multiple scan
ELG6-0900R521	1026181	900 mm	16	Relay output 1 x u
ELG6-0900R523	1025453	900 mm	16	Relay output 1 x u, multiple scan
ELG6-1380R523	1024451	1380 mm	24	Relay output 1 x u, multiple scan
ELG6-1860R521	1026182	1860 mm	32	Relay output 1 x u
ELG6-1860R523	1026458	1860 mm	32	Relay output 1 x u, multiple scan
ELG6-2460R521	1026183	2460 mm	42	Relay output 1 x u

**Scanning range**  
0 ... 5/0 ... 8.5 m

Modular light grid

- High modularity: beam spacing, detection height and scanning range
- Compact housing
- Short response time
- Teach-in for optimal sensitivity adjustment

### Dimensional drawing



### Distance: MLG edge – first beam

Dimensions (mm)	A
<b>Beam spacing 10 mm</b>	49
<b>Beam spacing 20 mm</b>	59
<b>Beam spacing 30 mm</b>	69
<b>Beam spacing 50 mm</b>	89

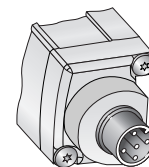
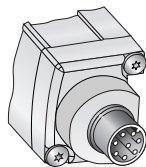
- 1** Detection height (see optical performance)
- 2** Beam spacing (10, 20, 30, 50 mm)
- 3** Status indicator: LEDs green, yellow, red
- 4** Indicator panel, 7 segment display
- 5** M12 plug, 8-pin/M12 plug, 5-pin



### Connection type

MLGx-xxxx8x1

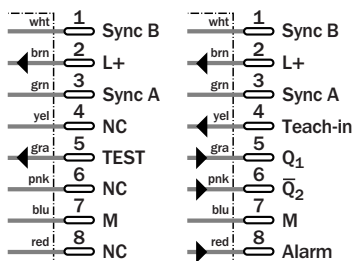
MLGx-xxxx5x1



8-pin, M12

Sender

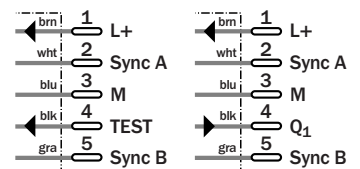
Receiver



5-pin, M12

Sender

Receiver



### See chapter Accessories

Cables and connectors

Mounting systems

T-Junction

**NEW**

Technical data		MLG	x-xxx xx8x1	x-xxx xx5x1								
<b>Beam spacing</b> <sup>1)</sup>	10 mm/20 mm/30 mm/50 mm											
<b>Maximum number of beams</b>	240 beams											
<b>Scanning range</b>	0 ... 5 m (max. 7 m)/0 ... 8.5 m (max. 12 m)											
<b>Synchronization</b> <sup>2)</sup>	By cable sync A/sync B											
Light source	LED, infrared											
<b>Supply voltage</b> $V_S$ <sup>3)</sup>	15 ... 30 V DC											
Current consumption sender	< 140 mA + 2 mA/beam											
Current consumption receiver <sup>4)</sup>	< 100 mA + 3 mA/beam											
<b>Connections</b>	M12 plug, 8-pin											
	M12 plug, 5-pin											
<b>Teach-in</b>	PNP: Teach > 10 V ... < $V_S$											
<b>Teach-in</b>	External Teach-in input											
	Automatic by each Power ON											
Output current $I_A$ max.	100 mA per output											
Output load	Capacitive load: 100 nF/output											
	Inductive load: 1H/output											
<b>Outputs/Operating mode</b>	$Q_1$ dark-switching											
	$Q_2$ light-switching											
<b>Alarm output (contamination)</b>												
<b>Response time</b> <sup>5)</sup>	Max. 150 $\mu$ s per beam + 1 ms											
<b>Test input »TE«</b>	Sender OFF: Test input to $V_S$											
<b>Immunity to ambient light</b>	50,000 lx (continuous light)											
<b>VDE protection class</b>	III											
<b>Circuit protection</b> <sup>6)</sup>	A, B, C											
<b>Enclosure rating</b> <sup>7)</sup>	IP 65											
<b>Ambient temperature</b> $T_A$	Operation -25 ... +55 °C											
	Storage -40 ... +70 °C											
<b>Mechanical resistance</b>	Vibration: 5 g/10-55 Hz – IEC 68-2-6											
	Shock: 10 g/10 ms – IEC 68-2-29											
<b>Weight</b>	Approx. 1480 g <sup>8)</sup>											
<b>Material</b>	Housing	Aluminium anodized										
	Front lens	PMMA										

<sup>1)</sup> Further beam spacing possible  
<sup>2)</sup> Sender (MLGS) and receiver (MLGE)

<sup>3)</sup> Limit values  
<sup>4)</sup> Without load at  $V_S = 24$  V  
<sup>5)</sup> With resistive load

<sup>6)</sup> A =  $V_S$  connection, reverse polarity protected  
 B = Outputs Q and Q short-circuit protected  
 C = Interference pulse suppression

<sup>7)</sup> For outdoor use only with additional protection  
<sup>8)</sup> For 1200 mm detection height, increment 160 g per 150 mm detection height

	Optical performance			Minimum Detectable Object (MDO)	
	Detection height			Beam spacing	MDO <sup>9)</sup>
	Minimum	Increment	Maximum		
MLG1:	140 mm	150 mm	2390 mm	10 mm	15 <sup>10)</sup> /20 <sup>11)</sup> mm
MLG2:	140 mm	150 mm	3140 mm	20 mm	25 <sup>10)</sup> /30 <sup>11)</sup> mm
MLG3:	120 mm	150 mm	3120 mm	30 mm	35 <sup>10)</sup> /40 <sup>11)</sup> mm
MLG5:	100 mm	150 mm	3100 mm	50 mm	55 <sup>10)</sup> /60 <sup>11)</sup> mm

Order information	
Type	Order no.
MLGx-xxxxx8x1	see page 1188
MLGx-xxxxx5x1	see page 1188

<sup>9)</sup> MDO for non-moving objects measured in a direction parallel to the MLG  
<sup>10)</sup> Scanning range: 5 m  
<sup>11)</sup> Scanning range: 8.5 m



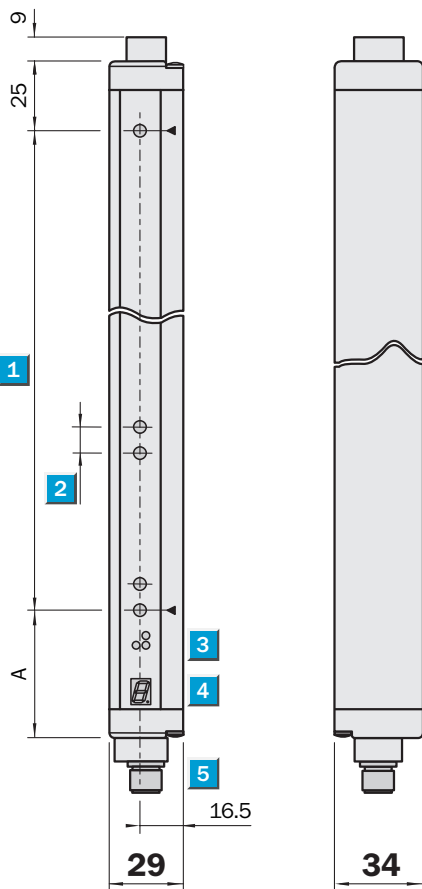
**Operating range**  
0.5 ... 5 m

Modular light grid

- Wide selection of detection heights
- Increased resolution at mid point between sender and receiver
- Teach-in for optimal sensitivity adjustment



## Dimensional drawing



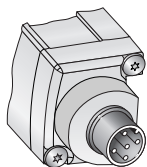
### Distance: MLG edge – first beam

Dimensions (mm)	A
<b>Beam spacing 30 mm</b>	69
<b>Beam spacing 50 mm</b>	89

- 1 Detection height (see optical performance)
- 2 Beam spacing 30 mm, 50 mm
- 3 Status indicator: LED green, yellow, red
- 4 Indicator panel, 7 segment display
- 5 M12 plug, 5-pin

## Connection type

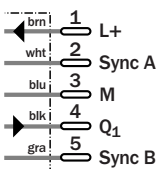
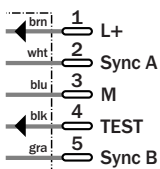
MLGx-xxxxF513



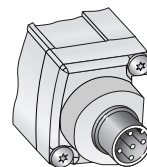
5-pin, M12

Sender

Receiver



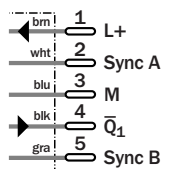
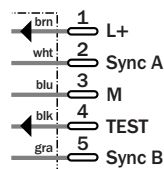
MLGx-xxxxF51L



5-pin, M12

Sender

Receiver



### See chapter Accessories

Cables and connectors

Mounting systems

T-Junction

**NEW**

Technical data			MLG	5-xxxx F513	5-xxxx F51L	3-xxxx F513							
<b>Beam spacing</b> <sup>1)</sup>	30 mm												
	50 mm												
<b>Number of beams/</b>													
<b>Detection height</b>	See order information												
<b>Scanning range</b>	0.5 ... 5 m												
<b>Synchronization mode</b> <sup>2)</sup>	Synchronized by cable sync A/sync B												
Light source	LED, infrared light												
<b>Supply voltage</b> $V_S$ <sup>3)</sup>	15 ... 30 V DC												
Residual ripple	< 5 V <sub>pp</sub> within V <sub>S</sub> tolerances												
Current consumption sender	< 140 mA + 2 mA/beam												
Current consumption receiver <sup>4)</sup>	< 100 mA + 3 mA/beam												
<b>Connection</b>	M12 plug, 5-pin												
<b>Switching output</b>	PNP, Q <sub>1</sub> dark-switching												
	PNP, Q <sub>1</sub> light-switching												
<b>Teach-in</b>	Automatic by each Power ON												
Output current I <sub>A</sub> max.	100 mA												
Output load	Capacitive load: 100 nF/output												
	Inductive load: 1 H/output												
<b>Operation mode</b>	Q <sub>1</sub> dark-switching <sup>5)</sup>												
<b>Response time</b> <sup>6)</sup>	0.5 ms per beam + 3 ms												
<b>Test input »TE«</b>	Sender OFF: Test input to V <sub>S</sub>												
<b>Immunity to ambient light</b>	50,000 lx (continuous light)												
<b>VDE protection class</b>	III												
<b>Circuit protection</b> <sup>7)</sup>	A, B, C												
<b>Enclosure rating</b> <sup>8)</sup>	IP 65												
<b>Ambient temperature</b> T <sub>A</sub>	Operation -25 ... +55 °C												
	Storage -40 ... +70 °C												
<b>Mechanical resistance</b>	Vibration: 5 g/10-55 Hz – IEC 68-2-6												
	Shock: 10 g/10 ms – IMC 68-2-29												
<b>Weight</b>	580 ... 2300 g												
<b>Material</b>	Housing	Aluminium anodized											
	Front lens	PMMA											

