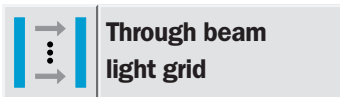


ELG – the simplest light grid for standard applications



For 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:


- Wide selection from 40 different options
- Simple integration
- Simple commissioning

Benefits for you:

- Simple conversion from standard light barriers to ELG via standard pin with AS interface module compatibility
- Cost-effective and fast integration via optical synchronization
- Detection of 25 mm diameter objects or larger
- Can be installed in sunlight
- Robust and compact IP 65 aluminium housing
- Various operating ranges from 2 m or 12 m for indoor and outdoor application areas
- Beam spacing 30 mm and 60 mm/detection height 90 mm to 2460 mm
- Three flexible mounting solutions.

Main applications are:

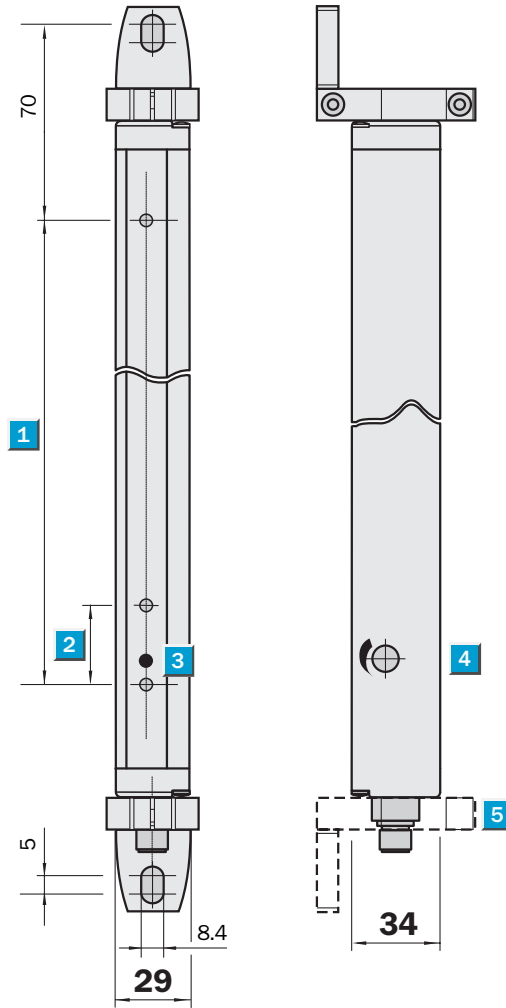
- Excess level monitoring on pallets
- Object detection with curved or irregular structures in diecast materials
- Access control in door and gate systems, etc.


2 m range
 Through beam light grid

- Industrial standard outputs
- Optical synchronization
- Compact housing
- Sensitivity adjustment



Dimensional drawing

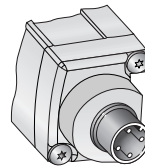
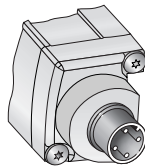


- 1** Detection height (see next page)
- 2** Beam spacing ELG 3: 30 mm
- 3** Status indicator (ELG E)/Power on (ELG S)
- 4** Sensitivity adjustment
- 5** M12 plugs, 4-pin

Connection type

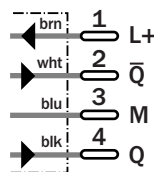
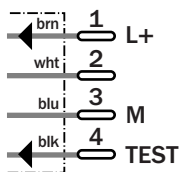
ELG S3-xxxD511

