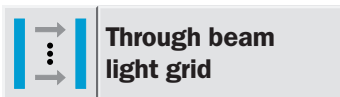


The new dimensions in efficiency and flexibility: Light grid ELG and MLG



- cost-effective and fast integration into the system,
- simple commissioning.

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.

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.

In addition, the multiple scan function makes it possible to detect not just large objects, but also small ones down to 10 mm.


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.

Advantages for you:

- Large selection of monitoring heights, beam spacing and scanning ranges etc.,

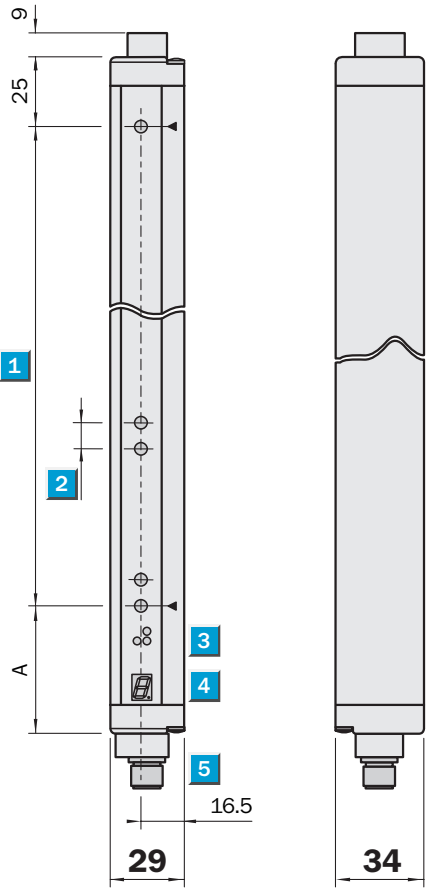



Scanning range
 0 ... 5/0 ... 8.5 m
Modular light grid

- 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

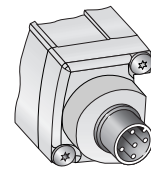
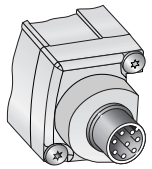
Dimensions (mm)	A
Beam spacing 10 mm	49
Beam spacing 20 mm	59
Beam spacing 30 mm	69
Beam spacing 50 mm	89

- 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

MLG x-xxxx8x1

MLG x-xxxx5x1



8-pin, M12	
Sender	Receiver
wht 1 Sync B	wht 1 Sync B
brn 2 L+	brn 2 L+
grn 3 Sync A	grn 3 Sync A
yel 4 NC	yel 4 Teach-in
gra 5 TEST	gra 5 Q ₁
pnk 6 NC	pnk 6 Q ₂
blu 7 M	blu 7 M
red 8 NC	red 8 Alarm

5-pin, M12	
Sender	Receiver
brn 1 L+	brn 1 L+
wht 2 Sync A	wht 2 Sync A
blu 3 M	blu 3 M
blk 4 TEST	blk 4 Q ₁
gra 5 Sync B	gra 5 Sync B

Accessories
Cables and connectors
Mounting systems

T-Junction



Technical data		MLG	x-xxx xx8x1	x-xxx xx5x1								
Beam spacing ¹⁾	10 mm/20 mm/30 mm/50 mm											
Maximum number of beams	240 beams											
Scanning range	0 ... 5 m (max. 7 m)/0 ... 8.5 m (max. 12 m)											
Synchronization ²⁾	By cable sync A/sync B											
Light source	LED, infrared											
Supply voltage V_S ³⁾	15 ... 30 V DC											
Current consumption sender	< 140 mA + 2 mA/beam											
Current consumption receiver ⁴⁾	< 100 mA + 3 mA/beam											
Connections	M12 plug, 8-pin											
	M12 plug, 5-pin											
Teach-in	PNP: Teach > 10 V ... < V_S											
Teach-in	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											
Outputs/Operating mode	Q_1 dark-switching											
	\bar{Q}_2 light-switching											
Alarm output (contamination)												
Response time ⁵⁾	Max. 150 μ s per beam + 1 ms											
Test input »TE«	Sender OFF: Test input to V_S											
Immunity to ambient light	50,000 lx (continuous light)											
VDE protection class	III											
Circuit protection ⁶⁾	A, B, C											
Enclosure rating	IP 65											
Ambient temperature T_A	Operation -25 ... +55 °C											
	Storage -40 ... +70 °C											
Mechanical resistance	Vibration: 5 g/10-55/s – IEC 68-2-6											
	Shock: 10 g/ 10 ms – IEC 68-2-29											
Weight	Approx. 1480 g ⁷⁾											
Material	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 $V_S = 24$ V
⁵⁾ With resistive load

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

⁷⁾ For 1200 mm detection height, increment 160 g per 150 mm detection height

	Optical performance			Minimum Detectable Object (MDO)	
	Detection height			Beam spacing	MDO ⁸⁾
	Minimum	Increment	Maximum		
MLG 1:	140 mm	150 mm	2390 mm	10 mm	15 ⁹⁾ /20 ¹⁰⁾ mm
MLG 2:	140 mm	150 mm	3140 mm	20 mm	25 ⁹⁾ /30 ¹⁰⁾ mm
MLG 3:	120 mm	150 mm	3120 mm	30 mm	35 ⁹⁾ /40 ¹⁰⁾ mm
MLG 5:	100 mm	150 mm	3100 mm	50 mm	55 ⁹⁾ /60 ¹⁰⁾ mm