1) Further beam spacing possible  
 2) Sender (MLGS) and receiver (MLGE)  
 3) Limit values

4) Without load at V<sub>S</sub> = 24 V  
 5) Or customized  
 6) With resistive load

7) A = V<sub>S</sub> connection, reverse polarity protected  
 B = Outputs Q and Q short-circuit protected  
 C = Interference pulse suppression

8) For outdoor use only with additional protection

Optical performance						
	Detection height			MDO: Minimum Detectable Object <sup>9)</sup> with multiple scan		
	Minimum	Increment	Maximum	Beam spacing	In front of MLGS or MLGE	At mid point between MLGS and MLGE
MLG3:	120 mm	150 mm	3120 mm	30 mm	35 mm	< 20 mm
MLG5:	100 mm	150 mm	3100 mm	50 mm	55 mm	< 30 mm

9) MDO for non-moving objects measured in a direction parallel to the MLG

Order information	
Type	Order no.
MLG5-xxxxF513	see page 1189
MLG5-xxxxF51L	see page 1189
MLG3-xxxxF513	see page 1189

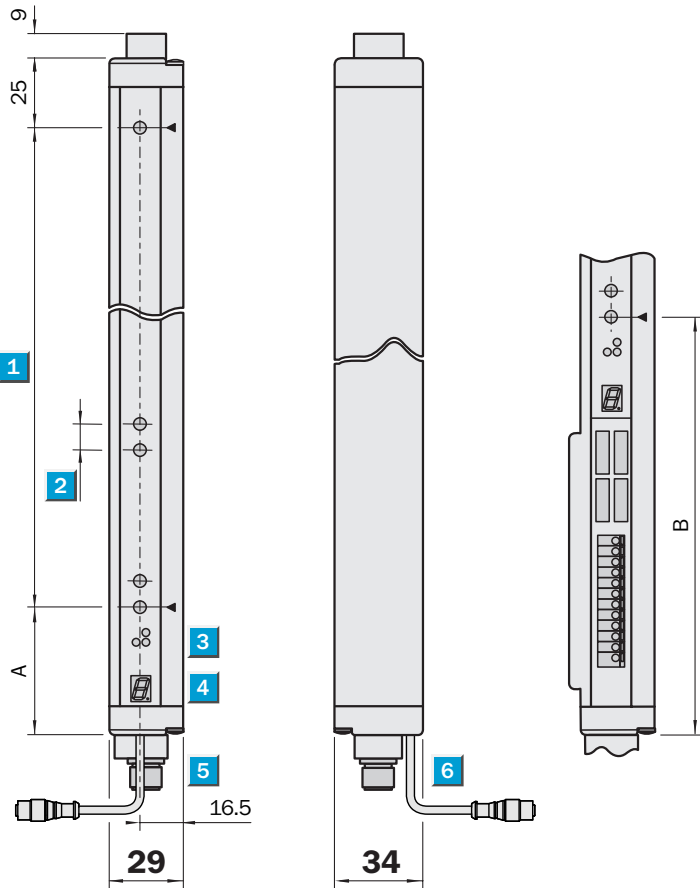
**Operating range**  
0 ... 5 m/0 ... 8.5 m

**Modular light grid**

- High modularity: beam spacing, detection height, scanning range and interface
- Compact housing
- Short response time
- Teach-in for optimal sensitivity adjustment
- MLGsetup software for visualisation and parameterisation (included)



### Dimensional drawing



### Distance: MLG edge – first beam

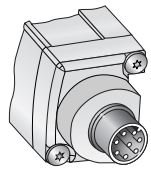
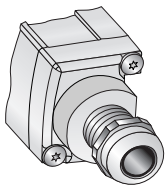
Dimensions (mm)	A	B
<b>MLG1 10 mm</b>	49	160
<b>MLG2 20 mm</b>	59	170
<b>MLG3 30 mm</b>	69	180
<b>MLG5 50 mm</b>	89	200

- 1** Detection height (see optical performance)
- 2** Beam spacing 10, 20, 30, 50 mm
- 3** Status indicator: LED green, yellow, red
- 4** Indicator panel, 7 segment display
- 5** PG9/M12 plug, 8-pin
- 6** Configuration M8 plug, 4-pin

### Connection type

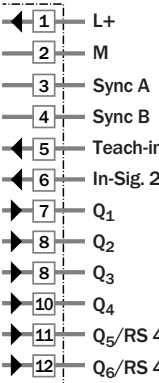
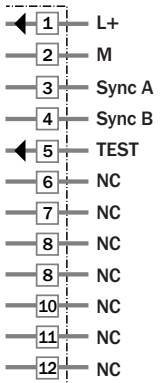
MLGx-xxxxx2x2

MLGx-xxxxx8x2



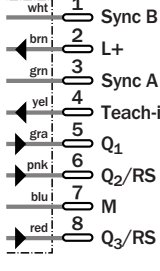
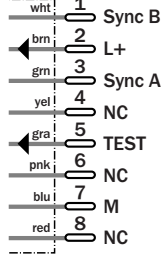
PG9, terminals  
Sender

Receiver



8-pin, M12  
Sender

Receiver



**See chapter Accessories**

Cables and connectors
Mounting systems
MLGsetup Software*
Parametering cable

\* Included with delivery

T-Junction



Technical data		MLG	1)									
<b>Maximum number of beams</b>	240 beams											
Scanning range	0 ... 5 m/0 ... 8.5 m											
<b>Synchronization mode</b> <sup>2)</sup>	Synchronized by cable sync A/sync B											
<b>Supply voltage</b> $V_S$ <sup>3)</sup>	15 ... 30 V DC											
Current consumption sender	< 140 mA + 2 mA/beam											
Current consumption receiver <sup>4)</sup>	< 100 mA + 3 mA/beam											
<b>Teach-in</b>	PNP: Teach > 10 V ... < $V_S$											
<b>Teach-in</b>	External Teach-in input											
Output current $I_A$ max.	100 mA per output <sup>5)</sup>											
Output load	Capacitive load: 100 nF/output Inductive load: 1H/output											
<b>Operating mode outputs</b>	Configurable with MLGsetup <sup>6)</sup>											
<b>Response time</b> <sup>7)</sup>	Default 150 $\mu$ s per beam + 1 ms <sup>8)</sup>											
<b>Alarm outputs (configurable)</b>	Default setting on $Q_3$											
<b>Data interface</b>	RS 485 <sup>9)</sup>											
<b>Configuration plug</b> <sup>10)</sup>	4-pin, M8 plug, RS 232: 9.6 kBaud fix <sup>11)</sup>											
<b>Test input »TE« (sender)</b>	Sender OFF: Test input to $V_S$											
<b>Immunity to ambient light</b>	50,000 lx (continuous light)											
<b>VDE protection class</b>	III											
<b>Circuit protection</b> <sup>12)</sup>	A, B, C											
<b>Enclosure rating</b> <sup>13)</sup>	IP 65											
<b>Ambient temperature</b> $T_A$	Operation -25 ... +55 °C Storage -40 ... +70 °C											
<b>Mechanical resistance</b>	Vibration: 5 g/10-55 Hz – IEC 68-2-6 Shock: 10 g/10 ms – IEC 68-2-29											
<b>Weight (with PG9)</b>	Approx. 1480 g <sup>14)</sup>											
<b>Material</b>	Housing Aluminium anodized Front lens PMMA											

- 1) See order informations  
 2) Sender (MLGS) and receiver (MLGE)  
 3) Limit values  
 4) Without load at  $V_S = 24$  V  
 5) Max.  $\Sigma = 550$  mA

- 6) Default settings as MLG Standard  
 7) With resistive load  
 8) Depends on selected basic function  
 9) Configurable per MLGsetup  
 10) Plug built on receiver (MLGE)  
 11) For visualisation and configuration with MLGsetup

- 12) A =  $V_S$  connection, reverse polarity protected  
 B = Outputs short-circuit protected  
 C = Interference pulse suppression

- 13) For outdoor use only with additional protection  
 14) For 1200 mm detection height, increment 160 g per 150 mm detection height

## Optical performance

	Detection height			MDO: Minimum Detectable Object <sup>15)</sup>		
	Minimum	Increment	Maximum	Beam spacing	MDO	MDO with multiple scan <sup>16)</sup>
MLG1:	140 mm	150 mm	2390 mm	10 mm	15 <sup>17)</sup> /20 <sup>18)</sup> mm	< 10 <sup>17)</sup> / <sub>&lt;</sub> 15 <sup>18)</sup> mm
MLG2:	140 mm	150 mm	3140 mm	20 mm	25 <sup>17)</sup> /30 <sup>18)</sup> mm	< 15 <sup>17)</sup> / <sub>&lt;</sub> 20 <sup>18)</sup> mm
MLG3:	120 mm	150 mm	3120 mm	30 mm	35 <sup>17)</sup> /40 <sup>18)</sup> mm	< 20 <sup>17)</sup> / <sub>&lt;</sub> 25 <sup>18)</sup> mm
MLG5:	100 mm	150 mm	3100 mm	50 mm	55 <sup>17)</sup> /60 <sup>18)</sup> mm	< 30 <sup>17)</sup> / <sub>&lt;</sub> 35 <sup>18)</sup> mm

- 15) MDO for non-moving objects measured in a direction parallel to the MLG

- 16) At the mid point between the sender and receiver. Multiple scan usage will reduce response time.

