

MH 15: Short housing, clever mounting – for smart solutions



- MHL 15 photoelectric reflex switch: 5.0 m/4.5 m (PL 80 A), with polarizing filter.
- MHT 15 photoelectric proximity switch, energetic, scanning ranges:
 - axial: 100 mm and 350 mm
 - radial: 90 mm and 250 mm
 each at 90 % reflectance, sensitivity can be set.

Variable, fast and inexpensive:

- Very short housing length = short build-in depth, simple handling
- Options for axial (straight) or radial 90°: ideal for clever integration of MH 15 into the mechanical system
- Novel mounting accessories (included) for fast and inexpensive mounting
- Design and accessories without edges and corners
- Unlimited access to M18 hole mounting.

The MH15 can be used in a wide variety of applications, particularly the conveyor/mechanical handling and packaging industries.



The MH 15 photoelectric switch series concentrates on the essential:


- Reliable detection of objects.
- Functional design for clever, space-saving solutions.
- Accessories and system engineering for fast and inexpensive mounting.

The MH15, offers the following optical variants in both Axial (straight) and Radial (90°) housing forms.

- MHSE 15 through-beam system: 5.0/4.0 m,

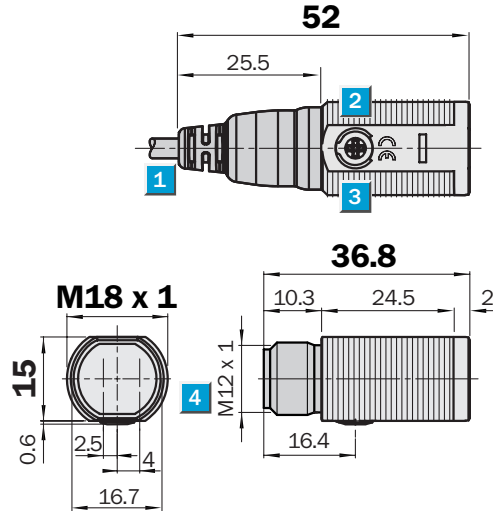
	Photoelectric proximity switches
	Photoelectric reflex switches
	Through-beam photoelectric switches

SICK

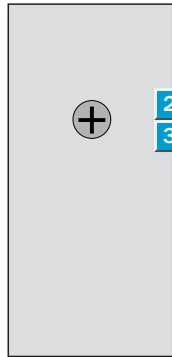

Scanning distance
 10 ... 350 mm
Photoelectric proximity switches

- Large distance
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



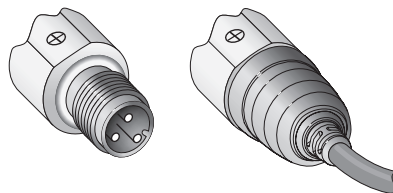
Adjustments possible
All types



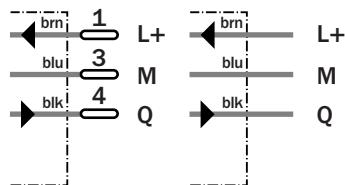
- 1 Connector cable 2 m
- 2 Sensitivity control 270°
- 3 Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.3
 - blinks: Light reception > reserve factor 1.3, but light reception > switching threshold 1
- 4 M12 plug, 3-pin

Connection type

MHT 15-N3247	MHT 15-N2247
MHT 15-N3347	MHT 15-N2347
MHT 15-P3247	MHT 15-P2247
MHT 15-P3347	MHT 15-P2347



3-pin, M12 3 x 0.14 mm²



Accessories

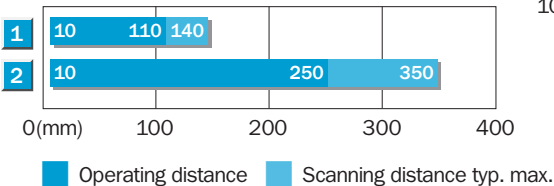
Cables and connectors
Mounting systems

Technical data	MHT 15-	P2247	P3247	P2347	P3347	N2247	N3247	N2347	N3347		
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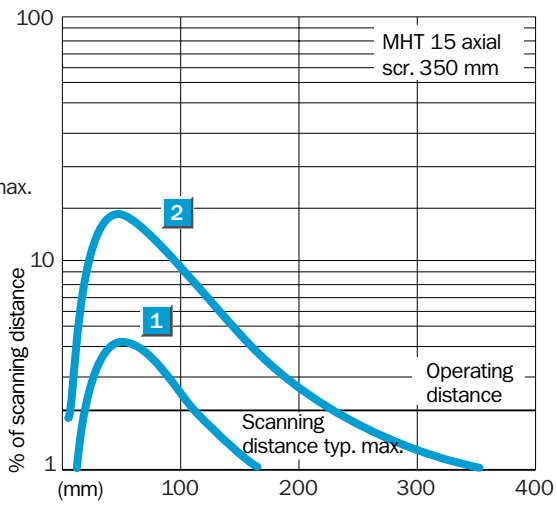
Scanning distance SD , typ. max. ¹⁾	10 ... 350 mm										
Operating distance SD ⁴⁾	10 ... 250 mm										
Light spot diameter	Approx. 50 mm at 350 mm										
Angle of dispersion sender	Approx. 4.5°										
Light source ²⁾ , light type	LED infrared, 950 nm										
Optical axis	Axial										
Sensitivity adjustable	Potentiometer 270°										
Light reception indicator	Yellow LED: lights continuously: Reserve factor > 1.3 Blinks: reserve factor > 1.0 ... < 1.3										
Supply voltage V_s	10 ... 30 V DC ³⁾										
Residual ripple ⁴⁾	≤ 5 V _{pp}										
Current consumption ⁵⁾	≤ 30 mA										
Switching outputs	Q: PNP Q: NPN										
Signal voltage HIGH	V _s - 2.9 V V _s										
Signal voltage LOW	Approx. 0 V ≤ 2.9 V										
Switching mode	Light-switching Dark-switching										
Output current I_A max.	≤ 100 mA										
Response time ⁶⁾	≤ 1.25 ms										
Max. switching frequency ⁷⁾	400/s										
Connection type plug	M12, 3-pin										
cable ⁸⁾	PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm										
VDE protection class ⁹⁾	□										
Enclosure rating	IP 67										
Circuit protection ¹⁰⁾	A, B, C										
Ambient temperature T_A	Operation -25 °C ... +55 °C Storage -25 °C ... +70 °C										
Gewicht with plug	Approx. 7 g										
with cable 2 m	Approx. 90 g										
Housing material	Housing: ABS Optic: PMMA										

¹⁾ Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
²⁾ Average service life 100,000 h at T_A = +25 °C
³⁾ Limit values
⁴⁾ May not exceed or fall short of V_s tolerances
⁵⁾ Without load
⁶⁾ Signal transit time with resistive load
⁷⁾ With light/dark ratio 1:1
⁸⁾ Do not bend below 0 °C
⁹⁾ Reference voltage 50 V DC
¹⁰⁾ A = V_s connections reverse-polarity protected
 B = Interference pulse suppression
 C = Outputs overcurrent and short-circuit protected

Scanning distance




- 1 Scanning distance on grey, 18 % remission
- 2 Scanning distance on white, 90 % remission



Order information

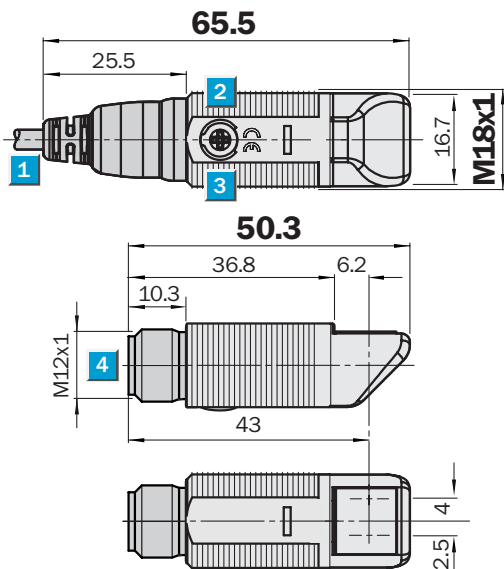
Type	Part no.
MHT 15-N2247	1 026 106
MHT 15-N3247	1 026 107
MHT 15-N2347	1 026 108
MHT 15-N3347	1 026 109
MHT 15-P2247	1 026 110
MHT 15-P3247	1 026 111
MHT 15-P2347	1 026 112
MHT 15-P3347	1 026 113