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	
Type	Order no.
MLG x-xxxxx8x1	see page 18
MLG x-xxxxx5x1	see page 18

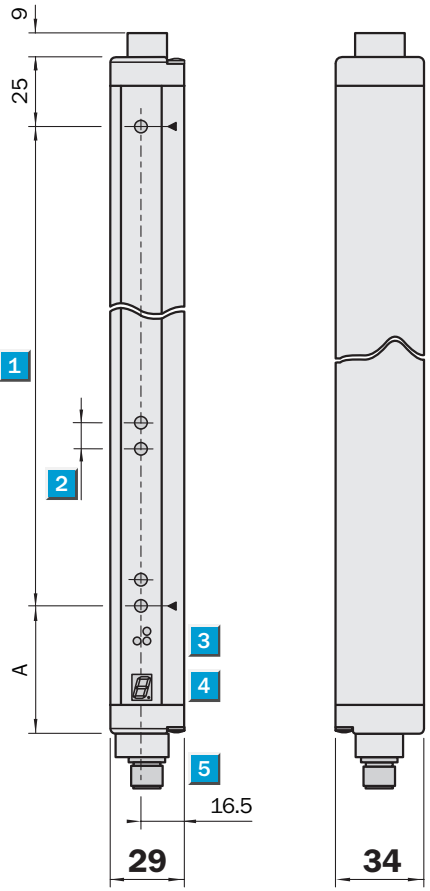
Operating range
0.5 ... 5 m

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

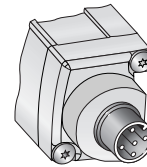
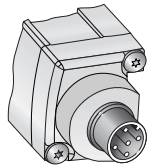
Dimensions (mm)	A
Beam spacing 30 mm	69
Beam spacing 50 mm	89

- 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

MLG x-xxxF513

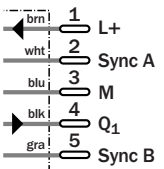
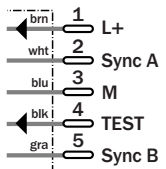
MLG x-xxxF51L



5-pin, M12

Sender

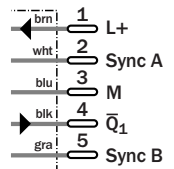
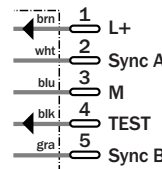
Receiver



5-pin, M12

Sender

Receiver



Accessories

Cables and connectors

Mounting systems

T-Junction

NEW

Technical data		MLG	5-xxx F513	5-xxx F51L	3-xxx F513						
Beam spacing ¹⁾	30 mm										
	50 mm										
Number of beams/											
Detection height	See order information										
Scanning range	0.5 ... 5 m										
Synchronization mode ²⁾	Synchronized by cable sync A/sync B										
Light source	LED, infrared light										
Supply voltage V _S ³⁾	15 ... 30 V DC										
Residual ripple	< 5 V _{PP} within V _S tolerances										
Current consumption sender	< 140 mA + 2 mA/beam										
Current consumption receiver ⁴⁾	< 100 mA + 3 mA/beam										
Connection	M12 plug, 5-pin										
Switching output	PNP, Q ₁ dark-switching										
	PNP, Q ₁ light-switching										
Teach-in	Automatic by each Power on										
Output current I _A max.	100 mA										
Output load	Capacitive load: 100 nF/output										
	Inductive load: 1 H/output										
Operation mode	Q ₁ dark-switching ⁵⁾										
Response time ⁶⁾	0.5 ms per beam + 3 ms										
Test input »TE«	Sender OFF: Test input to V _S										
Immunity to ambient light	50,000 lx (continuous light)										
VDE protection class	III										
Circuit protection ⁷⁾	A, B, C										
Enclosure rating	IP 65										
Ambient temperature T _A	Operation -25 ... +55 °C										
	Storage -40 ... +70 °C										
Mechanical resistance	Vibration: 5 g/10-55/s – IEC 68-2-6										
	Shock: 10 g/10 ms – IEC 68-2-29										
Weight	580 ... 2300 g										
Material	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_S = 24 V
- 5) Or customized

- 6) With resistive load
- 7) A = V_S connection, reverse polarity protected
 B = Outputs Q and Q short-circuit protected
 C = Interference pulse suppression

Optical performance						
	Detection height			MDO: Minimum Detectable Object ⁸⁾ with multiple scan		
	Minimum	Increment	Maximum	Beam spacing	In front of MLG S or MLG E	At mid point between MLG S and MLG E
MLG 3:	120 mm	150 mm	3120 mm	30 mm	35 mm	< 20 mm
MLG 5:	100 mm	150 mm	3100 mm	50 mm	55 mm	< 30 mm

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

Order information	
Type	Order no.
MLG 5-xxxF513	see page 19
MLG 5-xxxF51L	see page 19
MLG 3-xxxF513	see page 19