- 17) Scanning range: 5 m  
 18) Scanning range: 8.5 m

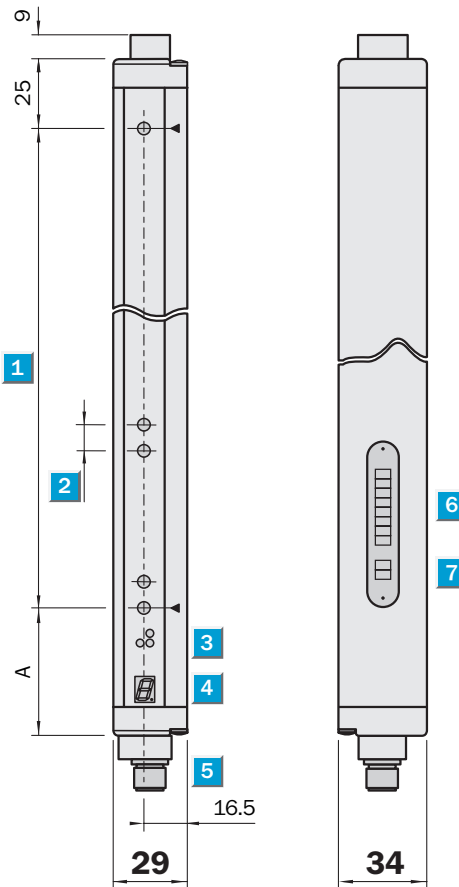
**Operating range**  
0 ... 5/0 ... 8.5 m

Modular light grid

- Integrated Profibus interface
- High modularity: beam spacing, detection height and scanning range
- Compact housing
- Teach-in for optimal sensitivity adjustment
- GSD file included in supply



## Maßbild



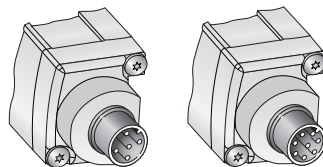
### Distance: MLG edge – first beam

Dimensions (mm)	A
<b>Beam spacing 10 mm</b>	49
<b>Beam spacing 20 mm</b>	59
<b>Beam spacing 25 mm</b>	52
<b>Beam spacing 30 mm</b>	69
<b>Beam spacing 50 mm</b>	89

- 1** Detection height (see optical performance)
- 2** Beam spacing (10, 20, 30, 50 mm)
- 3** Status indicator: LED green, yellow, red
- 4** Indicator panel, 7 segment display
- 5** M12 plug, 8-pin (receiver), 5-pin (sender)
- 6** Address setting
- 7** Bus termination

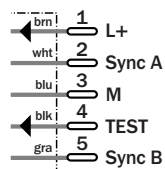
## Connection types

MLGx-xxxxx8x1



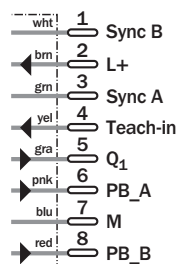
5-pin, M12

Sender



8-pin, M12

Receiver



### Accessories

- Cables and connectors
- Mounting systems
- T-junction

Profibus adapter

**NEW**

Technical data		MLG	x-xxx										
			xP8x1										
<b>Beam spacing</b> <sup>1)</sup>	10 mm/20 mm/25 mm/30 mm/50 mm												
<b>Maximum number of beams</b>	240 beams												
<b>Scanning range</b>	0 ... 5 m/0 ... 8.5 m												
<b>Synchronization</b> <sup>2)</sup>	By cable sync A/sync B												
Light source	LED, infrared light												
<b>Supply voltage</b> V <sub>S</sub> <sup>3)</sup>	15 ... 30 V DC												
Current consumption sender	< 140 mA + 2 mA/beam												
Current consumption receiver <sup>4)</sup>	< 130 mA + 3 mA/beam												
<b>Connections</b>	M12 plug												
<b>Teach-in input</b>	PNP: Teach > 10 V ... < V <sub>S</sub>												
<b>Teach-in Profibus</b>	Via control byte												
Output current I <sub>A</sub> max.	100 mA												
Output load	Inductive load: 1H Capacitive load: 100 nF												
<b>Output/operating mode</b>	Q <sub>1</sub> dark-switching												
<b>Interface</b>	Profibus, data rate up to 12 MBd												
Termination, address setting	Integrated in MLG E												
<b>Response time</b> <sup>5)</sup>	Typ. 0.2 ms per beam + 8.8 ms												
<b>Test input »TE«</b>	Sender OFF: Test input to V <sub>S</sub>												
<b>Immunity to ambient light</b>	50,000 lx (continuous light)												
<b>VDE protection class</b>	III												
<b>Circuit protection</b> <sup>6)</sup>	A, B, C												
<b>Enclosure rating</b>	IP 65												
<b>Ambient temperature</b> T <sub>A</sub>	Operation -25 ... +55 °C Storage -40 ... +70 °C												
<b>Mechanical resistance</b>	Vibration: 5 g/10-55/s – IEC 68-2-6 Shock: 1 g/ 10 ms – IEC 68-2-29												
<b>Weight</b>	Approx. 1480 g <sup>7)</sup>												
<b>Material</b>	Housing Aluminium anodized Front lens PMMA												

1) Further beam spacing possible  
2) Sender (MLG S) and receiver (MLG E)

3) Limit values

4) Without load at V<sub>S</sub> = 24 V

5) With resistive load; 1.2 ms per beam when crossed out

6) A = V<sub>S</sub>-connection, reverse polarity protected  
B = Outputs Q and Q short-circuit protected  
C = Interference pulse suppression

7) 1480 g for 1200 m detection height, increment 160 g per 150 mm

	Optical performance			Order information	
	Detection height			Min. Detectable Object (MDO)	
	Minimum	Increment	Maximum	Beam spacing	MDO <sup>8)</sup>
MLG1:	140 mm	150 mm	2390 mm	10 mm	15 <sup>9)</sup> /20 <sup>10)</sup> mm
MLG2:	140 mm	150 mm	3140 mm	20 mm	25 <sup>9)</sup> /30 <sup>10)</sup> mm
MLG3:	120 mm	150 mm	3120 mm	30 mm	35 <sup>9)</sup> /40 <sup>10)</sup> mm
MLG5:	100 mm	150 mm	3100 mm	50 mm	55 <sup>9)</sup> /60 <sup>10)</sup> mm
MLG7:	125 mm	150 mm	3125 mm	25 mm	30 <sup>9)</sup> mm

Type	Order no.
MLGx-xxxx811	On request
MLGx-xxxx821	On request

8) MDO for non-moving objects measured in a direction parallel to the MLG

9) Scanning range: 5 m  
10) Scanning range: 8.5 m

## Order information \*

### Operating range = 0 ... 5 m/beam spacing 10 mm/MLG Standard

Type	Order no.	Height	Beams	Switching outputs
MLG1-0140F511	1024259	140 mm	15	1 x PNP, Q
MLG1-0290F511	1023670	290 mm	30	1 x PNP, Q
MLG1-0440F511	1026260	440 mm	45	1 x PNP, Q
MLG1-0590F511	1025650	590 mm	60	1 x PNP, Q

### Operating range = 0 ... 5 m/beam spacing 20 mm/MLG Standard

Type	Order no.	Height	Beams	Switching outputs
MLG2-0140F511	1024306	140 mm	8	1 x PNP, Q
MLG2-0140E511	1028564	140 mm	8	1 x NPN, Q
MLG2-0280F511	1023372	280 mm	15	1 x PNP, Q
MLG2-0440F511	1023560	440 mm	23	1 x PNP, Q
MLG2-2380F511	1023572	2380 mm	120	1 x PNP, Q

### Operating range = 0 ... 5 m/beam spacing 30 mm/MLG Standard

Type	Order no.	Height	Beams	Switching outputs
MLG3-0270F511	1023671	270 mm	10	1 x PNP, Q
MLG3-0420F511	1022103	420 mm	15	1 x PNP, Q
MLG3-1470F511	1022102	1470 mm	50	1 x PNP, Q
MLG3-1620F511	1025716	1620 mm	55	1 x PNP, Q
MLG3-2220F511	1023561	2220 mm	75	1 x PNP, Q

### Operating range = 0 ... 5 m/beam spacing 50 mm/MLG Standard

Type	Order no.	Height	Beams	Switching outputs
MLG5-0250F511	1025852	250 mm	6	1 x PNP, Q
MLG5-0400E511	1023766	400 mm	9	1 x PNP, Q
MLG5-0400F511	1023440	400 mm	9	1 x PNP, Q
MLG5-0550F811	1023573	550 mm	12	2 x PNP, Q u. $\bar{Q}$ , Alarm, Teach-in input
MLG5-0700F511	1022867	700 mm	15	1 x PNP, Q
MLG5-0700F811	1025853	700 mm	15	2 x PNP, Q u. $\bar{Q}$ , Alarm, Teach-in input
MLG5-1000F511	1023538	1000 mm	21	1 x PNP, Q
MLG5-1150F511	1023643	1150 mm	24	1 x PNP, Q
MLG5-1450F511	1023738	1450 mm	30	1 x PNP, Q
MLG5-1600F511	1025448	1600 mm	33	1 x PNP, Q

### Operating range = 0 ... 8.5 m/MLG Standard

Type	Order no.	Height	Beams	Beam spacing	Switching outputs
MLG1-0140F521	1026370	140 mm	15	10 mm	1 x PNP, Q
MLG3-0120F521	1023008	120 mm	5	30 mm	1 x PNP, Q
MLG1-0290F521	1024123	290 mm	30	10 mm	1 x PNP, Q
MLG5-0700F521	1025854	700 mm	15	50 mm	1 x PNP, Q
MLG3-0870F521	1023003	870 mm	30	30 mm	1 x PNP, Q
MLG3-0870F821	1024163	290 mm	30	10 mm	2 x PNP, Q u. $\bar{Q}$ , Alarm, Teach-in input