Scanning distance
15 ... 250 mm

Photoelectric proximity switches

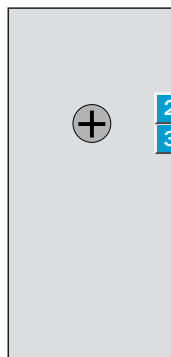
- Large distance
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

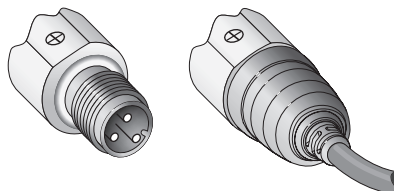
All types



- 1 Connector cable 2 m
- 2 Sensitivity control 270°
- 3 Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.3
 - blinks: Light reception > reserve factor 1.3, but light reception > switching threshold 1
- 4 M12 plug, 3-pin

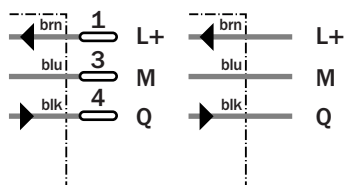
Connection type

MHT 15-N3249	MHT 15-N2249
MHT 15-N3349	MHT 15-N2349
MHT 15-P3249	MHT 15-P2249
MHT 15-P3349	MHT 15-P2349



3-pin, M12

3 x 0.14 mm²



Accessories

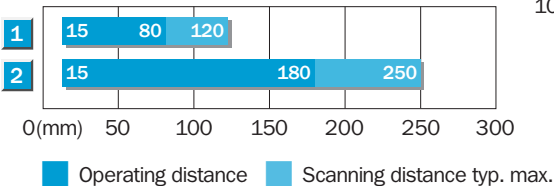
- Cables and connectors
- Mounting systems

Technical data	MHT 15-	P2249	P3249	P2349	P3349	N2249	N3249	N2349	N3349		
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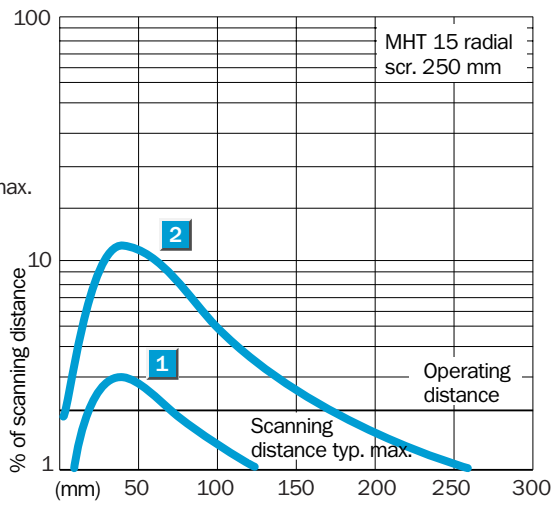
Scanning distance SD , typ. max. ¹⁾	15 ... 250 mm										
Operating distance SD ⁴⁾	15 ... 180 mm										
Light spot diameter	Approx. 40 mm at 250 mm										
Angle of dispersion sender	Approx. 4.5°										
Light source ²⁾ , light type	LED infrared, 950 nm										
Optical axis	Radial (90°)										
Sensitivity adjustable	Potentiometer 270°										
Light reception indicator	Yellow LED: lights continuously: Reserve factor > 1.3 Blinks: reserve factor > 1.0 ... < 1.3										
Supply voltage V_s	10 ... 30 V DC ³⁾										
Residual ripple ⁴⁾	≤ 5 V _{pp}										
Current consumption ⁵⁾	≤ 30 mA										
Switching outputs	Q: PNP Q: NPN										
Signal voltage HIGH	V _s - 2.9 V V _s										
Signal voltage LOW	Approx. 0 V ≤ 2.9 V										
Switching mode	Light-switching Dark-switching										
Output current I_A max.	≤ 100 mA										
Response time ⁶⁾	≤ 1.25 ms										
Max. switching frequency ⁷⁾	400/s										
Connection type plug	M12, 3-pin										
cable ⁸⁾	PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm										
VDE protection class ⁹⁾	□										
Enclosure rating	IP 67										
Circuit protection ¹⁰⁾	A, B, C										
Ambient temperature T_A	Operation -25 °C ... +55 °C Storage -25 °C ... +70 °C										
Gewicht with plug	Approx. 8 g										
with cable 2 m	Approx. 91 g										
Housing material	Housing: ABS Optic: PMMA										

¹⁾ Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
²⁾ Average service life 100,000 h at T_A = +25 °C
³⁾ Limit values
⁴⁾ May not exceed or fall short of V_s tolerances
⁵⁾ Without load
⁶⁾ Signal transit time with resistive load
⁷⁾ With light/dark ratio 1:1
⁸⁾ Do not bend below 0 °C
⁹⁾ Reference voltage 50 V DC
¹⁰⁾ A = V_s connections reverse-polarity protected
 B = Interference pulse suppression
 C = Outputs overcurrent and short-circuit protected

Scanning distance




- 1 Scanning distance on grey, 18 % remission
- 2 Scanning distance on white, 90 % remission



Order information

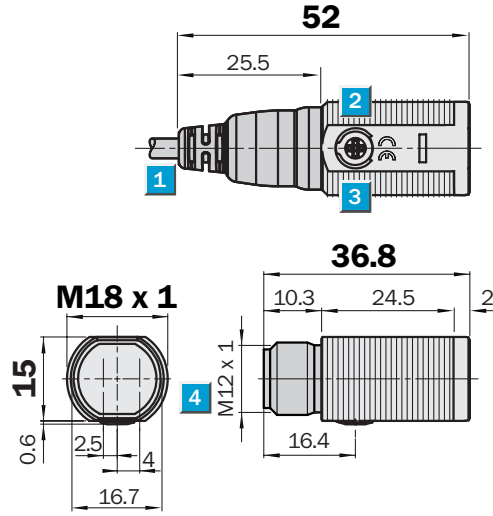
Type	Part no.
MHT 15-N2249	1 026 114
MHT 15-N3249	1 026 115
MHT 15-N2349	1 026 116
MHT 15-N3349	1 026 117
MHT 15-P2249	1 026 118
MHT 15-P3249	1 026 119
MHT 15-P2349	1 026 120
MHT 15-P3349	1 026 121


Scanning distance
 10 ... 100 mm

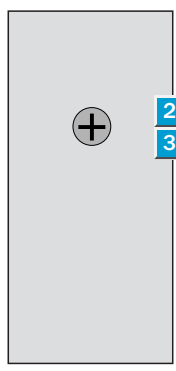
Photoelectric proximity switches

- Standard scanning distance
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



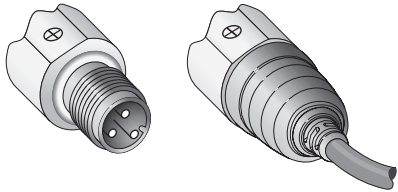
Adjustments possible
All types



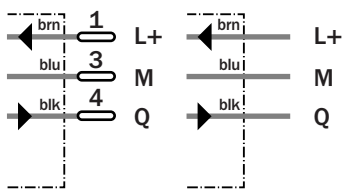
- 1** Connector cable 2 m
- 2** Sensitivity control 270°
- 3** Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.3
 - blinks: Light reception > reserve factor 1.3, but light reception > switching threshold 1
- 4** M12 plug, 3-pin