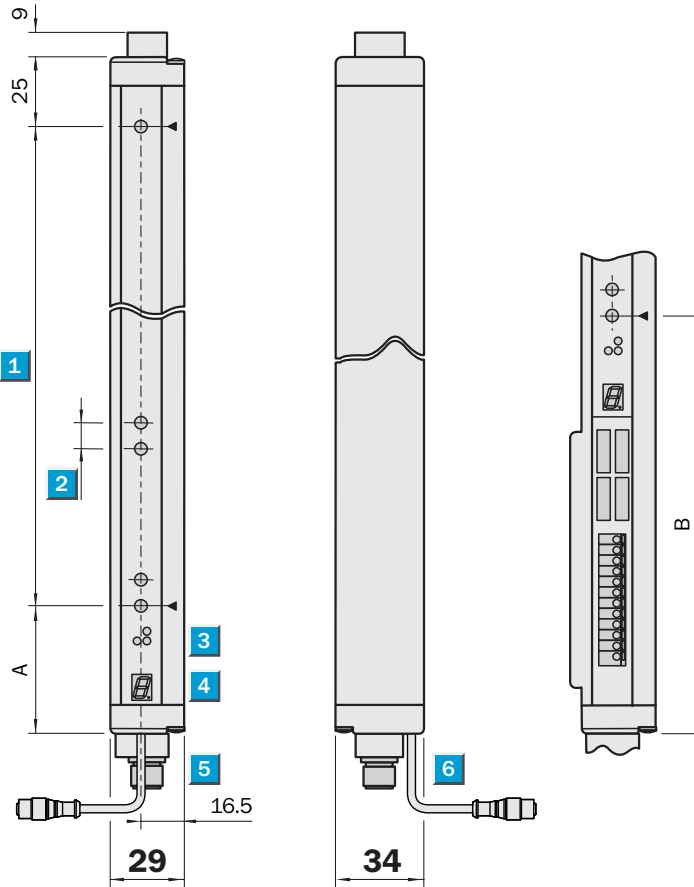
Operating range
0 ... 5 m/0 ... 8.5 m

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



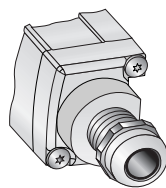
Distance: MLG edge – first beam

Dimensions (mm)	A	B
MLG 1 10 mm	49	160
MLG 2 20 mm	59	170
MLG 3 30 mm	69	180
MLG 5 50 mm	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

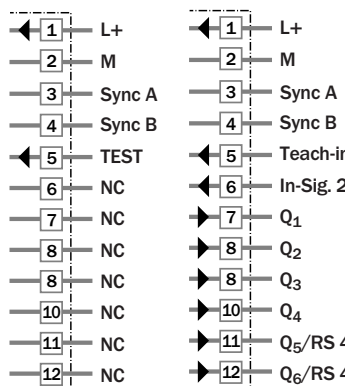
MLG x-xxxx2x2



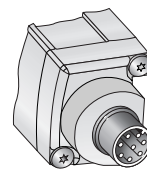
PG9, terminals

Sender

Receiver



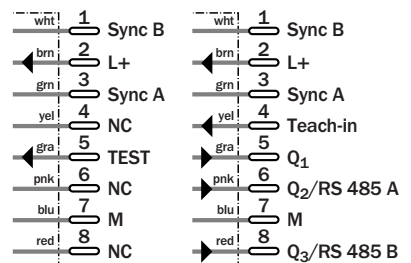
MLG x-xxxx8x2



8-pin, M12

Sender

Receiver



Accessories

- Cables and connectors
- Mounting systems
- MLGsetup Software*
- Parametering cable

* Included with delivery

T-Junction



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

- 1) See order informations
2) Sender (MLG S) and receiver (MLG E)
3) Limit values
4) Without load at V_S = 24 V

- 5) Max. Σ = 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 (MLG E)
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 1200 mm detection height, increment 160 g per 150 mm detection height

	Detection height			MDO: Minimum Detectable Object 14)		
	Minimum	Increment	Maximum	Beam spacing	MDO	MDO with multiple scan 15)
MLG 1:	140 mm	150 mm	2390 mm	10 mm	15 ¹⁶ /20 ¹⁷ mm	< 10 ¹⁶ /< 15 ¹⁷ mm
MLG 2:	140 mm	150 mm	3140 mm	20 mm	25 ¹⁶ /30 ¹⁷ mm	< 15 ¹⁶ /< 20 ¹⁷ mm
MLG 3:	120 mm	150 mm	3120 mm	30 mm	35 ¹⁶ /40 ¹⁷ mm	< 20 ¹⁶ /< 25 ¹⁷ mm
MLG 5:	100 mm	150 mm	3100 mm	50 mm	55 ¹⁶ /60 ¹⁷ mm	< 30 ¹⁶ /< 35 ¹⁷ mm

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

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

- 16) Scanning range: 5 m
17) 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
MLG 1-0140F511	1 024 259	140 mm	15	1 x PNP, Q
MLG 1-0290F511	1 023 670	290 mm	30	1 x PNP, Q
MLG 1-0440F511	1 026 260	440 mm	45	1 x PNP, Q
MLG 1-0590F511	1 025 650	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
MLG 2-0140F511	1 024 306	140 mm	8	1 x PNP, Q
MLG 2-0280F511	1 023 372	280 mm	15	1 x PNP, Q
MLG 2-0440F511	1 023 560	440 mm	23	1 x PNP, Q
MLG 2-2380F511	1 023 572	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
MLG 3-0270F511	1 023 671	270 mm	10	1 x PNP, Q
MLG 3-0420F511	1 022 103	420 mm	15	1 x PNP, Q
MLG 3-1470F511	1 022 102	1470 mm	50	1 x PNP, Q
MLG 3-1620F511	1 025 716	1620 mm	55	1 x PNP, Q
MLG 3-2220F511	1 023 561	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
MLG 5-0250F511	1 025 852	250 mm	6	1 x PNP, Q
MLG 5-0400E511	1 023 766	400 mm	9	1 x PNP, Q
MLG 5-0400F511	1 023 440	400 mm	9	1 x PNP, Q
MLG 5-0550F811	1 023 573	550 mm	12	2 x PNP, Q u. \bar{Q} , Alarm, Teach-in input
MLG 5-0700F511	1 022 867	700 mm	15	1 x PNP, Q
MLG 5-0700F811	1 025 853	700 mm	15	2 x PNP, Q u. \bar{Q} , Alarm, Teach-in input
MLG 5-1000F511	1 023 538	1000 mm	21	1 x PNP, Q
MLG 5-1150F511	1 023 643	1150 mm	24	1 x PNP, Q
MLG 5-1450F511	1 023 738	1450 mm	30	1 x PNP, Q
MLG 5-1600F511	1 025 448	1600 mm	33	1 x PNP, Q