\* additional types on request

## Order information \*

## Operating range = 0 ... 5 m/with multiple scan function

Type	Order no.	Height	Beams	Beam spacing	Switching outputs
MLG5-0250F513	1022646	250 mm	6	50 mm	1 x PNP, Q
MLG5-0550F513	1022647	550 mm	12	50 mm	1 x PNP, Q
MLG5-0700F513	1022648	700 mm	15	50 mm	1 x PNP, Q
MLG5-1000F513	1022649	1000 mm	21	50 mm	1 x PNP, Q
MLG5-1150F513	1022650	1150 mm	24	50 mm	1 x PNP, Q
MLG5-1450F513	1022642	1450 mm	30	50 mm	1 x PNP, Q
MLG5-1750F513	1022651	1750 mm	36	50 mm	1 x PNP, Q
MLG5-1900F513	1022652	1900 mm	39	50 mm	1 x PNP, Q
MLG5-2050F513	1022653	2050 mm	42	50 mm	1 x PNP, Q
MLG3-2220F513	1022870	2225 mm	75	30 mm	1 x PNP, Q
MLG3-2370F513	1022935	2370 mm	80	30 mm	1 x PNP, Q
MLG5-0250F51L	1023622	250 mm	6	50 mm	1 x PNP, $\bar{Q}$
MLG5-0550F51L	1023623	550 mm	12	50 mm	1 x PNP, $\bar{Q}$
MLG5-0700F51L	1023624	700 mm	15	50 mm	1 x PNP, $\bar{Q}$
MLG5-1000F51L	1023625	1000 mm	21	50 mm	1 x PNP, $\bar{Q}$
MLG5-1150F51L	1023626	1150 mm	24	50 mm	1 x PNP, $\bar{Q}$
MLG5-1450F51L	1023627	1450 mm	30	50 mm	1 x PNP, $\bar{Q}$
MLG5-1750F51L	1023628	1750 mm	36	50 mm	1 x PNP, $\bar{Q}$
MLG5-1900F51L	1023629	1900 mm	39	50 mm	1 x PNP, $\bar{Q}$
MLG5-2050F51L	1023630	2050 mm	42	50 mm	1 x PNP, $\bar{Q}$

## Operating range = 0 ... 5 m/beam spacing 10 mm/with plug/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG1-0140I812	1022573	140 mm	15	1 x PNP, RS 485, 1 input
MLG1-0140F812	1022147	140 mm	15	3 x PNP, 1 input
MLG1-0290F812	1022166	290 mm	30	3 x PNP, 1 input
MLG1-0290I812	1025943	290 mm	30	1 x PNP, RS 485, 1 input
MLG1-0440F812	1022294	440 mm	45	3 x PNP, 1 input
MLG1-0440I812	1024038	440 mm	45	1 x PNP, RS 485, 1 input
MLG1-0590F812	1023581	590 mm	60	3 x PNP, 1 input
MLG1-0590I812	1022167	590 mm	60	1 x PNP, RS 485, 1 input
MLG1-0740F812	1023031	740 mm	75	3 x PNP, 1 input
MLG1-0740I812	1023558	740 mm	75	1 x PNP, RS 485, 1 input
MLG1-0890I812	1023557	890 mm	90	1 x PNP, RS 485, 1 input
MLG1-1190F812	1022159	1190 mm	120	3 x PNP, 1 input
MLG1-1340I812	1022712	1340 mm	135	1 x PNP, RS 485, 1 input
MLG1-1640F812	1022168	1640 mm	165	3 x PNP, 1 input
MLG1-1640I812	1024294	1640 mm	165	1 x PNP, RS 485, 1 input
MLG1-1940F812	1025839	1940 mm	195	3 x PNP, 1 input
MLG1-2090T812	1026417	2090 mm	210	1 x NPN, RS 485, 1 input
MLG1-2390I812	1023839	2390 mm	240	1 x NPN, RS 485, 1 input
MLG1-2390I212	1025980	2390 mm	240	4 x PNP, RS 485, 2 inputs
MLG1-2390F812	1023453	2390 mm	240	3 x PNP, 1 input

\* additional types on request



**Order information \***
**Operating range = 0 ... 5 m/beam spacing 10 mm/with terminal chamber/Type: programmable with MLGsetup**

Type	Order no.	Height	Beams	Switching outputs
MLG1-0140I212	1026223	140 mm	15	RS 485, 4 x PNP outputs, 2 inputs
MLG1-0290I212	1027041	290 mm	30	RS 485, 4 x PNP outputs, 2 inputs
MLG1-0590F212	1023373	590 mm	60	6 x PNP, 2 inputs
MLG1-0590I212	1023979	590 mm	60	RS 485, 4 x PNP outputs, 2 inputs
MLG1-0740I212	1023583	740 mm	75	RS 485, 4 x PNP outputs, 2 inputs
MLG1-0890F212	1022179	890 mm	90	6 x PNP, 2 inputs
MLG1-1040I212	1023584	1040 mm	105	RS 485, 4 x PNP outputs, 2 inputs
MLG1-1340F212	1023582	1340 mm	135	6 x PNP, 2 inputs
MLG1-1790F212	1027556	1790 mm	90	6 x PNP, 2 inputs

**Operating range = 0 ... 5 m/beam spacing 20 mm/with plug/Type: programmable with MLGsetup**

Type	Order no.	Height	Beams	Switching outputs
MLG2-0140F812	1025653	140 mm	8	3 x PNP, 1 input
MLG2-0280F812	1023585	280 mm	15	3 x PNP, 1 input
MLG2-0280I812	1023589	280 mm	15	1 x PNP, RS 485, 1 input
MLG2-0580F812	1023555	580 mm	30	3 x PNP, 1 input
MLG2-0580I812	1023789	580 mm	30	1 x PNP, RS 485, 1 input
MLG2-0740I812	1022855	740 mm	38	1 x PNP, RS 485, 1 input
MLG2-0880F812	1023586	880 mm	45	3 x PNP, 1 input
MLG2-0880I812	1023590	880 mm	45	1 x PNP, RS 485, 1 input
MLG2-1040F812	1028240	1040 mm	53	3 x PNP, 1 input
MLG2-1180F812	1023587	1180 mm	60	3 x PNP, 1 input
MLG2-1480F812	1023588	1480 mm	75	3 x PNP, 1 input
MLG2-1480I812	1023591	1480 mm	75	1 x PNP, RS 485, 1 input
MLG2-1940F812	1025855	1940 mm	98	3 x PNP, 1 input
MLG2-1940I812	1023559	1940 mm	98	1 x PNP, RS 485, 1 input
MLG2-2080I812	1026310	2080 mm	105	3 x PNP, 1 input
MLG2-2080I812	1026495	2080 mm	105	1 x PNP, RS 485, 1 input
MLG2-2240I812	1025444	2240 mm	113	1 x PNP, RS 485, 1 input
MLG2-2540I812	1024248	2540 mm	128	1 x PNP, RS 485, 1 input

**Operating range = 0 ... 5 m/beam spacing 20 mm/with terminal chamber/Type: programmable with MLGsetup**

Type	Order no.	Height	Beams	Switching outputs
MLG2-0140F212	1023592	140 mm	8	6 x PNP outputs, 2 inputs
MLG2-0440I212	1023595	440 mm	23	RS 485, 4 x PNP outputs, 2 inputs
MLG2-0740I212	1023596	740 mm	38	RS 485, 4 x PNP outputs, 2 inputs
MLG2-1040F212	1023593	1040 mm	53	6 x PNP outputs, 2 inputs
MLG2-1640F212	1023594	1640 mm	83	6 x PNP outputs, 2 inputs
MLG2-1780F212	1024063	1780 mm	90	6 x PNP outputs, 2 inputs
MLG2-2240I212	1023597	2240 mm	113	RS 485, 4 x PNP outputs, 2 inputs
MLG2-2240F212	1022606	2240 mm	113	6 x PNP, 2 inputs
MLG2-3140I212	1022096	3140 mm	158	RS 485, 4 x PNP outputs, 2 inputs

\* additional types on request

## Order information \*

## Operating range = 0 ... 5 m/beam spacing 30 mm/with plug/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG3-0420F812	1023598	420 mm	15	3 x PNP, 1 input
MLG3-0570F812	1023980	570 mm	20	3 x PNP, 1 input
MLG3-0720I812	1025635	720 mm	25	1 x PNP, RS 485, 1 input
MLG3-0870I812	1026172	870 mm	30	1 x PNP, RS 485, 1 input
MLG3-1020F812	1022169	1020 mm	35	3 x PNP, 1 input
MLG3-1320F812	1026347	1320 mm	45	3 x PNP, 1 input
MLG3-1470F812	1023556	1470 mm	50	3 x PNP, 1 input
MLG3-1470I812	1023642	1470 mm	50	1 x PNP, RS 485, 1 input
MLG3-1770F812	1024109	1770 mm	50	3 x PNP, 1 input
MLG3-1920F812	1026586	1920 mm	65	3 x PNP, 1 input
MLG3-1920I812	1023392	1920 mm	65	1 x PNP, RS 485, 1 input
MLG3-2070F812	1022292	2070 mm	70	3 x PNP, 1 input
MLG3-2070I812	1028548	2070 mm	70	1 x PNP, RS 485, 1 input
MLG3-2220F812	1022173	2220 mm	75	3 x PNP, 1 input
MLG3-2220I812	1026549	2220 mm	75	1 x PNP, RS 485, 1 input
MLG3-2670F812	1023599	2670 mm	90	3 x PNP, 1 input
MLG3-2820F812	1022174	2820 mm	95	3 x PNP, 1 input
MLG3-3120F812	1023780	3120 mm	105	3 x PNP, 1 input
MLG3-3120I812	1024071	3120 mm	105	1 x PNP, RS 485, 1 input