Connection type

MHT 15-N3217	MHT 15-N2217
MHT 15-N3317	MHT 15-N2317
MHT 15-P3217	MHT 15-P2217
MHT 15-P3317	MHT 15-P2317



3-pin, M12 3 x 0.14 mm²



Accessories

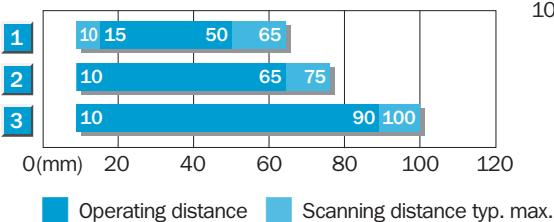
Cables and connectors
Mounting systems

Technical data	MHT 15-	P2217	P3217	P2317	P3317	N2217	N3217	N2317	N3317		
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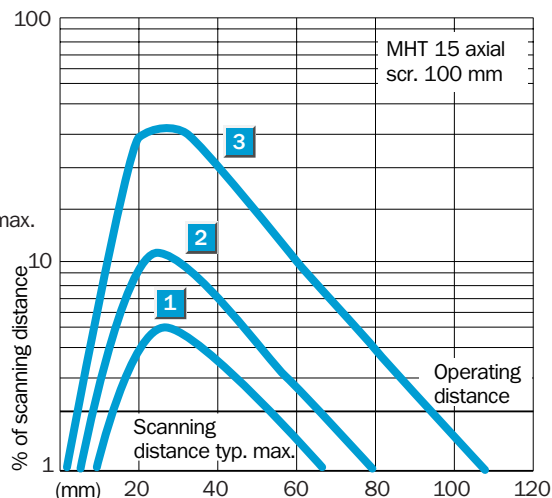
Scanning distance SD , typ. max. ¹⁾	10 ... 100 mm										
Operating distance SD ⁴⁾	10 ... 90 mm										
Light spot diameter	Approx. 20 mm at 100 mm										
Angle of dispersion sender	Approx. 4.5°										
Light source ²⁾ , light type	LED infrared, 950 nm										
Optical axis	Axial										
Sensitivity adjustable	Potentiometer 270°										
Light reception indicator	Yellow LED: lights continuously: Reserve factor > 1.3 Blinks: reserve factor > 1.0 ... < 1.3										
Supply voltage V_s	10 ... 30 V DC ³⁾										
Residual ripple ⁴⁾	≤ 5 V _{pp}										
Current consumption ⁵⁾	≤ 30 mA										
Switching outputs	Q: PNP Q: NPN										
Signal voltage HIGH	V _s - 2.9 V V _s										
Signal voltage LOW	Approx. 0 V ≤ 2.9 V										
Switching mode	Light-switching Dark-switching										
Output current I_A max.	≤ 100 mA										
Response time ⁶⁾	≤ 1.25 ms										
Max. switching frequency ⁷⁾	400/s										
Connection type plug	M12, 3-pin										
cable ⁸⁾	PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm										
VDE protection class ⁹⁾	□										
Enclosure rating	IP 67										
Circuit protection ¹⁰⁾	A, B, C										
Ambient temperature T_A	Operation -25 °C ... +55 °C Storage -25 °C ... +70 °C										
Gewicht with plug	Approx. 7 g										
with cable 2 m	Approx. 90 g										
Housing material	Housing: ABS Optic: PMMA										

¹⁾ Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
²⁾ Average service life 100,000 h at T_A = +25 °C
³⁾ Limit values
⁴⁾ May not exceed or fall short of V_s tolerances
⁵⁾ Without load
⁶⁾ Signal transit time with resistive load
⁷⁾ With light/dark ratio 1:1
⁸⁾ Do not bend below 0 °C
⁹⁾ Reference voltage 50 V DC
¹⁰⁾ A = V_s connections reverse-polarity protected
 B = Interference pulse suppression
 C = Outputs overcurrent and short-circuit protected

Scanning distance




- 1 Scanning distance on black, 6 % remission
- 2 Scanning distance on grey, 18 % remission
- 3 Scanning distance on white, 90 % remission



Order information

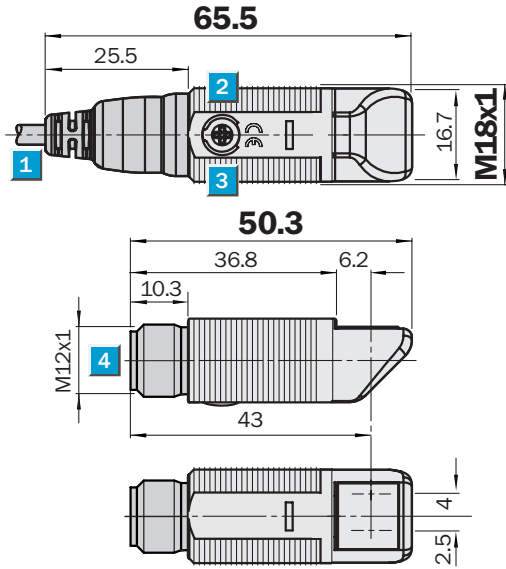
Type	Part no.
MHT 15-N2217	1 026 090
MHT 15-N3217	1 026 091
MHT 15-N2317	1 026 092
MHT 15-N3317	1 026 093
MHT 15-P2217	1 026 094
MHT 15-P3217	1 026 095
MHT 15-P2317	1 026 096
MHT 15-P3317	1 026 097


Scanning distance
 5 ... 90 mm

Photoelectric proximity switches

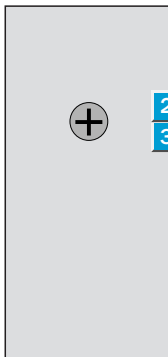
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

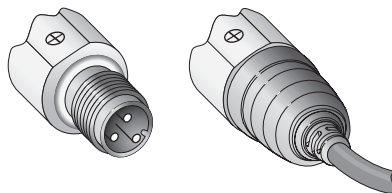
All types



- 1** Connector cable 2 m
- 2** Sensitivity control 270°
- 3** Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.3
 - blinks: Light reception > reserve factor 1.3, but light reception > switching threshold 1
- 4** M12 plug, 3-pin

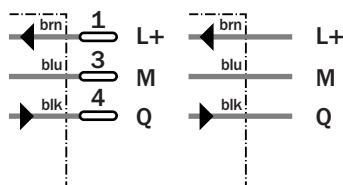
Connection type

MHT 15-N3219	MHT 15-N2219
MHT 15-N3319	MHT 15-N2319
MHT 15-P3219	MHT 15-P2219
MHT 15-P3319	MHT 15-P2319



3-pin, M12

3 x 0.14 mm²



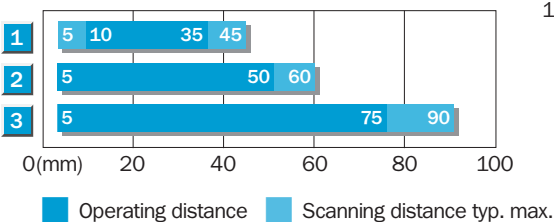
Accessories

- Cables and connectors
- Mounting systems

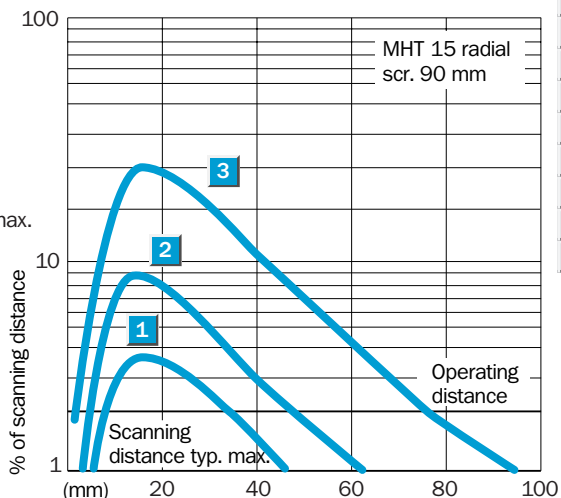
Technical data		MHT 15-	P2219	P3219	P2319	P3319	N2219	N3219	N2319	N3319
Scanning distance SD , typ. max. ¹⁾	5 ... 90 mm									
Operating distance SD ⁴⁾	5 ... 75 mm									
Light spot diameter	Approx. 25 mm at 90 mm									
Angle of dispersion sender	Approx. 5°									
Light source ²⁾ , light type	LED, infrared light, 950 nm									
Optical axis	Radial (90°)									
Sensitivity adjustable	Potentiometer 270°									
Light reception indicator	Yellow LED: lights continuously: Reserve factor > 1.3 Blinks: reserve factor > 1.0 ... < 1.3									
Supply voltage V_s	10 ... 30 V DC ³⁾									
Residual ripple ⁴⁾	≤ 5 V _{pp}									
Current consumption ⁵⁾	≤ 30 mA									
Switching outputs	Q: PNP Q: NPN									
Signal voltage HIGH	V _s - 2.9 V V _s									
Signal voltage LOW	Approx. 0 V ≤ 2.9 V									
Switching mode	Light-switching Dark-switching									
Output current I_A max.	≤ 100 mA									
Response time ⁶⁾	≤ 1.25 ms									
Max. switching frequency ⁷⁾	400/s									
Connection type plug	M12, 3-pin									
cable ⁸⁾	PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm									
VDE protection class ⁹⁾	□									
Enclosure rating	IP 67									
Circuit protection ¹⁰⁾	A, B, C									
Ambient temperature T_A	Operation -25 °C ... +55 °C Storage -25 °C ... +70 °C									
Gewicht with plug	Approx. 8 g									
with cable 2 m	Approx. 91 g									
Housing material	Housing: ABS Optic: PMMA									