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

Type	Order no.	Height	Beams	Beam spacing	Switching outputs
MLG 1-0140F521	1 026 370	140 mm	15	10 mm	1 x PNP, Q
MLG 3-0120F521	1 023 008	120 mm	5	30 mm	1 x PNP, Q
MLG 1-0290F521	1 024 123	290 mm	30	10 mm	1 x PNP, Q
MLG 5-0700F521	1 025 854	700 mm	15	50 mm	1 x PNP, Q
MLG 3-0870F521	1 023 003	870 mm	30	30 mm	1 x PNP, Q
MLG 3-0870F821	1 024 163	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
MLG 5-0250F513	1 022 646	250 mm	6	50 mm	1 x PNP, Q
MLG 5-0550F513	1 022 647	550 mm	12	50 mm	1 x PNP, Q
MLG 5-0700F513	1 022 648	700 mm	15	50 mm	1 x PNP, Q
MLG 5-1000F513	1 022 649	1000 mm	21	50 mm	1 x PNP, Q
MLG 5-1150F513	1 022 650	1150 mm	24	50 mm	1 x PNP, Q
MLG 5-1450F513	1 022 642	1450 mm	30	50 mm	1 x PNP, Q
MLG 5-1750F513	1 022 651	1750 mm	36	50 mm	1 x PNP, Q
MLG 5-1900F513	1 022 652	1900 mm	39	50 mm	1 x PNP, Q
MLG 5-2050F513	1 022 653	2050 mm	42	50 mm	1 x PNP, Q
MLG 3-2220F513	1 022 870	2225 mm	75	30 mm	1 x PNP, Q
MLG 3-2370F513	1 022 935	2370 mm	80	30 mm	1 x PNP, Q
MLG 5-0250F51L	1 023 622	250 mm	6	50 mm	1 x PNP, Q̄
MLG 5-0550F51L	1 023 623	550 mm	12	50 mm	1 x PNP, Q̄
MLG 5-0700F51L	1 023 624	700 mm	15	50 mm	1 x PNP, Q̄
MLG 5-1000F51L	1 023 625	1000 mm	21	50 mm	1 x PNP, Q̄
MLG 5-1150F51L	1 023 626	1150 mm	24	50 mm	1 x PNP, Q̄
MLG 5-1450F51L	1 023 627	1450 mm	30	50 mm	1 x PNP, Q̄
MLG 5-1750F51L	1 023 628	1750 mm	36	50 mm	1 x PNP, Q̄
MLG 5-1900F51L	1 023 629	1900 mm	39	50 mm	1 x PNP, Q̄
MLG 5-1900F52L	1 023 957	1900 mm	39	50 mm	1 x PNP, Q̄
MLG 5-2050F51L	1 023 630	2050 mm	42	50 mm	1 x PNP, Q̄