## Operating range = 0 ... 5 m/beam spacing 30 mm/with terminal chamber/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG3-0270F212	1028343	270 mm	10	6 x PNP outputs, 2 inputs
MLG3-1470F212	1026648	1470 mm	50	6 x PNP outputs, 2 inputs
MLG3-1770F212	1023600	1770 mm	60	6 x PNP outputs, 2 inputs
MLG3-2070F212	1023601	2070 mm	70	6 x PNP outputs, 2 inputs
MLG3-2220F212	1024158	2220 mm	75	6 x PNP outputs, 2 inputs
MLG3-2820F212	1023602	2820 mm	95	6 x PNP outputs, 2 inputs

## Operating range = 0 ... 5 m/beam spacing 50 mm/with plug/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG5-0100T812	1026233	100 mm	3	1 x NPN, RS 485, 1 input
MLG5-0250F812	1023603	250 mm	6	3 x PNP, 1 input
MLG5-0250I812	1023607	250 mm	6	1 x PNP, RS 485, 1 input
MLG5-0550F812	1024267	550 mm	12	3 x PNP, 1 input
MLG5-0700F812	1022175	700 mm	15	3 x PNP, 1 input
MLG5-0850I812	1024058	850 mm	18	1 x PNP, RS 485, 1 input
MLG5-1150F812	1022176	1150 mm	24	3 x PNP, 1 input
MLG5-1300I812	1023432	1300 mm	27	1 x PNP, RS 485, 1 input
MLG5-1450F812	1023604	1450 mm	30	3 x PNP, 1 input
MLG5-1450I812	1023608	1450 mm	30	1 x PNP, RS 485, 1 input
MLG5-1600F812	1022177	1600 mm	33	3 x PNP, 1 input
MLG5-1600I812	1026294	1600 mm	33	1 x PNP, RS 485, 1 input
MLG5-1600E812	1024070	1600 mm	33	3 x NPN, 1 input
MLG5-1750I812	1027082	1750 mm	36	1 x PNP, RS 485, 1 input
MLG5-1900F812	1023605	1900 mm	40	3 x PNP, 1 input
MLG5-1900I812	1023956	1900 mm	40	1 x PNP, RS 485, 1 input
MLG5-2350F812	1022178	2350 mm	48	3 x PNP, 1 input
MLG5-2800F812	1023606	2800 mm	57	3 x PNP, 1 input
MLG5-2800I812	1023609	2800 mm	57	1 x PNP, RS 485, 1 input
MLG5-3100F812	1023803	3100 mm	63	3 x PNP, 1 input

\* additional types on request

## Order information \*

### Operating range = 0 ... 5 m/beam spacing 50 mm/with terminal chamber/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG5-0850F212	1023610	850 mm	18	6 x PNP, 2 inputs
MLG5-1000I212	1023614	1000 mm	21	4 x PNP, RS 485, 2 inputs
MLG5-1150F212	1025336	1150 mm	24	6 x PNP, 2 inputs
MLG5-1150I812	1026238	1150 mm	24	1 x PNP, RS 485, 1 input
MLG5-1450F212	1025254	1450 mm	30	6 x PNP, 2 inputs
MLG5-1450I212	1023615	1450 mm	30	4 x PNP, RS 485, 2 inputs
MLG5-1600F212	1023611	1600 mm	33	6 x PNP, 2 inputs
MLG5-1750F212	1025327	1750 mm	36	6 x PNP, 2 inputs
MLG5-1750E212	1025297	1750 mm	36	6 x NPN, 2 inputs
MLG5-1900F212	1025341	1900 mm	39	6 x PNP, 2 inputs
MLG5-2050F212	1025345	2050 mm	42	6 x PNP, 2 inputs
MLG5-2200F212	1023612	2200 mm	45	6 x PNP, 2 inputs
MLG5-2350F212	1024124	2350 mm	48	6 x PNP, 2 inputs
MLG5-2500F212	1023613	2500 mm	51	6 x PNP, 2 inputs
MLG5-2500I212	1023358	2500 mm	51	4 x PNP, RS 485, 2 inputs

### Operating range = 0 ... 8.5 m/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG1-0140I222	1027238	140 mm	15	4 x PNP, RS 485, 2 inputs
MLG1-0290I822	1022572	290 mm	30	1 x PNP, RS 485, 1 input
MLG1-0590I822	1023872	590 mm	60	1 x PNP, RS 485, 1 input
MLG1-0590F822	1028441	590 mm	60	3 x PNP, 1 input
MLG1-0590E822	1028441	590 mm	60	3 x PNP, 1 input
MLG3-0870F822	1023841	870 mm	30	3 x PNP, 1 input
MLG3-1770I822	1023800	1770 mm	60	1 x PNP, RS 485, 1 input
MLG2-1940I822	1024289	1940 mm	98	1 x PNP, RS 485, 1 input
MLG5-2350F822	1025461	2350 mm	48	1 x PNP, RS 485, 1 input
MLG1-2390I822	1025817	2390 mm	240	3 x PNP, 1 input
MLG5-2800I822	1025774	2800 mm	57	1 x PNP, RS 485, 1 input
MLG3-2820F822	1025773	2820 mm	95	1 x PNP, RS 485, 1 input
MLG3-3120F822	1025597	3120 mm	105	6 x PNP, 2 inputs
MLG2-3140I222	1025421	3140 mm	158	4 x PNP, RS 485, 2 inputs

Type	Interfaces
F8x2	3 x PNP-outputs, 1 input
F2x2	6 x PNP-outputs, 2 inputs
I8x2	RS 485 data interface, 1 x PNP-output, 1 input
I2x2	RS 485 data interface, 4 x PNP-outputs, 2 inputs
T8x2	RS 485 data interface, 1 x NPN-output, 1 input

### Operating range = 0 ... 5 m/beam spacing 10 mm/with Profibus interface/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG1-0140P811	1027723	140 mm	15	1 x PNP
MLG1-0290P811	1028533	290 mm	30	1 x PNP
MLG1-0590P811	1028940	590 mm	60	1 x PNP
MLG1-0740P811	1288847	740 mm	75	1 x PNP
MLG1-1340P811	1029194	1340 mm	135	1 x PNP
MLG1-1640P811	1029454	1640 mm	165	1 x PNP
MLG1-1790P811	1029195	1790 mm	180	1 x PNP
MLG1-2090P811	1029629	2090 mm	210	1 x PNP
MLG1-2240P811	1028536	2250 mm	225	1 x PNP
MLG1-2390P811	1028534	2390 mm	240	1 x PNP

\* additional types on request or under [www.sick.com](http://www.sick.com) .../productfinder

## Order information \*

## Operating range = 0 ... 5 m/beam spacing 20 mm/with Profibus interface/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG2-0280P811	1029525	280 mm	15	1 x PNP
MLG2-0580P811	1028848	580 mm	30	1 x PNP
MLG2-0740P811	1029958	740 mm	38	1 x PNP
MLG2-0880P811	1028706	880 mm	45	1 x PNP
MLG2-1040P811	1029526	1040 mm	53	1 x PNP
MLG2-1780P811	1028532	1780 mm	90	1 x PNP
MLG2-2380P811	1029971	2380 mm	120	1 x PNP

## Operating range = 0 ... 5 m/beam spacing 25 mm/with Profibus interface/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG7-0725P811	1040003	725 mm	30	1 x PNP

## Operating range = 0 ... 5 m/beam spacing 30 mm/with Profibus interface/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG3-1020P811	1029059	1020 mm	35	1 x PNP
MLG3-1170P811	1029986	1170 mm	40	1 x PNP
MLG3-1620P811	1029554	1620 mm	55	1 x PNP
MLG3-1770P811	1028631	1770 mm	60	1 x PNP
MLG3-2070P811	1029168	2070 mm	70	1 x PNP

## Operating range = 0 ... 5 m/beam spacing 50 mm/with Profibus interface/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG5-0400P811	1029867	400 mm	9	1 x PNP
MLG5-0700P811	1028535	700 mm	15	1 x PNP
MLG5-0850P811	1028478	850 mm	18	1 x PNP
MLG5-1150P811	1028845	1150 mm	24	1 x PNP
MLG5-1300P811	1029473	1300 mm	27	1 x PNP
MLG5-1450P811	1028846	1450 mm	30	1 x PNP
MLG5-1900P811	1029456	1900 mm	39	1 x PNP
MLG5-2050P811	1028739	2050 mm	42	1 x PNP
MLG5-2800P811	1028844	2800 mm	57	1 x PNP

## Operating range = 0 ... 8.5 m/beam spacing 20 mm/with Profibus interface/Type: programmable with MLGsetup

Type	Order no.	Height	Beams	Switching outputs
MLG2-0280P821	1028764	280 mm	15	1 x PNP

## Accessories MLG Profibus

Order no.	Type	Description
1027901	ADPT-PB-WI-MLG	Profibus Adapter, square MLG M12 male connector
1027921	ADPT-PB-GE-MLG	Profibus Adapter, round MLG M12 male connector
6029305	SBO-02G12-SM	T-junction M12, 5-pin to connect MLG S with Profibus Adapter
6025930	DSL-1205-G0M6C	Extension cable 0.6 m, female connector: M12, 5-pin, straight, male connector: M12, 5-pin, straight
6025931	DSL-1205-G02MC	Extension cable 2 m, female connector: M12, 5-pin, straight, male connector: M12, 5-pin, straight, PUR halogenfree
6029282	DSL-1205-G05MC	Extension cable 5 m, female connector: M12, 5-pin, straight, male connector: M12, 5-pin, straight, PUR halogenfree
6026006	DOL-12PR-G05	Profibus-female connector, M12, 5-pin, straight, shielded, B-coding with Profibus cable 5 m
6026008	DOL-12PR-G10	Profibus-female connector, M12, 5-pin, straight, shielded, B-coding with Profibus cable 10 m
6026005	STL-12PR-G05	Profibus-male connector, M12, 5-pin, straight, shielded, B-coding with Profibus cable 5 m
6026007	STL-12PR-G10	Profibus-male connector, M12, 5-pin, straight, shielded, B-coding with Profibus cable 10 m
6021353	PR-D0S-1205-G	Profibus-female connector, M12, 5-pin, straight, shielded, B-coding
6021354	PR-STE-1205-G	Profibus-male connector, M12, 5-pin, straight, shielded, B-coding
6021355	LTG-2102-MW	Profibus cable, 2 x 0.32 mm <sup>2</sup> , Specify length

Please remember to order the appropriate accessories. Cable, mounting kit and adapter cable are not included in the supply.