¹⁾ Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
²⁾ Average service life 100,000 h at T_A = +25 °C
³⁾ Limit values
⁴⁾ May not exceed or fall short of V_s tolerances
⁵⁾ Without load
⁶⁾ Signal transit time with resistive load
⁷⁾ With light/dark ratio 1:1
⁸⁾ Do not bend below 0 °C
⁹⁾ Reference voltage 50 V DC
¹⁰⁾ A = V_s connections reverse-polarity protected
 B = Interference pulse suppression
 C = Outputs overcurrent and short-circuit protected

Scanning distance




- 1 Scanning distance on black, 6 % remission
- 2 Scanning distance on grey, 18 % remission
- 3 Scanning distance on white, 90 % remission



Order information

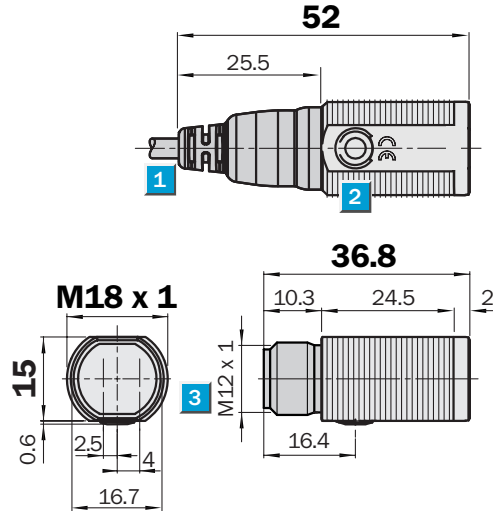
Type	Part no.
MHT 15-N2219	1 026 098
MHT 15-N3219	1 026 099
MHT 15-N2319	1 026 100
MHT 15-N3319	1 026 101
MHT 15-P2219	1 026 102
MHT 15-P3219	1 026 103
MHT 15-P2319	1 026 104
MHT 15-P3319	1 026 105


Scanning range
 0.035 ... 5.0 m
 (PL 80 A)

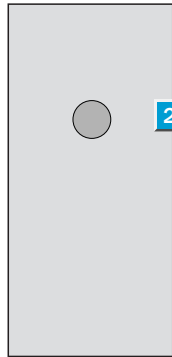
Photoelectric reflex switches

- Polarizing filter for reliable detection of shiny surfaces
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



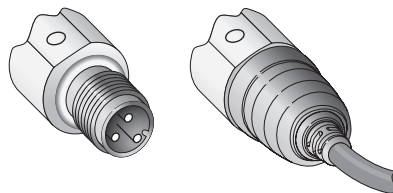
Adjustments possible
All types



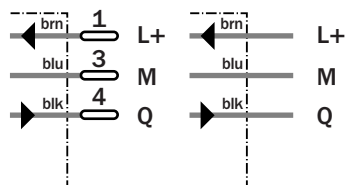
- 1 Connector cable 2 m
- 2 Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.5
 - blinks: Light reception > reserve factor 1.5, but light reception > switching threshold 1
- 3 M12 plug, 3-pin

Connection type

MHL 15-N3236	MHL 15-N2236
MHL 15-N3336	MHL 15-N2336
MHL 15-P3236	MHL 15-P2236
MHL 15-P3336	MHL 15-P2336



3-pin, M12 3 x 0.14 mm²



Accessories

Cables and connectors
Mounting systems
Reflectors

Technical data		MHL 15-	P2236	P3236	P2336	P3336	N2236	N3236	N2336	N3336
Scanning range SR , typ. max./reflect.	0.035 ... 5.0 m (PL 80 A)									
Operating range	0.035 ... 3.5 m (PL 80 A)									
Light spot diameter	Approx. 80 mm at 3.5 m									
Angle of dispersion sender	Approx. 1.5°									
Optical axis	Axial									
Light source ¹⁾, light type	LED, red light, with pol. filter, 650 nm									
Light reception indicator	Yellow LED: lights continuously: Reserve factor > 1.5 Blinks: reserve factor > 1.0 ... < 1.5									
Supply voltage V_s	10 ... 30 V DC ²⁾									
Residual ripple ³⁾	≤ 5 V _{pp}									
Current consumption ⁴⁾	≤ 30 mA									
Switching outputs	Q: PNP Q: NPN									
Signal voltage HIGH	V _s - 2.9 V V _s									
Signal voltage LOW	Approx. 0 V ≤ 2.9 V									
Switching mode	Light-switching Dark-switching									
Output current I_A max.	≤ 100 mA									
Response time ⁵⁾	≤ 1.25 ms									
Max. switching frequency ⁶⁾	400/s									
Connection type plug	M12, 3-pin									
cable ⁷⁾	PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm									
VDE protection class ⁸⁾	□									
Enclosure rating	IP 67									
Circuit protection ⁹⁾	A, B, C									
Ambient temperature T_A	Operation -25 °C ... +55 °C Storage -25 °C ... +70 °C									
Gewicht with plug	Approx. 7 g									
with cable 2 m	Approx. 90 g									
Housing material	Housing: ABS Optic: PMMA									

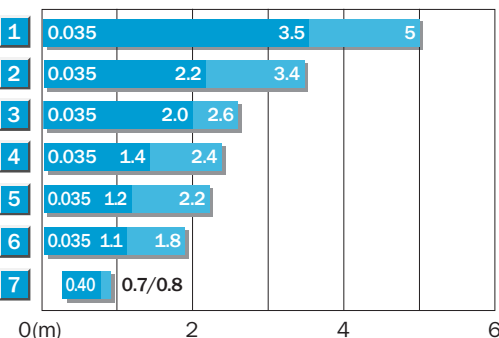
¹⁾ Average service life 100,000 h at T_A = +25 °C
²⁾ Limit values

³⁾ May not exceed or fall short of V_s tolerances
⁴⁾ Without load

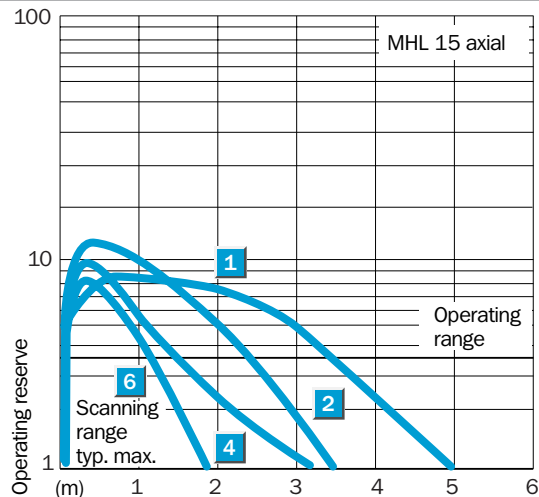
⁵⁾ Signal transit time with resistive load
⁶⁾ With light/dark ratio 1:1
⁷⁾ Do not bend below 0 °C
⁸⁾ Reference voltage 50 V DC

⁹⁾ A = V_s connections reverse-polarity protected
B = Interference pulse suppression
C = Outputs overcurrent and short-circuit protected

Scanning range and operating reserve




Reflector type	Operating range
1 PL 80 A	0.035 ... 3.5 m
2 P 250	0.035 ... 2.2 m
3 C 110	0.035 ... 2.0 m
4 PL 50 A/PL 40 A	0.035 ... 1.4 m
5 PL 30 A/PL 31 A	0.035 ... 1.2 m
6 PL 20 A	0.035 ... 1.1 m
7 Reflective tape Diamond Grade 50 mm x 50 mm	0.40 ... 0.7 m