ELG E3-xxxP511



Sender
M12, 4-pin

Receiver
M12, 4-pin



Accessories
Connection
Mounting systems

Technical data		ELG 3-	0090	0150	0210	0330	0210	0330	0450	0570	0690	0930
Beam spacing	30 mm											
Detection height	See selection table p6											
Number of beams	See selection table p6											
Range	0 ... 2 m											
Multiple scan	3 x (reduced MDO)											
Synchronization	Optical synchronization											
Light source	LED, infrared											
Voltage supply U_V ¹⁾	15 ... 30 V DC											
Residual ripple	< 10 % within U_V tolerance											
Current consumption Sender	< 100 mA											
Current consumption Receiver ²⁾	< 100 mA											
Connection	M12 plug, 4-pin											
Switch output	2 x PNP output ³⁾ : \bar{Q} and Q											
Operating mode	Q: dark-/ \bar{Q} : light-switching											
Output current I_A max.	100 mA											
Output load	Capacitive load: 100 nF Inductive load: 1H											
Response time ⁴⁾	Max. 50 ms											
Initialisation duration	Max. 300 ms											
High immunity against ambient light	150,000 lx (sunlight)											
VDE protection class	III											
Circuit protection ⁵⁾	A, B, C											
Enclosure rating	IP 65											
Ambient temperature	Operation -25 ... +55 °C Storage -40 ... +70 °C											
Mechanical resistance	Vibration: 5 g; 10-55/s – IEC 68-2-6 Shock: 10 g; 16 ms – IEC 68-2-29											
Weight ⁶⁾	Approx. 350 ... 1700 g											
Material	Aluminium anodized											

¹⁾ Setpoints

²⁾ Zero load at $U_V = 24$ V

³⁾ NPN also available

⁴⁾ With ohmic load

⁵⁾ A = U_V connectors, reverse polarity protected

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

C = Interface suppression


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

Optical performance

Beam spacing	Detection height	MDO: minimum detectable object ⁷⁾	
		in front of ELGS or ELGE	at mid-point between ELGS and ELGE
30 mm	90 ... 930 mm	35 mm	35 mm
			25 mm ⁸⁾

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

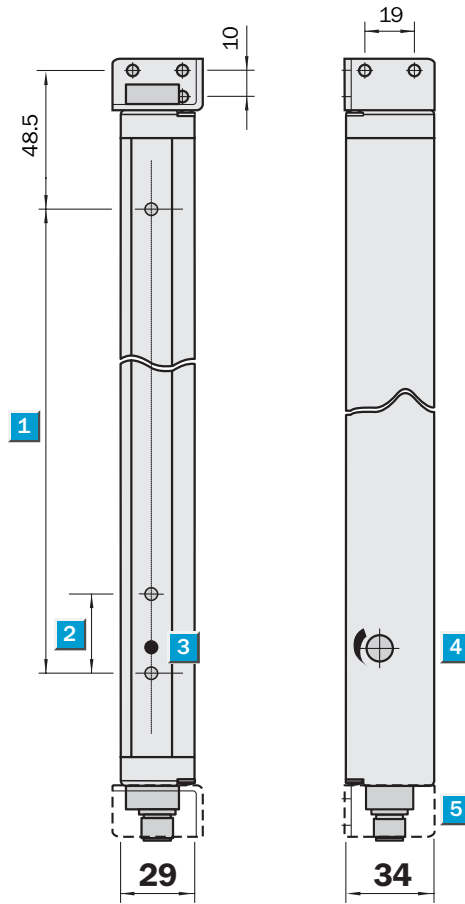
⁸⁾ Only ELG 3-XXXXP513 with multiple scan


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

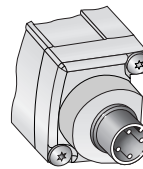
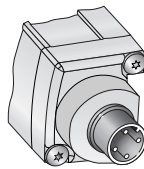


- 1** Detection height (see next page)
- 2** Beam spacing ELG 3: 30 mm/ELG 6: 60 mm
- 3** Status indicator (ELG E)/Power on (ELG S)
- 4** Sensitivity adjustment
- 5** M12 plugs, 4-pin

Connection type

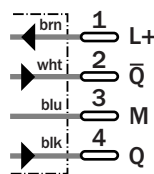
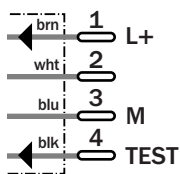
ELG S3-xxxxD521
 ELG S6-xxxxD521