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

Type	Order no.	Height	Beams	Switching outputs
MLG 1-0140I812	1 022 573	140 mm	15	1 x PNP, RS 485, 1 input
MLG 1-0140F812	1 022 147	140 mm	15	3 x PNP, 1 input
MLG 1-0290F812	1 022 166	290 mm	30	3 x PNP, 1 input
MLG 1-0290I812	1 025 943	290 mm	30	1 x PNP, RS 485, 1 input
MLG 1-0440F812	1 022 294	440 mm	45	3 x PNP, 1 input
MLG 1-0440I812	1 024 038	440 mm	45	1 x PNP, RS 485, 1 input
MLG 1-0590F812	1 023 581	590 mm	60	3 x PNP, 1 input
MLG 1-0590I812	1 022 167	590 mm	60	1 x PNP, RS 485, 1 input
MLG 1-0740F812	1 023 031	740 mm	75	3 x PNP, 1 input
MLG 1-0740I812	1 023 558	740 mm	75	1 x PNP, RS 485, 1 input
MLG 1-0890I812	1 023 557	890 mm	90	1 x PNP, RS 485, 1 input
MLG 1-1190F812	1 022 159	1190 mm	120	3 x PNP, 1 input
MLG 1-1340I812	1 022 712	1340 mm	135	1 x PNP, RS 485, 1 input
MLG 1-1640F812	1 022 168	1640 mm	165	3 x PNP, 1 input
MLG 1-1640I812	1 024 294	1640 mm	165	1 x PNP, RS 485, 1 input
MLG 1-1940F812	1 025 839	1940 mm	195	3 x PNP, 1 input
MLG 1-2090T812	1 026 417	2090 mm	210	1 x NPN, RS 485, 1 input
MLG 1-2390I812	1 023 839	2390 mm	240	1 x NPN, RS 485, 1 input
MLG 1-2390I212	1 025 980	2390 mm	240	4 x PNP, RS 485, 2 inputs
MLG 1-2390F812	1 023 453	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
MLG 1-0140I212	1 026 223	140 mm	15	RS 485, 4 x PNP outputs, 2 inputs
MLG 1-0590F212	1 023 373	590 mm	60	6 x PNP, 2 inputs
MLG 1-0590I212	1 023 979	590 mm	60	RS 485, 4 x PNP outputs, 2 inputs
MLG 1-0740I212	1 023 583	740 mm	75	RS 485, 4 x PNP outputs, 2 inputs
MLG 1-0890F212	1 022 179	890 mm	90	6 x PNP, 2 inputs
MLG 1-1040I212	1 023 584	1040 mm	105	RS 485, 4 x PNP outputs, 2 inputs
MLG 1-1340F212	1 023 582	1340 mm	135	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
MLG 2-0140F812	1 025 653	140 mm	8	3 x PNP, 1 input
MLG 2-0280F812	1 023 585	280 mm	15	3 x PNP, 1 input
MLG 2-0280I812	1 023 589	280 mm	15	1 x PNP, RS 485, 1 input
MLG 2-0580F812	1 023 555	580 mm	30	3 x PNP, 1 input
MLG 2-0580I812	1 023 789	580 mm	30	1 x PNP, RS 485, 1 input
MLG 2-0740I812	1 022 855	740 mm	38	1 x PNP, RS 485, 1 input
MLG 2-0880F812	1 023 586	880 mm	45	3 x PNP, 1 input
MLG 2-0880I812	1 023 590	880 mm	45	1 x PNP, RS 485, 1 input
MLG 2-1180F812	1 023 587	1180 mm	60	3 x PNP, 1 input
MLG 2-1480F812	1 023 588	1480 mm	75	3 x PNP, 1 input
MLG 2-1480I812	1 023 591	1480 mm	75	1 x PNP, RS 485, 1 input
MLG 2-1940F812	1 025 855	1940 mm	98	3 x PNP, 1 input
MLG 2-1940I812	1 023 559	1940 mm	98	1 x PNP, RS 485, 1 input
MLG 2-2080I812	1 026 310	2080 mm	105	3 x PNP, 1 input
MLG 2-2080I812	1 026 495	2080 mm	105	1 x PNP, RS 485, 1 input
MLG 2-2240I812	1 025 444	2240 mm	113	1 x PNP, RS 485, 1 input
MLG 2-2540I812	1 024 248	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
MLG 2-0140F212	1 023 592	140 mm	8	6 x PNP outputs, 2 inputs
MLG 2-0440I212	1 023 595	440 mm	23	RS 485, 4 x PNP outputs, 2 inputs
MLG 2-1040F212	1 023 593	1040 mm	53	6 x PNP outputs, 2 inputs
MLG 2-1640F212	1 023 594	1640 mm	83	6 x PNP outputs, 2 inputs
MLG 2-1780F212	1 024 063	1780 mm	90	6 x PNP outputs, 2 inputs
MLG 2-0740I212	1 023 596	740 mm	38	RS 485, 4 x PNP outputs, 2 inputs
MLG 2-2240I212	1 023 597	2240 mm	113	RS 485, 4 x PNP outputs, 2 inputs
MLG 2-2240F212	1 022 606	2240 mm	113	6 x PNP, 2 inputs
MLG 2-3140I212	1 022 096	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
MLG 3-0420F812	1 023 598	420 mm	15	3 x PNP, 1 input
MLG 3-0570F812	1 023 980	570 mm	20	3 x PNP, 1 input
MLG 3-0720I812	1 025 635	720 mm	25	1 x PNP, RS 485, 1 input
MLG 3-0870I812	1 026 172	870 mm	30	1 x PNP, RS 485, 1 input
MLG 3-1020F812	1 022 169	1020 mm	35	3 x PNP, 1 input
MLG 3-1320F812	1 026 347	1320 mm	45	3 x PNP, 1 input
MLG 3-1470F812	1 023 556	1470 mm	50	3 x PNP, 1 input
MLG 3-1470I812	1 023 642	1470 mm	50	1 x PNP, RS 485, 1 input
MLG 3-1770F812	1 024 109	1770 mm	50	3 x PNP, 1 input
MLG 3-1920I812	1 023 392	1920 mm	65	1 x PNP, RS 485, 1 input
MLG 3-2070F812	1 022 292	2070 mm	70	3 x PNP, 1 input
MLG 3-2220F812	1 022 173	2220 mm	75	3 x PNP, 1 input
MLG 3-2670F812	1 023 599	2670 mm	90	3 x PNP, 1 input
MLG 3-2820F812	1 022 174	2820 mm	95	3 x PNP, 1 input
MLG 3-3120F812	1 023 780	3120 mm	105	3 x PNP, 1 input
MLG 3-3120I812	1 024 071	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
MLG 3-1770F212	1 023 600	1770 mm	60	6 x PNP outputs, 2 inputs
MLG 3-2070F212	1 023 601	2070 mm	70	6 x PNP outputs, 2 inputs
MLG 3-2220F212	1 024 158	2220 mm	75	6 x PNP outputs, 2 inputs
MLG 3-2820F212	1 023 602	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
MLG 5-0100T812	1 026 233	100 mm	3	1 x NPN, RS 485, 1 input
MLG 5-0250F812	1 023 603	250 mm	6	3 x PNP, 1 input
MLG 5-0250I812	1 023 607	250 mm	6	1 x PNP, RS 485, 1 input
MLG 5-0550F812	1 024 267	550 mm	12	3 x PNP, 1 input
MLG 5-0700F812	1 022 175	700 mm	15	3 x PNP, 1 input
MLG 5-0850I812	1 024 058	850 mm	18	1 x PNP, RS 485, 1 input
MLG 5-1150F812	1 022 176	1150 mm	24	3 x PNP, 1 input
MLG 5-1300I812	1 023 432	1300 mm	27	1 x PNP, RS 485, 1 input
MLG 5-1450F812	1 023 604	1450 mm	30	3 x PNP, 1 input
MLG 5-1450I812	1 023 608	1450 mm	30	1 x PNP, RS 485, 1 input
MLG 5-1600F812	1 022 177	1600 mm	33	3 x PNP, 1 input
MLG 5-1600I812	1 026 294	1600 mm	33	1 x PNP, RS 485, 1 input
MLG 5-1600E812	1 024 070	1600 mm	33	3 x NPN, 1 input
MLG 5-1900F812	1 023 605	1900 mm	40	3 x PNP, 1 input
MLG 5-1900I812	1 023 956	1900 mm	40	1 x PNP, RS 485, 1 input
MLG 5-2350F812	1 022 178	2350 mm	48	3 x PNP, 1 input
MLG 5-2800F812	1 023 606	2800 mm	57	3 x PNP, 1 input
MLG 5-2800I812	1 023 609	2800 mm	57	1 x PNP, RS 485, 1 input
MLG 5-3100F812	1 023 803	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
MLG 5-0850F212	1 023 610	850 mm	18	6 x PNP, 2 inputs
MLG 5-1000I212	1 023 614	1000 mm	21	4 x PNP, RS 485, 2 inputs
MLG 5-1150F212	1 025 336	1150 mm	24	6 x PNP, 2 inputs
MLG 5-1150I812	1 026 238	1150 mm	24	1 x PNP, RS 485, 1 input
MLG 5-1450F212	1 025 254	1450 mm	30	6 x PNP, 2 inputs
MLG 5-1450I212	1 023 615	1450 mm	30	4 x PNP, RS 485, 2 inputs
MLG 5-1600F212	1 023 611	1600 mm	33	6 x PNP, 2 inputs
MLG 5-1750F212	1 025 327	1750 mm	36	6 x PNP, 2 inputs
MLG 5-1750E212	1 025 297	1750 mm	36	6 x NPN, 2 inputs
MLG 5-1900F212	1 025 341	1900 mm	39	6 x PNP, 2 inputs
MLG 5-2050F212	1 025 345	2050 mm	42	6 x PNP, 2 inputs
MLG 5-2200F212	1 023 612	2200 mm	45	6 x PNP, 2 inputs
MLG 5-2350F212	1 024 124	2350 mm	48	6 x PNP, 2 inputs
MLG 5-2500F212	1 023 613	2500 mm	51	6 x PNP, 2 inputs
MLG 5-2500I212	1 023 358	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
MLG 1-0290I822	1 022 572	290 mm	30	1 x PNP, RS 485, 1 input
MLG 1-0590I822	1 023 872	590 mm	60	1 x PNP, RS 485, 1 input
MLG 3-0870F822	1 023 841	870 mm	30	3 x PNP, 1 input
MLG 3-1770I822	1 023 800	1770 mm	60	1 x PNP, RS 485, 1 input
MLG 2-1940I822	1 024 289	1940 mm	98	1 x PNP, RS 485, 1 input
MLG 1-1940I812	1 025 940	1940 mm	195	1 x PNP, RS 485, 1 input
MLG 5-2350F822	1 025 461	2350 mm	48	1 x PNP, RS 485, 1 input
MLG 1-2390I822	1 025 817	2390 mm	240	3 x PNP, 1 input
MLG 5-2800I822	1 025 774	2800 mm	57	1 x PNP, RS 485, 1 input
MLG 3-2820F822	1 025 773	2820 mm	95	1 x PNP, RS 485, 1 input
MLG 3-3120F822	1 025 597	3120 mm	105	6 x PNP, 2 inputs
MLG 2-3140I222	1 025 421	3140 mm	158	4 x PNP, RS 485, 2 inputs