Order information

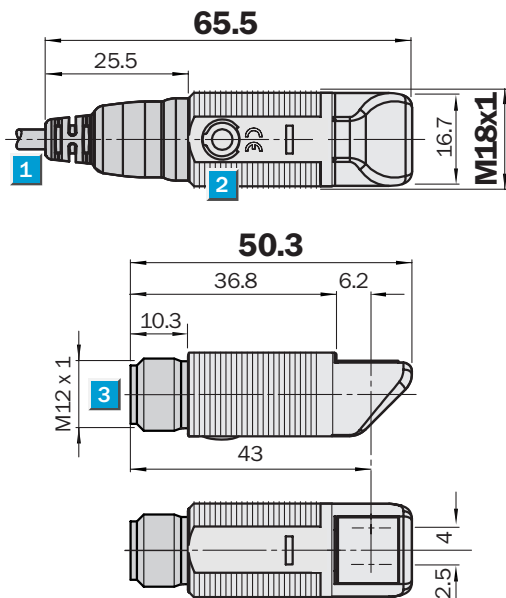
Type	Part no.
MHL 15-N2236	1 026 122
MHL 15-N3236	1 026 123
MHL 15-N2336	1 026 124
MHL 15-N3336	1 026 125
MHL 15-P2236	1 026 126
MHL 15-P3236	1 026 127
MHL 15-P2336	1 026 128
MHL 15-P3336	1 026 129


Scanning range
 0.035 ... 4.5 m
 (PL 80 A)

Photoelectric reflex switches

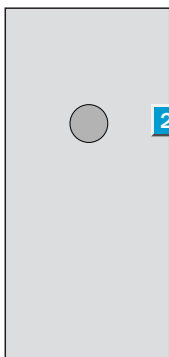
- Polarizing filter for reliable detection of shiny surfaces
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

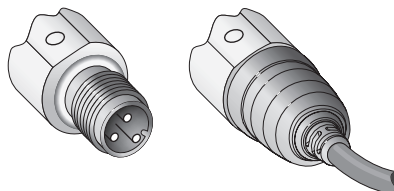
All types



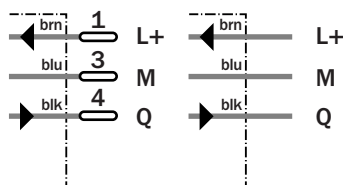
- 1 Connector cable 2 m
- 2 Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.5
 - blinks: Light reception > reserve factor 1.5, but light reception > switching threshold 1
- 3 M12 plug, 3-pin

Connection type

MHL 15-N3238	MHL 15-N2238
MHL 15-N3338	MHL 15-N2338
MHL 15-P3238	MHL 15-P2238
MHL 15-P3338	MHL 15-P2338



3-pin, M12 3 x 0.14 mm²



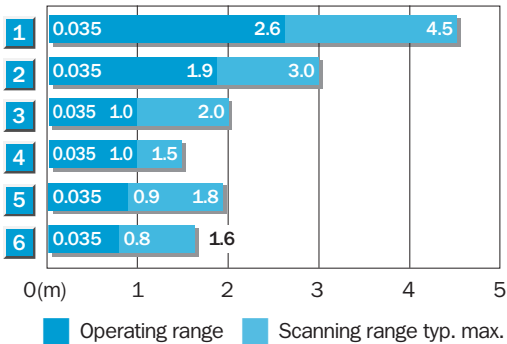
Accessories

Cables and connectors
Mounting systems
Reflectors

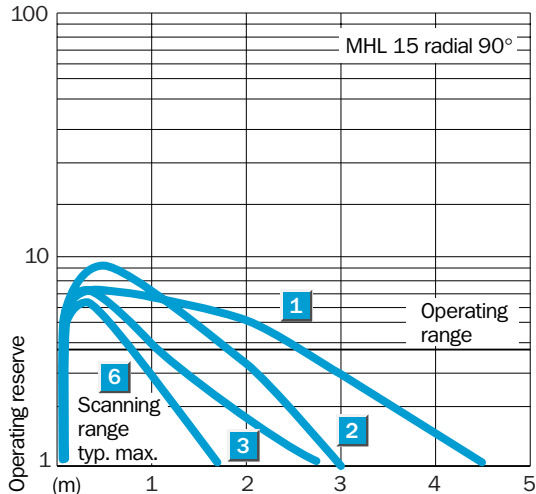
Technical data		MHL 15-	P2238	P3238	P2338	P3338	N2238	N3238	N2338	N3338
Scanning range SR , typ. max./reflect.	0.035 ... 4.5 m (PL 80 A)									
Operating range	0.035 ... 2.6 m (PL 80 A)									
Light spot diameter	Approx. 60 mm at 2.6 m									
Angle of dispersion sender	Approx. 1.5°									
Optical axis	Radial (90°)									
Light source ¹⁾, light type	LED, red light, with pol. filter, 650 nm									
Light reception indicator	Yellow LED: lights continuously: Reserve factor > 1.5 Blinks: reserve factor > 1.0 ... < 1.5									
Supply voltage V_s	10 ... 30 V DC ²⁾									
Residual ripple ³⁾	≤ 5 V _{pp}									
Current consumption ⁴⁾	≤ 30 mA									
Switching outputs	Q: PNP Q: NPN									
Signal voltage HIGH	V _s - 2.9 V V _s									
Signal voltage LOW	Approx. 0 V ≤ 2.9 V									
Switching mode	Light-switching Dark-switching									
Output current I_A max.	≤ 100 mA									
Response time ⁵⁾	≤ 1.25 ms									
Max. switching frequency ⁶⁾	400/s									
Connection type plug	M12, 3-pin									
cable ⁷⁾	PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm									
VDE protection class ⁹⁾	□									
Enclosure rating	IP 67									
Circuit protection ¹⁰⁾	A, B, C									
Ambient temperature T_A	Operation -25 °C ... +55 °C Storage -25 °C ... +70 °C									
Gewicht with plug	Approx. 8 g									
with cable 2 m	Approx. 91 g									
Housing material	Housing: ABS Optic: PMMA									

¹⁾ Average service life 100,000 h at T_A = +25 °C
²⁾ Limit values
³⁾ May not exceed or fall short of V_s tolerances
⁴⁾ Without load
⁵⁾ Signal transit time with resistive load
⁶⁾ With light/dark ratio 1:1
⁷⁾ Do not bend below 0 °C
⁸⁾ Reference voltage 50 V DC
⁹⁾ A = V_s connections reverse-polarity protected
 B = Interference pulse suppression
 C = Outputs overcurrent and short-circuit protected

Scanning range and operating reserve



Reflector type	Operating range
1	PL 80 A
2	P 250
3	PL 50 A/PL 40 A
4	C 110
5	PL 30 A/PL 31 A
6	PL 20 A



Order information

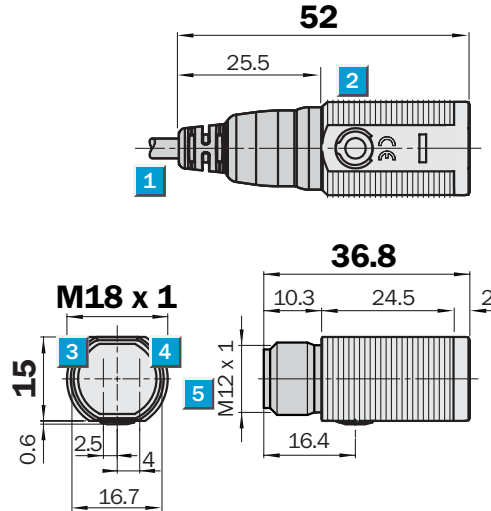
Type	Part no.
MHL 15-N2238	1 026 130
MHL 15-N3238	1 026 131
MHL 15-N2338	1 026 132
MHL 15-N3338	1 026 133
MHL 15-P2238	1 026 134
MHL 15-P3238	1 026 135
MHL 15-P2338	1 026 136
MHL 15-P3338	1 026 137

Scanning range
0 ... 5.0 m

Through-beam photoelectric switches

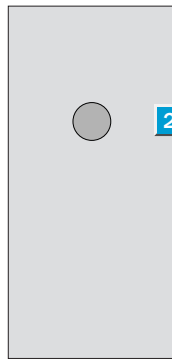
- Large range
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