\* additional types on request

Dimensional drawings and order information

Cables and connectors MLG

To connect MLGS at MLGE and PLC

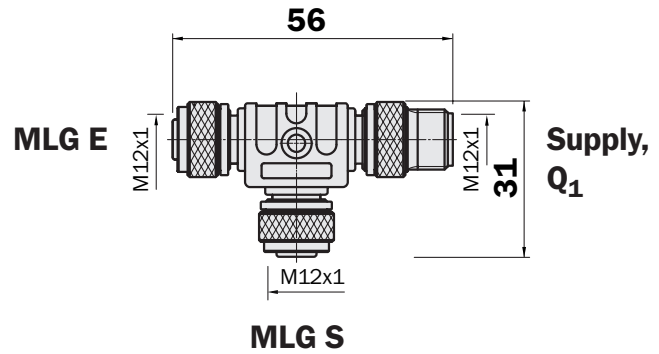
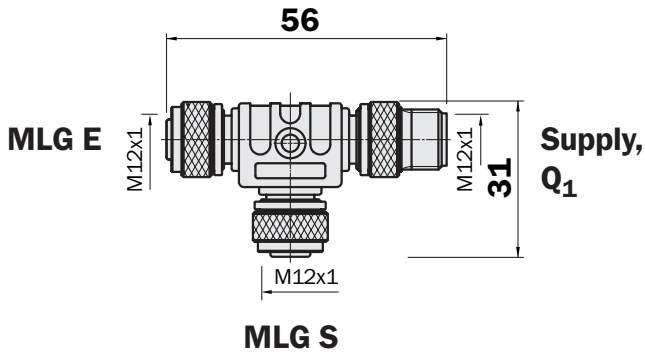
**NEW**

T-Junction M12, 5-pin

Type	Order no.
SBO-02G12-SM	6029305

T-Junction M12, 8-pin

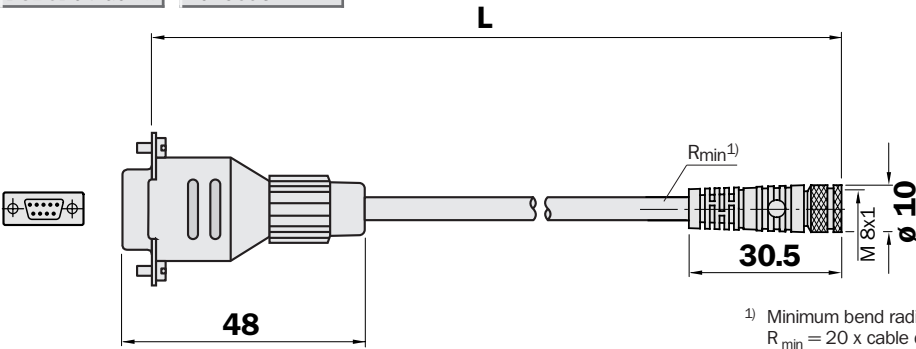
Type	Order no.
SBO-02F12-SM	6029306



Parametering cable PC to MLGE (L = 2 m)

Cable diameter 5 mm, 4 x 0.25 mm<sup>2</sup>, sheath PVC

Type	Order no.
DSL-8D04-G02M	2023695



<sup>1)</sup> Minimum bend radius in dynamic use  
 $R_{min} = 20 \times \text{cable diameter}$

<b>MLGsetup</b>
<b>parametering software (CD-ROM)</b>
<b>For Windows 95<sup>®</sup>, Windows 98<sup>®</sup>,</b>
<b>Windows NT<sup>®</sup>, Windows ME<sup>®</sup>,</b>
<b>Windows XP<sup>®</sup> configuration</b>
<b>software</b>
<b>Order no.</b>
2023827

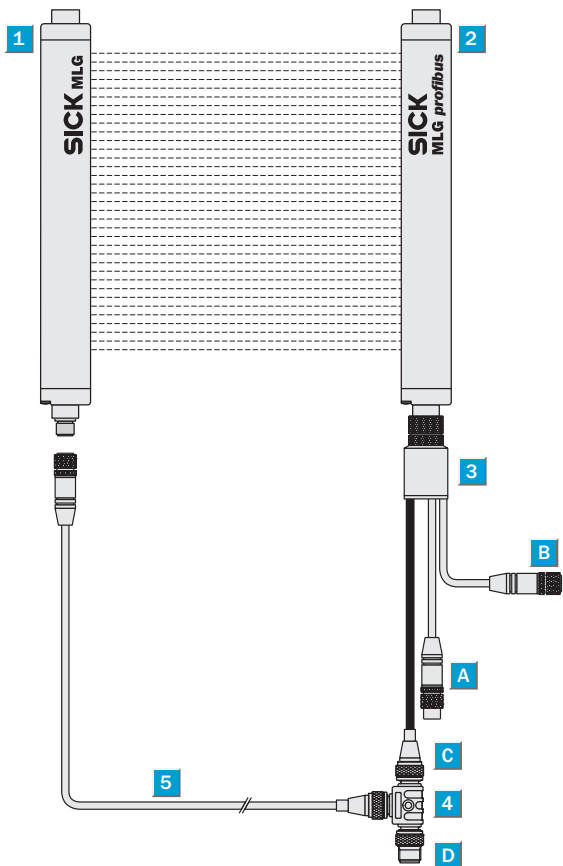
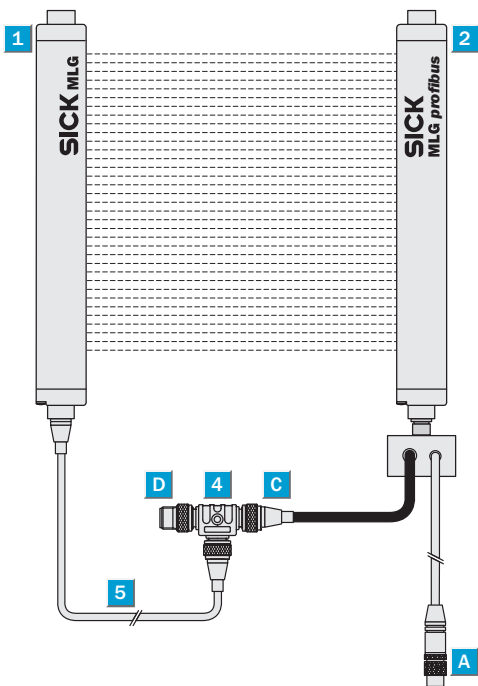
Dimensional drawings and order information

System cabling with Profibus adapter, angled 3

Type	Order no.
PB-ADPT-WI-MLG	1027901

System cabling with Profibus adapter, straight 3

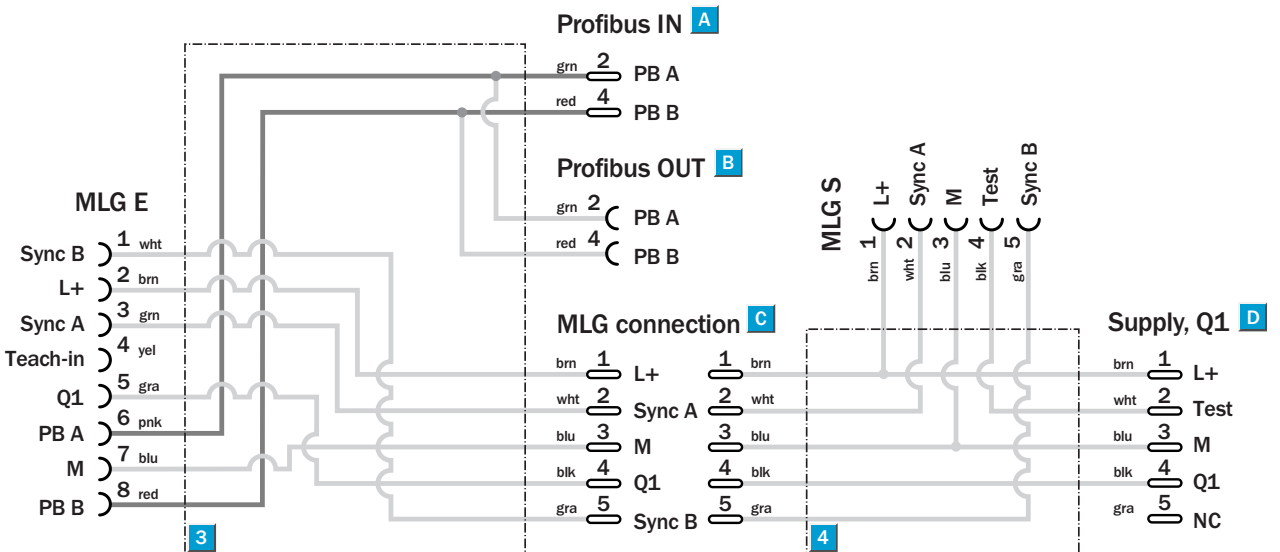
Type	Order no.
PB-ADPT-GE-MLG	1027921



- 1 MLG sender (MLG S)
- 2 MLG receiver (MLG E)
- 3 Angled Profibus Adapter
- 4 T-junction M12, 5-pin
- 5 Connection cable
- A Profibus IN
- B Profibus OUT
- C MLG connection
- D Supply, Q1

- 1 MLG sender (MLG S)
- 2 MLG receiver (MLG E)
- 3 Straight Profibus Adapter
- 4 T-junction M12, 5-pin
- 5 Connection cable
- A Profibus IN
- B Profibus OUT
- C MLG connection
- D Supply, Q1

Connection diagram Profibus adapter 3 T-junction M12, 5-pin 4



## The 3-in-1 solution: sensor, Job-LED and reflector in one device

For assembly lines and picking;  
easy removal and fast access.