* additional types on request

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

Dimensional drawings and order information

Cables and connectors MLG

To connect MLG S at MLG E and PLC

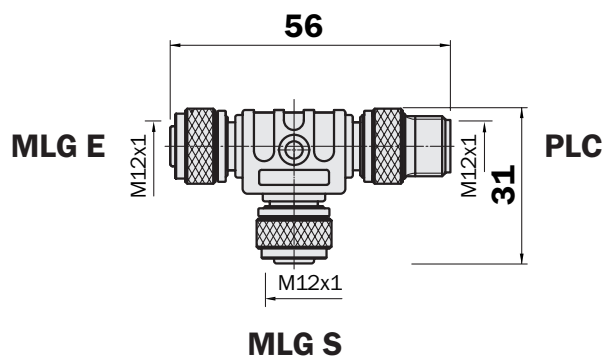
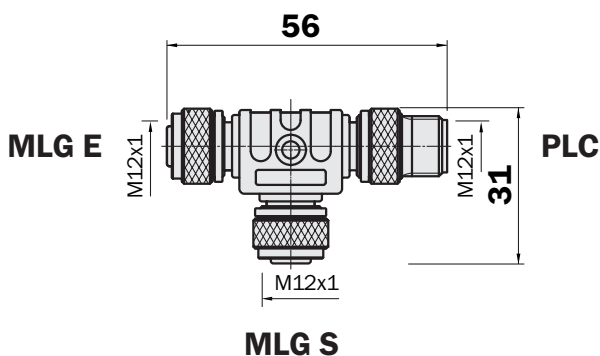