Adjustments possible

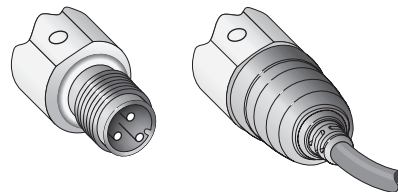
All types



- 1 Connector cable 2 m
- 2 Yellow LED indicator (only receiver MHE 15):
– lights continuously:
Light reception > switching threshold 1
- 3 Axis of sender
- 4 Axis of receiver
- 5 M12 plug, 3-pin

Connection type

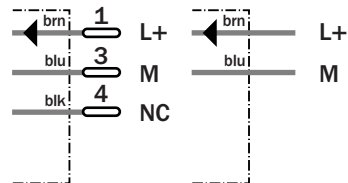
MHSE 15-N3236	MHSE 15-N2236
MHSE 15-N3336	MHSE 15-N2336
MHSE 15-P3236	MHSE 15-P2236
MHSE 15-P3336	MHSE 15-P2336



Sender MHS 15

3-pin, M12

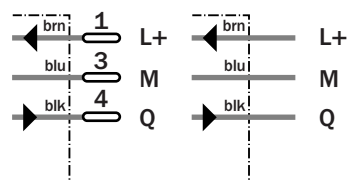
2 x 0.14 mm²



Receiver MHE 15

3-pin, M12

3 x 0.14 mm²



Accessories
Cables and connectors
Mounting systems

Technical data		MHSE 15-	P2236	P3236	P2336	P3336	N2236	N3236	N2336	N3336
Scanning range SR , typ. max./reflect.	0 ... 5.0 m									
Operating range	0 ... 3.8 m									
Light spot diameter	Approx. 65 mm at 4.0 m									
Angle of dispersion sender	Approx. 1.5°									
Optical axis	Axial									
Light source ¹⁾, light type	LED, red light, 650 nm									
Light reception indicator	Yellow LED: lights continuously: Light reception > switching threshold 1									
Supply voltage V_s	10 ... 30 V DC ²⁾									
Residual ripple ³⁾	≤ 5 V _{pp}									
Current consumption ⁴⁾	≤ 30 mA									
Switching outputs	Q: PNP									
	Q: NPN									
Signal voltage HIGH	V _s - 2.9 V									
	V _s									
Signal voltage LOW	Approx. 0 V									
	≤ 2.9 V									
Switching mode	Light-switching									
	Dark-switching									
Output current I_A max.	≤ 100 mA									
Response time ⁵⁾	≤ 1.4 ms									
Max. switching frequency ⁶⁾	350/s									
Connection type	plug M12, 3-pin									
	cable ⁷⁾ sender PUR, 2 m, 2 x 0.14 mm ² , Ø 3.6 mm									
	cable ⁷⁾ receiver PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm									
VDE protection class ⁹⁾	□									
Enclosure rating	IP 67									
Circuit protection ¹⁰⁾	A, B, C									
Ambient temperature T_A	Operation -25 °C ... +55 °C									
	Storage -25 °C ... +70 °C									
Gewicht	with plug Sender/receiver each approx. 7 g									
	with cable 2 m Sender/receiver each approx. 90 g									
Housing material	Housing: ABS									
	Optic: PMMA									

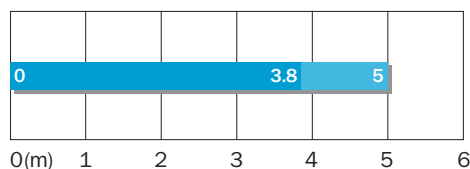
¹⁾ Average service life 100,000 h at T_A = +25 °C
²⁾ Limit values

³⁾ May not exceed or fall short of V_s tolerances
⁴⁾ Without load

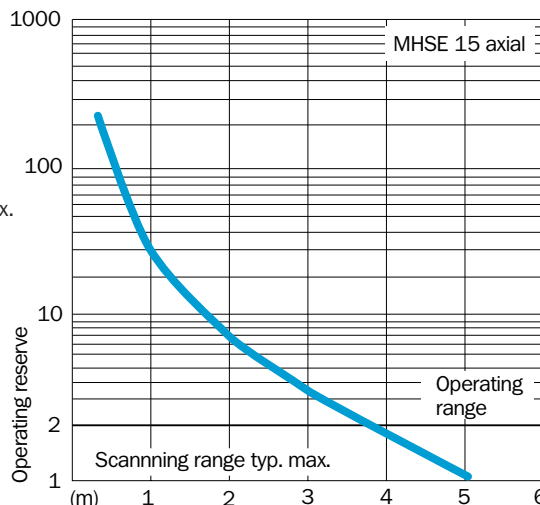
⁵⁾ Signal transit time with resistive load
⁶⁾ With light/dark ratio 1:1
⁷⁾ Do not bend below 0 °C
⁸⁾ Reference voltage 50 V DC

⁹⁾ A = V_s connections reverse-polarity protected
 B = Interference pulse suppression
 C = Outputs overcurrent and short-circuit protected

Operating range and operating reserve



■ Operating range ■ Scanning range typ. max.



Order information

Type	Part no. ¹⁰⁾
MHSE 15-N2236	1 026 138
MHSE 15-N3236	1 026 139
MHSE 15-N2336	1 026 140
MHSE 15-N3336	1 026 141
MHSE 15-P2236	1 026 142
MHSE 15-P3236	1 026 143
MHSE 15-P2336	1 026 144
MHSE 15-P3336	1 026 145

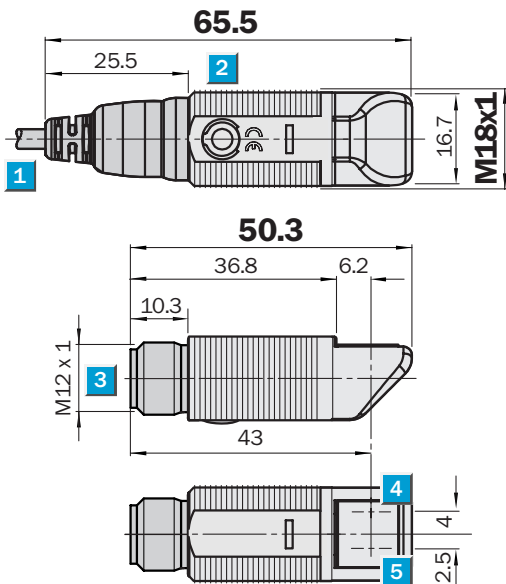
¹⁰⁾ Part no. includes sender and receiver (pair)

Scanning range
0 ... 4.0 m

Through-beam photoelectric switches

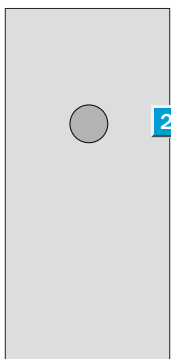
- Large range
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

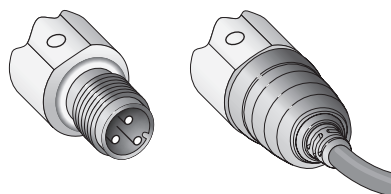
All types



- 1 Connector cable 2 m
- 2 Yellow LED indicator (only receiver MHE 15):
– lights continuously:
Light reception > switching threshold 1
- 3 M12 plug, 3-pin
- 4 Axis of sender
- 5 Axis of receiver

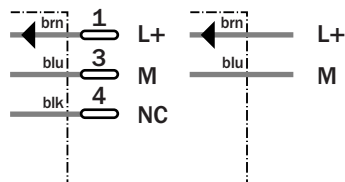
Connection type

MHSE 15-N3238	MHSE 15-N2238
MHSE 15-N3338	MHSE 15-N2338
MHSE 15-P3238	MHSE 15-P2238
MHSE 15-P3338	MHSE 15-P2338



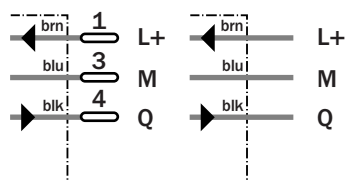
Sender MHS 15

3-pin, M12	2 x 0.14 mm ²
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Receiver MHE 15

3-pin, M12	3 x 0.14 mm ²
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Accessories
Cables and connectors
Mounting systems