ELG E3-xxxxP521
 ELG E6-xxxxP521



Sender
 M12, 4-pin

Receiver
 M12, 4-pin



Accessories
 Connection
 Mounting systems

Technical data		ELG X-	0450	0570	0690	0930	1050	1410	1650	1890	2070	2370
Beam spacing	See selection table p6											
Detection height	See selection table p6											
Number of beams	See selection table p6											
Range	0 ... 12 m											
Synchronization	Optical synchronization											
Light source	LED, infrared											
Voltage supply U_V ¹⁾	15 ... 30 V DC											
Residual ripple	< 10 % within U_V tolerance											
Current consumption Sender	< 100 mA											
Current consumption Receiver ²⁾	< 100 mA											
Connection	M12 plug, 4-pin (cable optional)											
Switch output ³⁾	2 x PNP output: \bar{Q} and Q											
Operating mode	Q: dark-/ \bar{Q} : light-switching											
Output current I_A max.	100 mA											
Output load	Capacitive load: 100 nF Inductive load: 1H											
Response time ⁴⁾	Max. 100 ms											
Initialisation duration	Max. 300 ms											
High immunity against ambient light	150,000 lx (sunlight)											
VDE protection class	III											
Circuit protection ⁵⁾	A, B, C											
Enclosure rating	IP 65											
Ambient temperature	Operation -25 ... +55 °C Storage -40 ... +70 °C											
Mechanical resistance	Vibration: 5 g; 10-55/s – IEC 68-2-6 Shock: 10 g; 16 ms – IEC 68-2-29											
Weight ⁶⁾	Approx. 950 ... 3300 g											
Material	Aluminium anodized											

¹⁾ Setpoints

²⁾ Zero load at $U_V = 24$ V

³⁾ NPN also available

⁴⁾ With ohmic load

⁵⁾ A = U_V connectors, reverse polarity protected

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

C = Interface suppression

⁶⁾ 950 g for 450 mm detection height, increase 160 g per 100 mm

Optical performance

Beam spacing	Detection height	MDO: minimum detectable object ⁷⁾		
		in front of ELGS or ELGE		at mid-point between ELGS and ELGE
30 mm	210 ... 1890 mm	35 mm	35 mm	25 mm ⁸⁾
60 mm	900 ... 2460 mm	65 mm	65 mm	35 mm ⁸⁾

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

⁸⁾ Only ELG 3-xxxxP523/ELG 6-xxxxP523 with multiple scan

Selection table/Order information *)

ELG short range, range = 0 ... 2 m/beam spacing 30 mm

Type	Part no.	Height	No. of beams	Interface/Multiple scan
ELG 3-0090P513	1 025 443	90 mm	4	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 3-0150P513	1 025 578	150 mm	6	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 3-0210P513	1 025 438	210 mm	8	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 3-0330P513	1 025 576	330 mm	12	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 3-0210P511	1 025 510	210 mm	8	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0330P511	1 025 575	330 mm	12	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0450P511	1 025 490	450 mm	16	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0570P511	1 025 501	570 mm	20	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0690P511	1 025 499	690 mm	24	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0930P511	1 025 492	930 mm	32	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input

ELG long range, range = 0 ... 12 m/beam spacing 30 mm

Type	Part no.	Height	No. of beams	Interface/Multiple scan
ELG 3-0210P521	1 025 574	210 mm	8	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0450P521	1 025 440	450 mm	16	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0690P521	1 025 568	690 mm	24	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0810P521	1 025 577	810 mm	28	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0930P521	1 025 511	930 mm	32	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1050P521	1 025 570	1050 mm	36	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1170P521	1 025 579	1170 mm	40	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1410P521	1 025 502	1410 mm	48	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1650P521	1 025 503	1650 mm	56	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1890P521	1 025 504	1890 mm	64	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-2070P521	1 025 505	2070 mm	70	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-2070P523	1 025 572	2070 mm	70	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 3-2370P521	1 025 573	2370 mm	80	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0210N521	1 025 613	210 mm	8	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0450N521	1 025 614	450 mm	16	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0690N521	1 025 615	690 mm	24	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-0930N521	1 025 616	930 mm	32	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1170N521	1 025 617	1170 mm	40	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1410N521	1 025 618	1410 mm	48	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1650N521	1 025 620	1650 mm	56	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 3-1890N521	1 025 621	1890 mm	64	NPN, 1 x \bar{Q} , 1 x Q, 1 Test input