### THE JOB

- 360° visible Job-LED
- Signals the selected bin
- Optically confirms correct access
- Switchable Job-LED: permanently lit or flashing

### THE CONCEPT

The reflective foil on the back of the sensor simultaneously acts as a reflector for the adjacent Pick2Light:

- Avoids additional assembly and cabling
- Saves costs
- Protected from reflections and ambient light
- Ranges up to 2 metres are possible



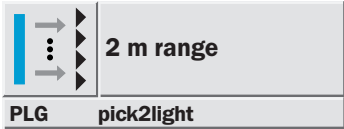
### THE PHILOSOPHY

- No bin restriction because the sensor is mounted outside the bin
- For any bin size: The sensor may be mounted horizontally or vertically
- Ergonomic, no injury risk
- Stable aluminium housing

### THE FLEXIBILITY

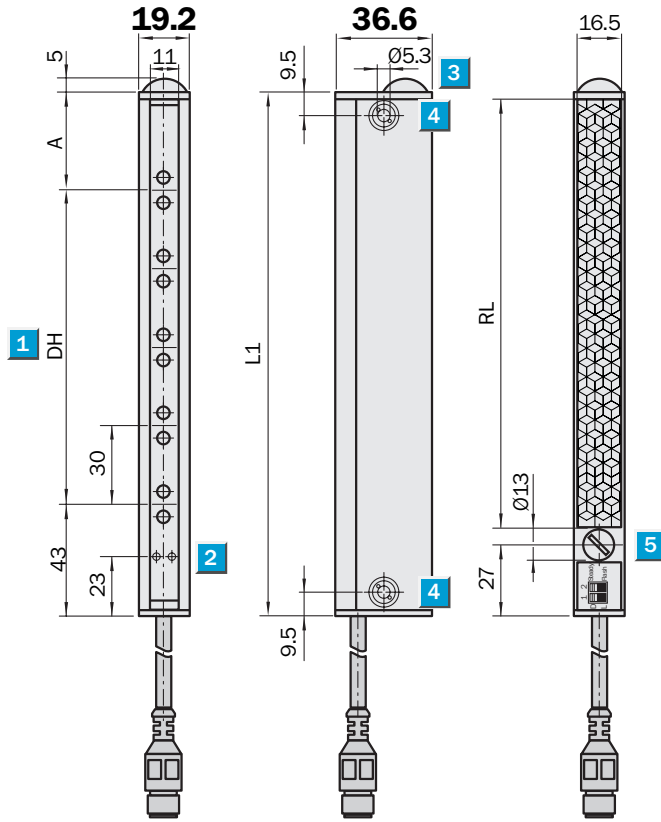
- 5 different sensor heights, depending on bin contents
- 2 fixing screws are sufficient
- Slides easily in the profile
- For T slots, Bosch profiles, ITEM profiles etc.





- Picking light grid
- Reliable hand detection
- Easy set up
- Industrial housing
- Steady/flashing Job-LED
- Light/dark switching

## Dimensional drawing

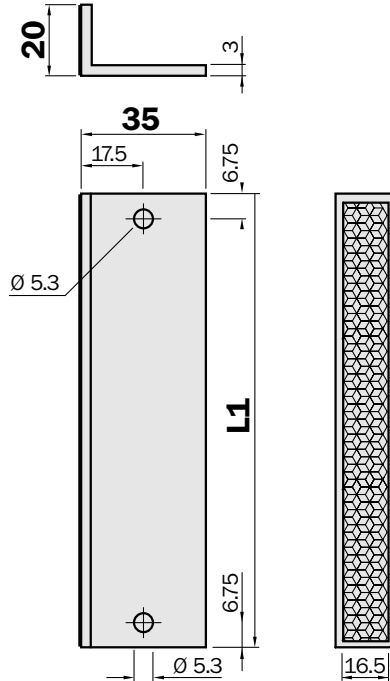


DH	A	L1	RL
120	36	199	162
210	26	279	242
270	36	349	312
360	26	429	392
420	36	499	462

- 1** Detection height (DH)  
120 to 420 mm
- 2** Indicator Power On: green;  
beam status: yellow
- 3** Green Job-LED
- 4** Configuration switches
- 5** Mounting holes Ø 5.3 mm



## Reflector, Diamond Grade on aluminium profile for Pick2Light, same mask as sensor

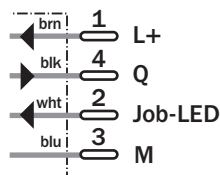
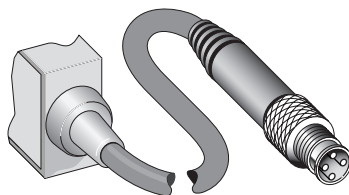


Type	Order no.	L1
REF-PLG120	1 029 196	194.3
REF-PLG210	1 029 197	274.3
REF-PLG270	1 029 198	344.3
REF-PLG360	1 029 199	424.3
REF-PLG420	1 029 200	494.3

- See chapter Accessories**
- Cables and connectors
  - Reflectors
  - Mounting brackets (on request)

## Connection types

PLG3-xxxF431



M12, 4-pin, with 280 mm cable



Technical data		PLG3-	120 F431	210 F431	270 F431	360 F431	420 F431					
<b>Scanning range, typ. max.</b>	0.1 ... 1.5 m/REF-PLG											
	0.1 ... 2.0 m/PL150											
<b>Detection height</b>	120 mm											
	210 mm											
	270 mm											
	360 mm											
	420 mm											
<b>Supply voltage V<sub>s</sub></b>	15 ... 30 V DC <sup>1)</sup>											
Residual ripple	< 10 % within V <sub>s</sub> tolerances											
Current consumption <sup>2)</sup> sender	Typ. 45 mA											
	Job LED	Typ. 10 mA										
Light source	LED, visible red light											
<b>Connection</b>	M12, 4-pin with 280 mm cable											
<b>Switching output <sup>3)</sup></b>	PNP output: Q											
Operating mode	Dark & light switching (per switch)											
Output current I <sub>A</sub> max.	100 mA											
Output load	Capacitive load: 100 nF/											
	Inductive load: 1 H											
<b>Response time <sup>4)</sup></b>	< 100 ms											
Initialisation period	Max. 600 ms											
<b>Input Job LED activate</b>	Input to V <sub>s</sub> (15 ... 30 V DC)											
Input current I <sub>A</sub> max.	12 mA											
<b>VDE protection class</b>	⊠											
<b>Circuit protection <sup>5)</sup></b>	A, B, C											
<b>Enclosure rating</b>	IP 54											
<b>Ambient temperature T<sub>A</sub></b>	Operation -10 ... +55 °C											
	Storage -25 ... +70 °C											
<b>Mechanical resistance</b>	Vibration: 5 g/10-55/s - IEC 68-2-6											
	Shock: 10 g/16 ms - IEC 68-2-29											
<b>Weight</b>	Approx. 200 g <sup>6)</sup>											
<b>Material</b>	Housing	Aluminium, anodized										
	Front lens	PMMA										

- 1) Limit values
- 2) Without load at V<sub>s</sub> = 24 V, without Job LED
- 3) NPN on request
- 4) With resistive load
- 5) A = V<sub>s</sub>-connection, reverse polarity protected  
B = Outputs short-circuit protected  
C = Interference suppression
- 6) Increment: 50 g / 50 mm detection height

Optical performance						
Beam spacing	Detection height	MDO: minimum detectable object size				
		in front of PLG	at 0.3 m	at 0.6 m	1.0 m	
30 mm	120 ... 420 mm	30 mm	45 mm	60 mm	80 mm	

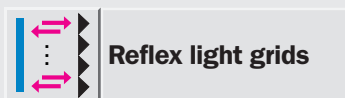
MDO: Minimum Detectable Object size for non-moving objects measured in a direction parallel to Pick2light

Min./operating/max. range vs reflector		Configuration over switches:		Order information	
1	0.1   1.0   1.5	D	Steady	Type	Order no.
2	0.1   1.3   2.0	L	Flash	PLG3-120F431	1028953
3	0.3   1.5   2.3			PLG3-210F431	1028548
				PLG3-270F431	1029130
				PLG3-360F431	1029131
				PLG3-420F431	1029132

REFLECTOR	Operating range	Scanning range, max. typical
1 REF-PLG	0.1 - 1.5 m	0.1 - 1.5 m
2 PL150	0.1 - 2.0 m	0.1 - 2.0 m
3 PL180	0.1 - 2.3 m	0.1 - 2.3 m

# WLG 12: Reflex light grids with eight light beams



switching outputs include checking the edges of material runs, and detecting and sorting bottles (measuring light grid).

Depending on the sensitivity setting, objects with a size of over 12.5 mm and at a distance of 1.5 m can be detected just as reliably as objects of just 6 mm at a distance of 0.4 m. The reliable detection of transparent objects such as glass, and reflective surfaces (thanks to polarising filters), is also possible.

The annoying thing about pipe ends, damaged pallets and other conveyed objects from a detection point of view is that their height or position can vary while they are being transported by an automatic conveyor system.

Early and reliable detection of, for example, a pallet as it enters a pallet stacker or lifting gear is, however, essential. These are typical examples of applications for the WLG 12 reflex light grid.