Technical data		MHSE 15-	P2238	P3238	P2338	P3338	N2238	N3238	N2338	N3338
Scanning range SR , typ. max./reflect.	0 ... 4.0 m									
Operating range	0 ... 2.8 m									
Light spot diameter	Approx. 50 mm at 3 m									
Angle of dispersion sender	Approx. 1.5°									
Optical axis	Radial (90°)									
Light source ¹⁾, light type	LED, red light, 650 nm									
Light reception indicator	Yellow LED: lights continuously: Light reception > switching threshold 1									
Supply voltage V_s	10 ... 30 V DC ²⁾									
Residual ripple ³⁾	≤ 5 V _{pp}									
Current consumption ⁴⁾	≤ 30 mA									
Switching outputs	Q: PNP									
	Q: NPN									
Signal voltage HIGH	V _s - 2.9 V									
	V _s									
Signal voltage LOW	Approx. 0 V									
	≤ 2.9 V									
Switching mode	Light-switching									
	Dark-switching									
Output current I_A max.	≤ 100 mA									
Response time ⁵⁾	≤ 1.4 ms									
Max. switching frequency ⁶⁾	350/s									
Connection type	plug M12, 3-pin									
	cable ⁷⁾ sender PUR, 2 m, 2 x 0.14 mm ² , Ø 3.6 mm									
	cable ⁷⁾ receiver PUR, 2 m, 3 x 0.14 mm ² , Ø 3.6 mm									
VDE protection class ⁹⁾	□									
Enclosure rating	IP 67									
Circuit protection ¹⁰⁾	A, B, C									
Ambient temperature T_A	Operation -25 °C ... +55 °C									
	Storage -25 °C ... +70 °C									
Gewicht	with plug Sender/receiver each approx. 8 g									
	with cable 2 m Sender/receiver each approx. 91 g									
Housing material	Housing: ABS									
	Optic: PMMA									

¹⁾ Average service life 100,000 h at T_A = +25 °C

²⁾ Limit values

³⁾ May not exceed or fall short of V_s tolerances

⁴⁾ Without load

⁵⁾ Signal transit time with resistive load

⁶⁾ With light/dark ratio 1:1

⁷⁾ Do not bend below 0 °C

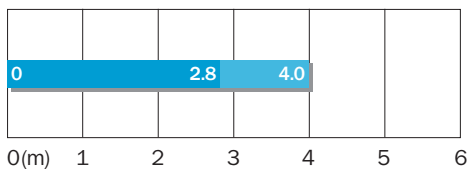
⁸⁾ Reference voltage 50 V DC

⁹⁾ A = V_s connections reverse-polarity protected

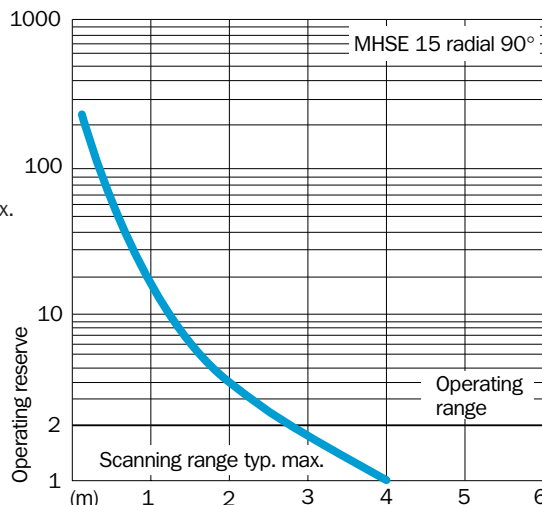
B = Interference pulse suppression

C = Outputs overcurrent and short-circuit protected

Operating range and operating reserve



Operating range Scanning range typ. max.



Order information

Type	Part no. ¹⁰⁾
MHSE 15-N2238	1 026 146
MHSE 15-N3238	1 026 147
MHSE 15-N2338	1 026 148
MHSE 15-N3338	1 026 149
MHSE 15-P2238	1 026 150
MHSE 15-P3238	1 026 151
MHSE 15-P2338	1 026 152
MHSE 15-P3338	1 026 153

¹⁰⁾ Part no. includes sender and receiver (pair)

Dimensional drawings and order information

SENSICK screw-in system M12, 4-pin, Enclosure rating IP 67

Female connector M12, 4-pin, straight

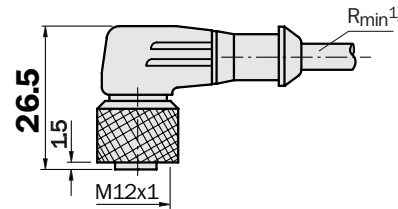
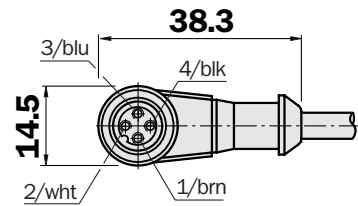
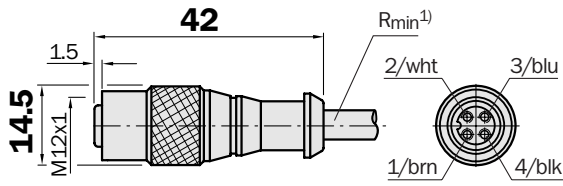
Cable diameter 5 mm, 4 x 0.25 mm², sheath PVC

Type	Part no.	Contacts	Cable length
DOL-1204-G02M	6 009 382	4	2 m
DOL-1204-G05M	6 009 866	4	5 m
DOL-1204-G10M	6 010 543	4	10 m
DOL-1204-G15M	6 010 753	4	15 m

Female connector M12, 4-pin, right angle

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

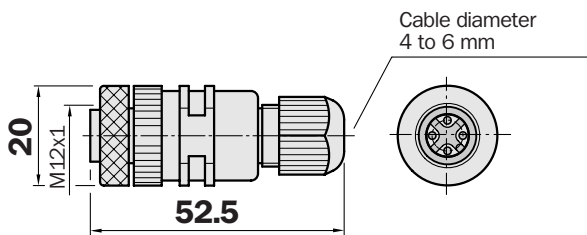
Type	Part no.	Contacts	Cable length
DOL-1204-W02M	6 009 383	4	2 m
DOL-1204-W05M	6 009 867	4	5 m
DOL-1204-W10M	6 010 541	4	10 m



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

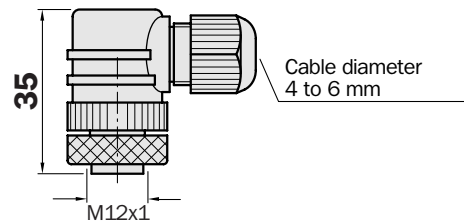
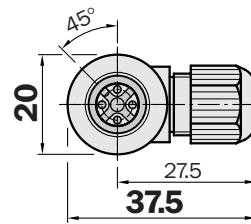
Female connector M12, 4-pin, straight

Type	Part no.	Contacts	Can be adapted for cables \varnothing 4.5 to 6.5 mm
DOS-1204-G	6 007 302	4	



Female connector M12, 4-pin, right angle

Type	Part no.	Contacts	Can be adapted for cables \varnothing 4.5 to 6.5 mm
DOS-1204-W	6 007 303	4	