T-Junction M12, 5-pin

Type	Order no.
SBO-02G12-SM	6 029 305

T-Junction M12, 8-pin

Type	Order no.
SBO-02F12-SM	6 029 306



SENSICK screw-in system M12, 8-pin, enclosure rating IP 67

Female connector M12, 8-pin, straight, shielded

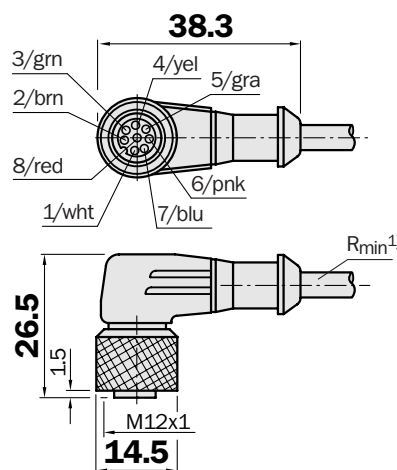
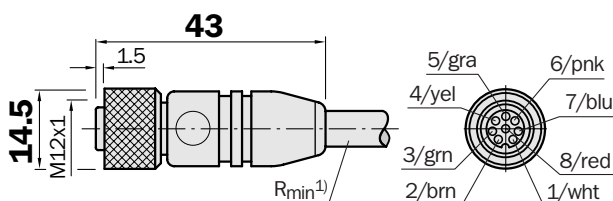
Cable diameter 6.6 mm, 8 x 0.25 mm², sheath PVC

Type	Order no.	Cable length
DOL-1208-G02MA	6 020 633	2 m
DOL-1208-G05MA	6 020 993	5 m
DOL-1208-G10MA	6 022 152	10 m
DOL-1208-G15MA	6 022 153	15 m

Female connector M12, 8-pin, right angle, shielded

Cable diameter 6.6 mm, 8 x 0.25 mm², sheath PVC

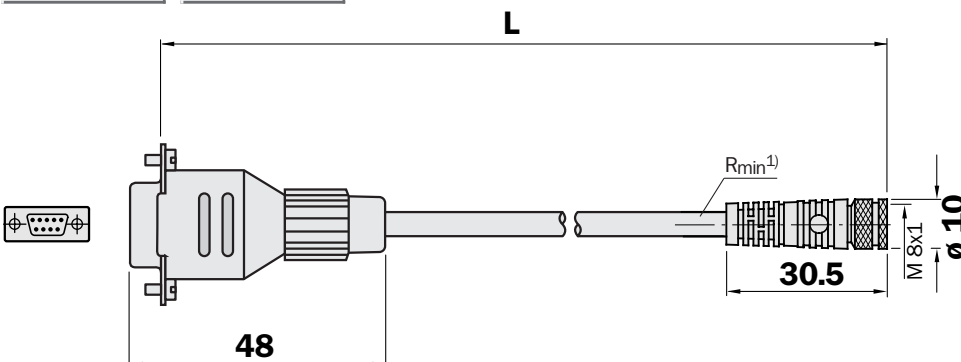
Type	Order no.	Cable length
DOL-1208-W02MA	6 020 992	2 m
DOL-1208-W05MA	6 021 033	5 m



Parametering cable PC to MLG E (L = 2 m)

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

Type	Order no.
DSL-8D04-G02M	2 023 695



MLGsetup

parametering software (CD-ROM)
For Windows 95[®], Windows 98[®],
Windows NT[®], Windows ME[®],
Windows XP[®] configuration
software

Order no.
2 023 827

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

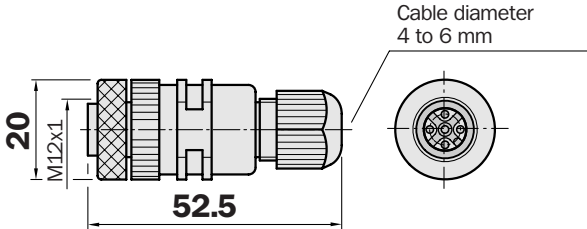
Dimensional drawings and order information

Cables and connectors ELG and MLG

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

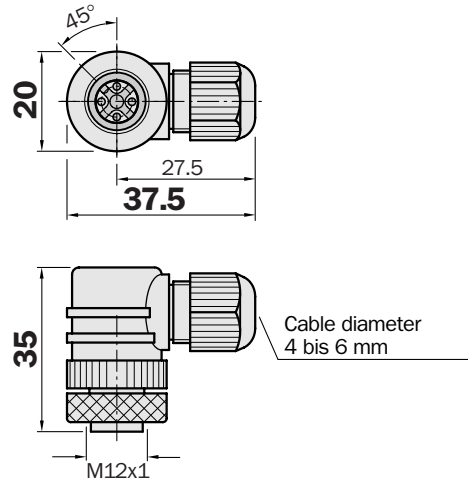
Female connector M12, 5-pin, straight

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



Female connector M12, 5-pin, right angle

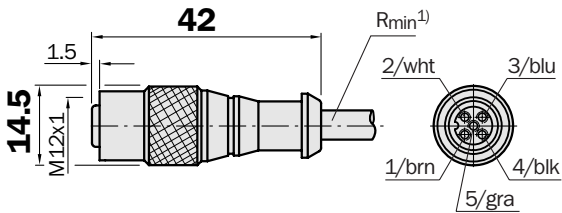
Type	Order no.	Contacts
DOS-1205-W	6 009 720	5