ELG long range, range = 0 ... 12 m/beam spacing 60 mm

Type	Part no.	Height	No. of beams	Interface/Multiple scan
ELG 6-0900P521	1 025 447	900 mm	16	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 6-1080P521	1 025 586	1080 mm	19	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 6-1380P521	1 025 587	1380 mm	24	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 6-1380P523	1 025 588	1380 mm	24	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 6-1860P521	1 025 589	1860 mm	32	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 6-1860P523	1 025 593	1860 mm	32	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 6-2040P523	1 025 594	2040 mm	35	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan
ELG 6-2340P521	1 025 596	2340 mm	40	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input
ELG 6-2460P523	1 024 293	2460 mm	42	PNP, 1 x \bar{Q} , 1 x Q, 1 Test input, 3 x multiple scan

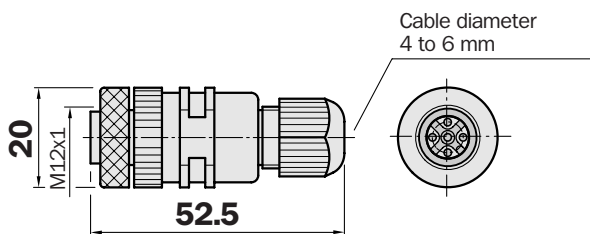
*) Additional options on request, minimum order: 20 systems

Dimensional drawings and order information

SENSICK round screw-in system M12, 5-pin, enclosure rating: IP 67

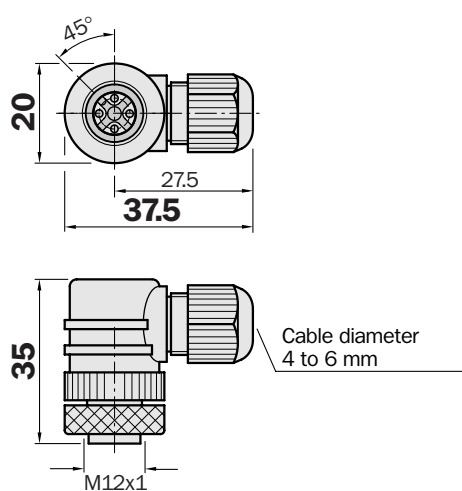
Cable connector M12, 5-pin, straight

Type	Part no.	Contacts
DOS-1205-G	6 009 719	5



Cable connector M12, 5-pin, angled

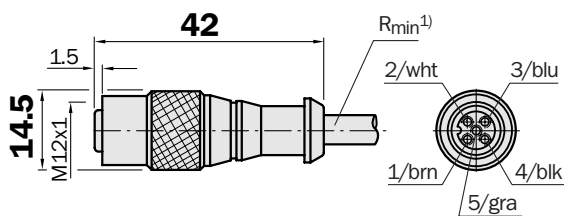
Type	Part no.	Contacts
DOS-1205-W	6 009 720	5



Cable connector M12, 5-pin, straight

Cable diameter 5/6 mm, 4/5 x 0.25 mm², PVC sheath

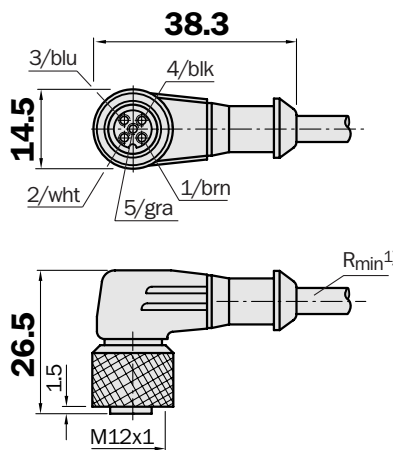
Type	Part no.	Contacts	Cable length
DOL-1205-G02M	6 008 899	5	2 m
DOL-1205-G05M	6 009 868	5	5 m
DOL-1205-G10M	6 010 544	5	10 m



Cable connector M12, 5-pin, angled

Cable diameter 5/6 mm, 4/5 x 0.25 mm², PVC sheath

Type	Part no.	Contacts	Cable length
DOL-1205-W02M	6 008 900	5	2 m
DOL-1205-W05M	6 009 869	5	5 m
DOL-1205-W10M	6 010 542	5	10 m