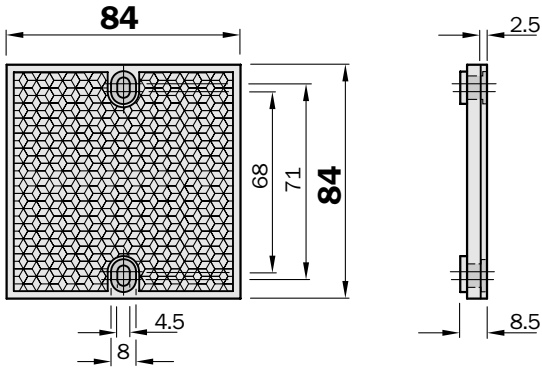


Dimensional drawings and order information

Reflectors for MHL 15, plastic design for temperatures up to 65 °C

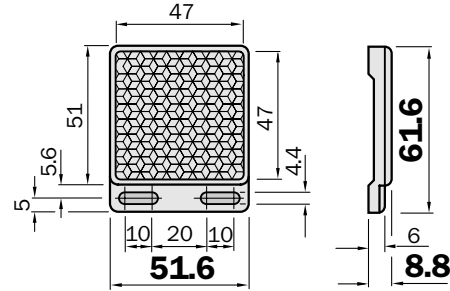
Reflector 80 x 80 mm²

Type	Part no.
PL 80 A	1 003 865



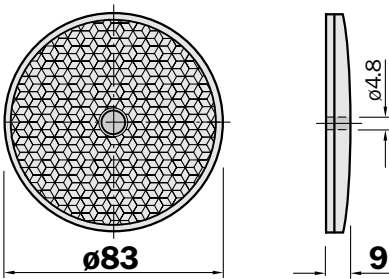
Reflector 47 x 47 mm²

Type	Part no.
P 250	5 304 812



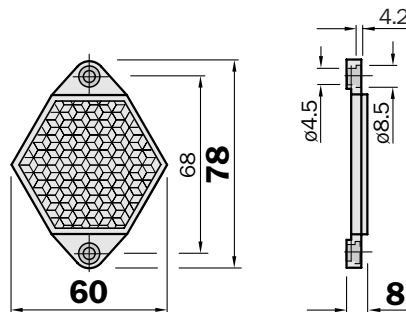
Reflector, diameter 83 mm, center hole mounting

Type	Part no.
C 110	5 304 549



Reflector, 6-sided, width across flats 48 mm

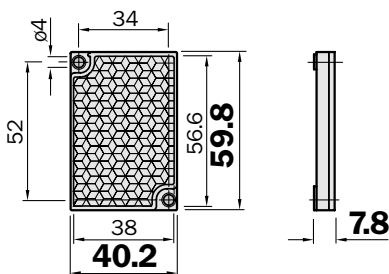
Type	Part no.
PL 50 A	1 000 132



Also available in heatable model:
 Permanent heating: PL 50 HK,
 Part no. 1 001 545
 Controlled heating: PL 50 HS
 Part no. 1 009 871

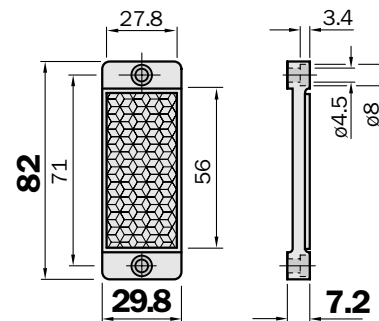
Reflector 38 x 56 mm²

Type	Part no.
PL 40 A	1 012 720



Reflector 28 x 56 mm²

Type	Part no.
PL 30 A	1 002 314

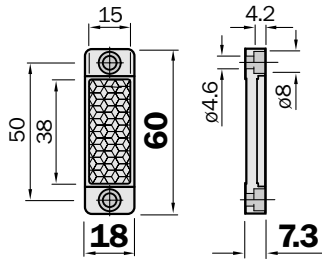


Dimensional drawings and order information

Reflectors for MHL 15, plastic design for temperatures up to 65 °C

Reflector 15 x 38 mm²

Type	Part no.
PL 20 A	1 012 719



Reflective tape "Diamond Grade"

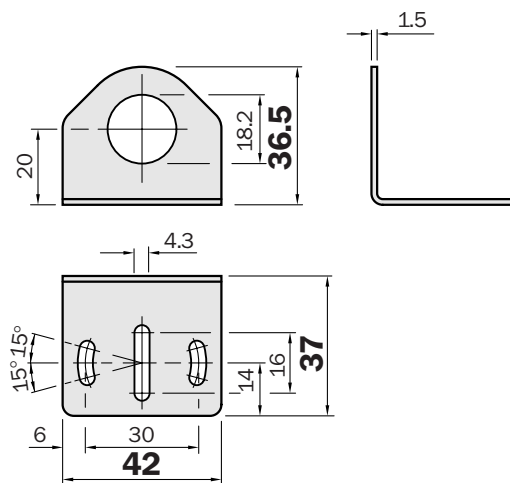
Type	Part no.	
REF-DG-K	4 019 634	Cut to size
REF-DG	5 304 334	Sheet 749 x 914 mm ²



Mounting systems

Mounting bracket

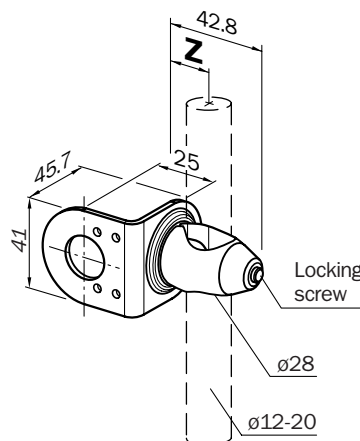
Type	Part no.
BEF-WN-M18	5 308 446



Universal bracket (rod mounting) for sensors

Distance Z: bar centre – inner plate surface

Type	Part no. ¹⁾	Bar-ø (mm)	Distance Z (mm)
BEF-KHS-H01	2 022 465	12	15.0
		14	16.4
		15	17.1
		18	19.2
		20	20.7



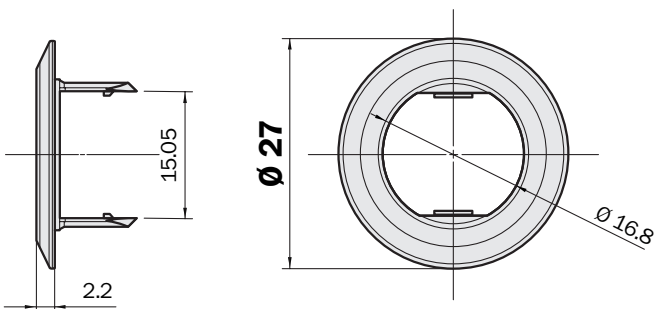
¹⁾ Part no. includes bar support with mounting palte and mounting material

Dimensional drawings and order information

Mounting systems

Mounting ring for MH 15

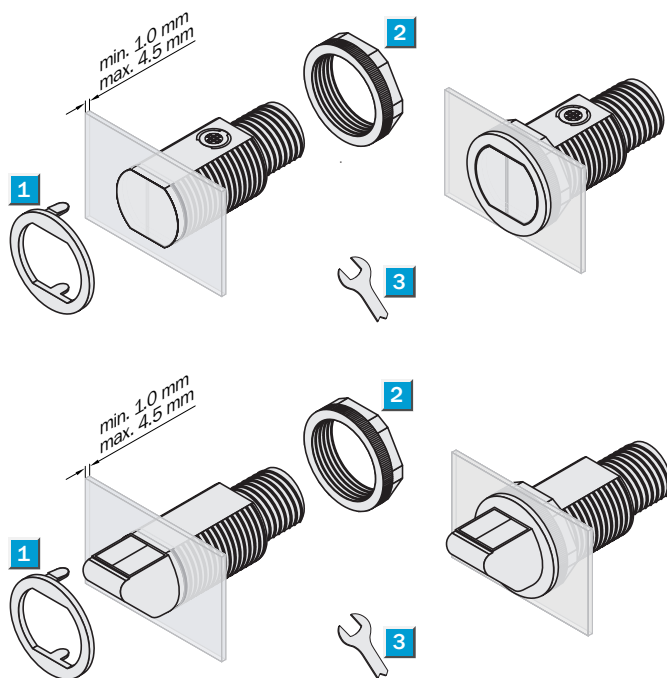
Type	Part no. ^{**)}
BEF-WN-MH15-1	4 039 533



^{**)} Supplied with MH 15

Mounting kit for MH 15 ^{**)} for flush mounting, 2 x nuts M18

Description	Type	Part no. ^{**)}
1 x Mounting ring	BEF-WN-MH15-1	4 039 533
2 x nuts M18	Mutter-M18-MH15	4 040 270



1 Adapter BEF-WN-MH15-1 (4 039 533) for flush mounting ^{**)}

2 2 x Mutter-M18-MH15 (4 040 270) ^{**)} (SW22)

3 **Mounting Instructions for MH 15**

MH 15 mounting with a combination of mounting ring **1** and locknut M18 **2**: maximum torque 0,9 nm

MH 15 mounting with a combination of 2 x locknuts M18 **2** on both sides: maximum torque 2.0 nm

^{**)} Supplied with MH 15

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