Female connector M12, 5-pin, straight

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

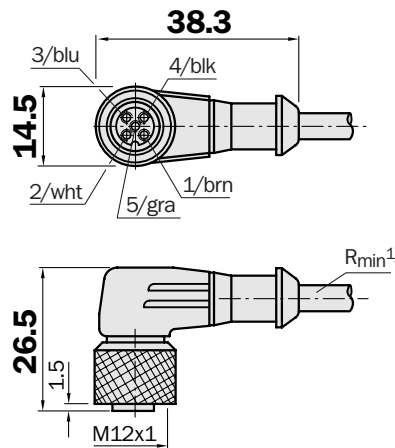
Type	Order no.	Contacts	Cable length
DOL-1205-G02M	6 008 899	5	2 m
DOL-1205-G05M	6 009 868	5	5 m
DOL-1205-G10M	6 010 544	5	10 m
DOL-1205-G15M	6 029 215	5	15 m



Female connector M12, 5-pin, right angle

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

Type	Order no.	Contacts	Cable length
DOL-1205-W02M	6 008 900	5	2 m
DOL-1205-W05M	6 009 868	5	5 m
DOL-1205-W10M	6 010 544	5	10 m



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

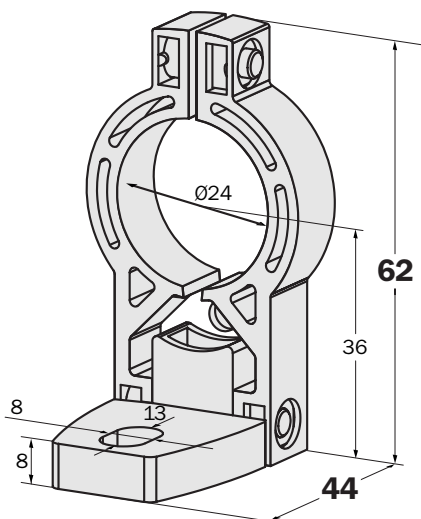
Dimensional drawings and order information

Mounting systems

Mounting kit 1 – Swivel Mount

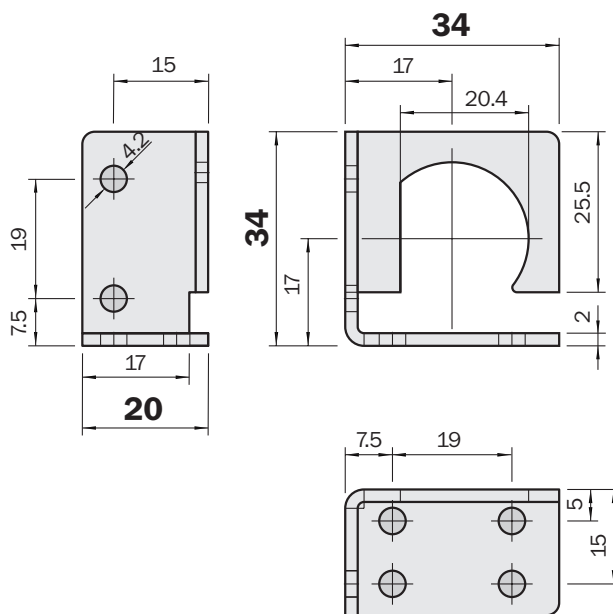
For MLG S and MLG E, recommended for detection heights up to 1600 mm

Type	Order no.	Pieces
	2 019 649	4



Mounting kit 1 – compact metal angled bracket
recommended for all detection heights

Type	Order no.	Pieces
BEF-WK-XLG	2 029 100	4

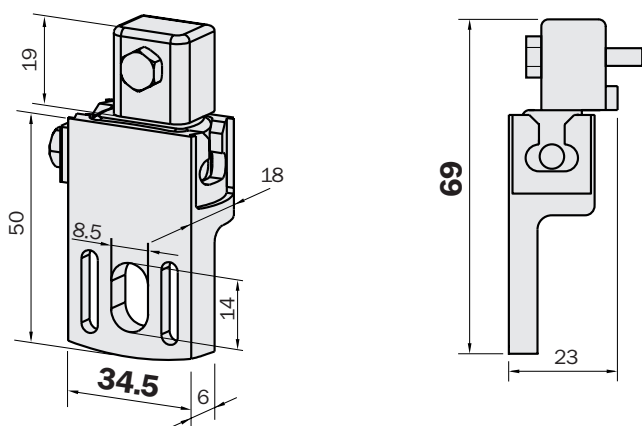


Mounting kit 4 – T-nuts with shifting nuts

Side mounting with shift nuts for all monitoring heights

(for high vibration and shock exposure)

Type	Order no.	Pieces
BEF-NUT-MLG	2 023 696	4



MLG special accessory, alignment aid

Alignment aid

Type	Order no.	Cable length
AR 60	1 015 741	2 m

Adapter for MLG housing

Type	Order no.
	4 032 462

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