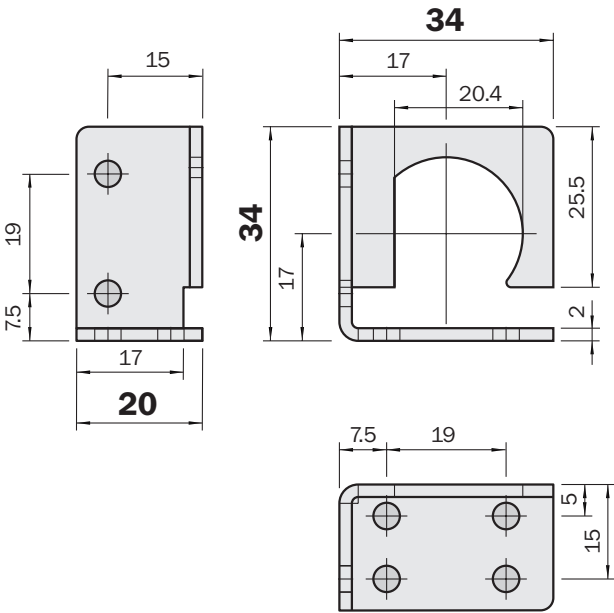
¹⁾ Minimum bend radius in dynamic use
R_{min} = 20 x cable diameter

Dimensional drawings and order information

Mounting kit 1 – compact metal angled bracket

For ELG S and ELG E, recommended for all detection heights

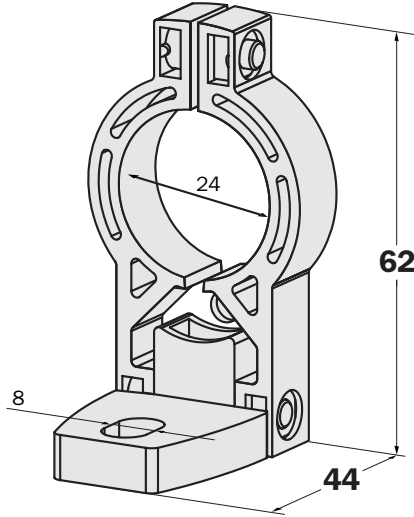
Type	Part no.	Item quantity
BEF-WK-XLG	2 029 100	4



Mounting kit 1 – swivel mount

For ELG S and ELG E, recommended for all detection heights up to 1600 mm

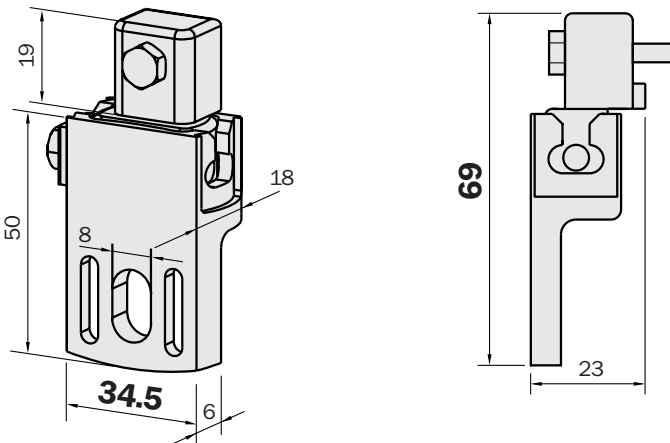
Type	Part no.	Item quantity
	2 019 649	4



Mounting kit 4 – T-nuts with shifting nuts

Side mounts with shifting nuts for all detection heights (for high vibration- and shock exposure)

Type	Part no.	Item quantity
BEF-NUT-MLG	2 023 696	4



Great Britain

Erwin Sick Ltd.
 Waldkirch House
 39 Hedley Road, St. Albans
 Hertfordshire AL 1 5BN
 ☎ +44 17 27-83 11 21
 Fax +44 17 27-85 67 67
 info@sick.co.uk

USA

SICK, Inc.
 6900 West 110th Street
 Bloomington, MN 55438
 ☎ +1 (952) 9 41-67 80
 Fax +1 (952) 9 41-92 87
 WATS: 1-800-325-7425
 info@sickusa.com

Australia

SICK PTY LTD
 P.O. Box 214
 899 Heidelberg Road
 Ivanhoe, Vic. 3079, Australia
 ☎ +61 39 49 74 10 0
 1800 33 48 02 - toll free
 Fax +61 39 49 71 18 7
 sales@sick.com.au