Eight parallel beams form a 100 mm high light grid. If one or more light beams are broken by an object, the WLG 12 generates an "object detected" switching signal (switching light grid). Further examples for the use of the WLG 12 with eight individual

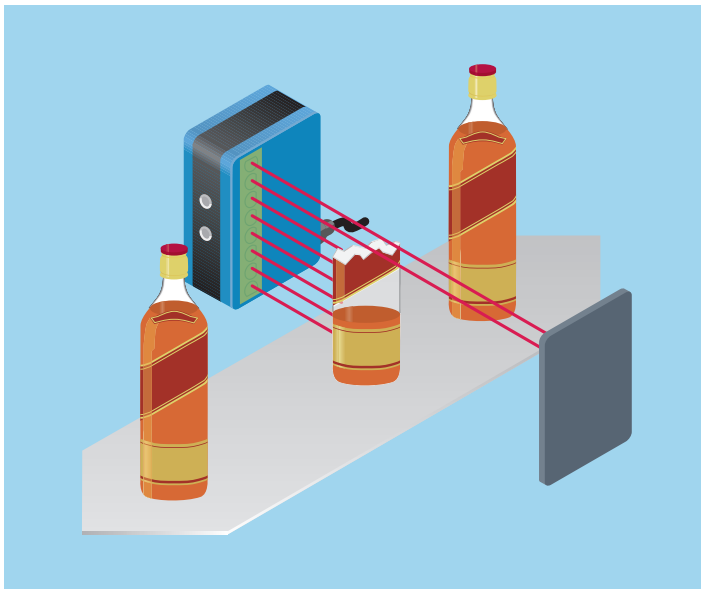
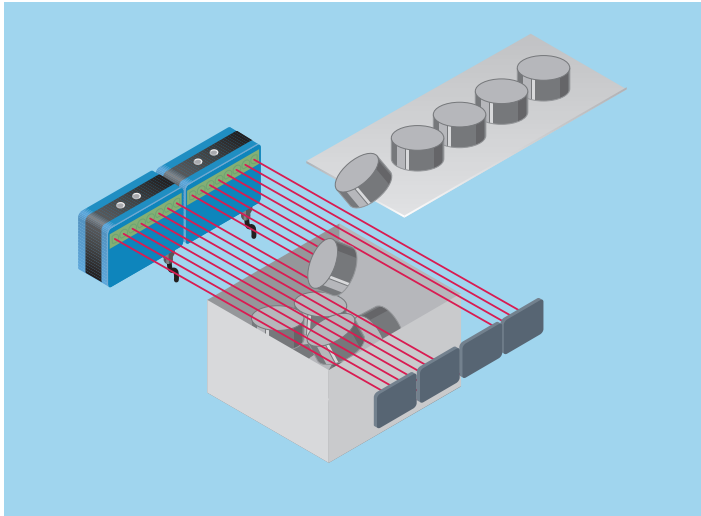
Among the many features contributing to the WLG 12's simple commissioning and operation are:

- The visible red light of the sender LED, used as an alignment aid,
- programming objects to be detected using the "Teach-in" method,
- The multifunction display indicating switching state, Teach-in status and errors occurring during Teach-in.

Two versions are available: with one switching output or with individual switching outputs for each of the eight light beams.

► Counting irregularly shaped objects, e.g. during metal production.

▼ Two WLG grids, installed horizontally, used to count objects before packaging.



▲ The WLG also detects transparent objects such as bottles in sorting systems. Defective containers are reliably detected.



▲ With its eight parallel light beams, the WLG 12 reflex light grid can detect any damaged pallets.

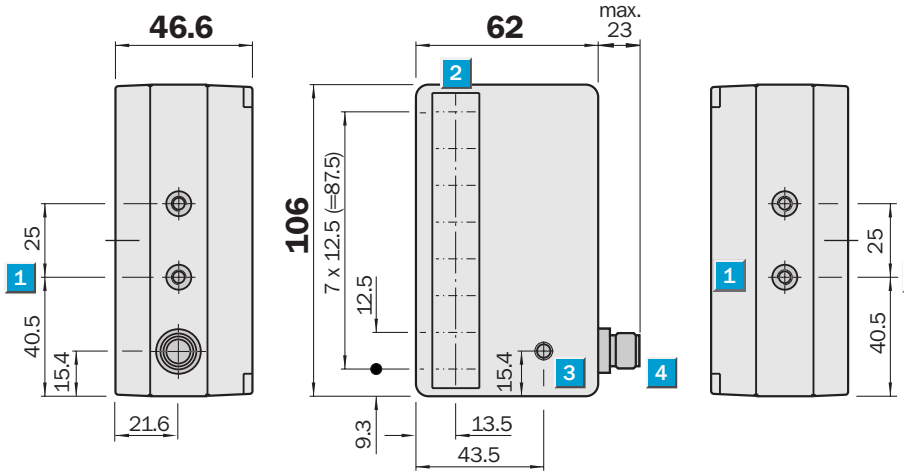
**Scanning range**  
0 ... 1.5 m

Reflex light grids

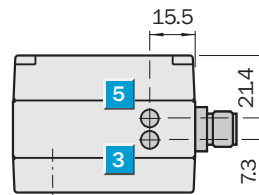
- Teach-in for optimum sensitivity adjustment
- Detection of objects from 6 mm diameter
- Short response time
- Red light as alignment aid
- Reliable detection of reflective objects



## Dimensional drawing



- 1 M5 threaded mounting hole, 6 mm deep
- 2 Optics
- 3 Multi-function indicators at front and top: reception indicator, contamination indicator, Teach-in error
- 4 5-pin, M12 plug or 2 m cable
- 5 Power indicator
- 6 Potentiometer for sensitivity adjustment

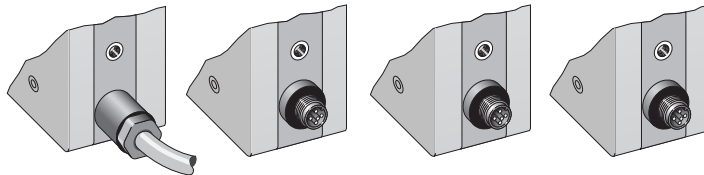


## Choice of sensitivity range

Potentiometer setting	Resolution	Scanning range	Reflector
1	> 12.5 mm	1.5 m	2 x PL 80 A/PL 40 A
2	> 10 mm	1.2 m	2 x PL 80 A/PL 40 A
3	> 9 mm	1.0 m	PL 180 E01
4	> 7 mm	0.8 m	PL 180 E01
5	> 6 mm	0.4 m	PL 180 E01

## Connection types

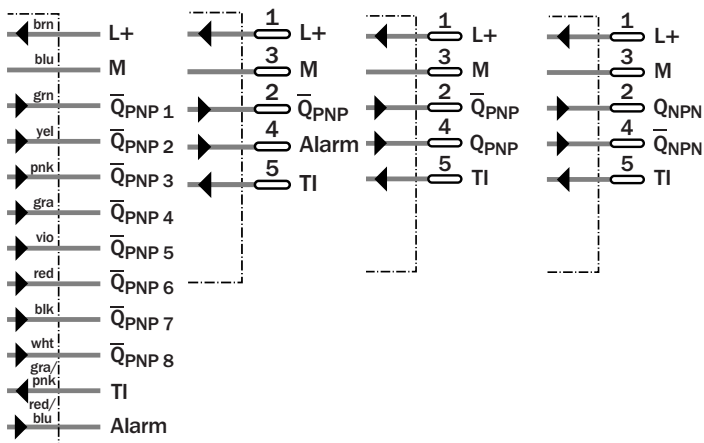
WLG 12-G 137    WLG 12-V 537    WLG 12-P 537    WLG 12-N 537



## See chapter Accessories

- Cables and connectors
- Mounting systems
- Reflectors

## 12-wire cable    5-pin, M12    5-pin, M12    5-pin, M12



Technical data		WLG 12-	G 137	V 537	P 537	N 537						
Scanning range, max. typ./on reflector	1.5 m/to 2 x PL 40 A or 2 x PL 80 A											
Light source <sup>1)</sup> , light type	Red light, pulsed											
Resolution, adjustable	6...12.5 mm (see table of settings)											
Light spot diameter	10 mm											
Distance to optic axis	12.5 mm											
Divergence of adjacent channels	Approx. 0.2 °											
Angle of dispersion of light beam	Approx. 0.4 °											
Supply voltage V <sub>S</sub>	18...30 V DC <sup>2)</sup>											
Residual ripple <sup>3)</sup>	< 5 V <sub>SS</sub>											
Current consumption <sup>4)</sup>	Approx. 80 mA											
Switching outputs	PNP, 8 x $\bar{Q}$ and alarm PNP, $\bar{Q}$ and alarm PNP, $\bar{Q}$ and Q NPN, $\bar{Q}$ and Q											
Output current I <sub>A</sub> max.	Total 100 mA + 100 mA for alarm 100 mA per output											
Output voltage HIGH	V <sub>S</sub> - (≤ 2 V, at I max.)											
Output voltage LOW	0 V											
Response time <sup>5)</sup>	0.6 ms											
Max. switching frequency <sup>6)</sup>	850 Hz											
Alarm output	Alarm is activated acc. to Teach-in procedure, if at least one of the light beams is damped such that the required level of functional safety is not achieved.											
Teach-in (TI)	TI on 0 V											
Teach-in minimum time	Approx. 10 ms											
Teach-in activation time	Approx. 200 ms											
Connection type	2 m, 12-wire cable <sup>7)</sup> 5-pin, M12 plug											
VDE protection class <sup>8)</sup>	<input type="checkbox"/>											
Circuit protection <sup>9)</sup>	A, B, C											
Enclosure rating	IP 67											
Ambient temperature T <sub>A</sub>	Operation -25 °C ... +55 °C Storage -25 °C ... +75 °C											
Weight	Approx. 230 g											
Polarisation filter												
Housing material	Fibreglass reinforced plastic											

<sup>1)</sup> Average service life 100,000 h at T<sub>A</sub> = +25 °C  
<sup>2)</sup> Limit values

<sup>3)</sup> May not exceed or fall short of V<sub>S</sub> tolerances  
<sup>4)</sup> Without load

<sup>5)</sup> Signal transit time with resistive load  
<sup>6)</sup> With light/dark ratio 1:1  
<sup>7)</sup> Do not bend below 0 °C  
<sup>8)</sup> Reference voltage DC 50 V

<sup>9)</sup> A = V<sub>S</sub> connections reverse-polarity protected  
B = Outputs Q and  $\bar{Q}$  short-circuit protected  
C = Interference pulse suppression

**Commissioning**

**Notes**

When the W 12 is first commissioned, a Teach-in procedure must be carried out.

- Set potentiometer to required resolution (see table 6), delivery condition 10 mm.
- Trigger Teach-in procedure with free light path through control wire (Connect T1 to 0 V)

The sensitivity range should be selected in a voltage-free condition. In the event of temperature fluctuations > 15 °C, adjustment or contamination, a new Teach-in process must be carried out.  
The switching threshold that has been taught is maintained on loss of voltage.

**Order information**

Type	Order no.
WLG 12-G 137	1 016 046
WLG 12-V 537	1 016 045
WLG 12-P 537	1 015 798
WLG 12-N 537	1 023 285