

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

	Photoelectric proximity switches
	Photoelectric reflex switches
	Through-beam photoelectric switches



- 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 MH 15 photoelectric switch series concentrates on the essential:

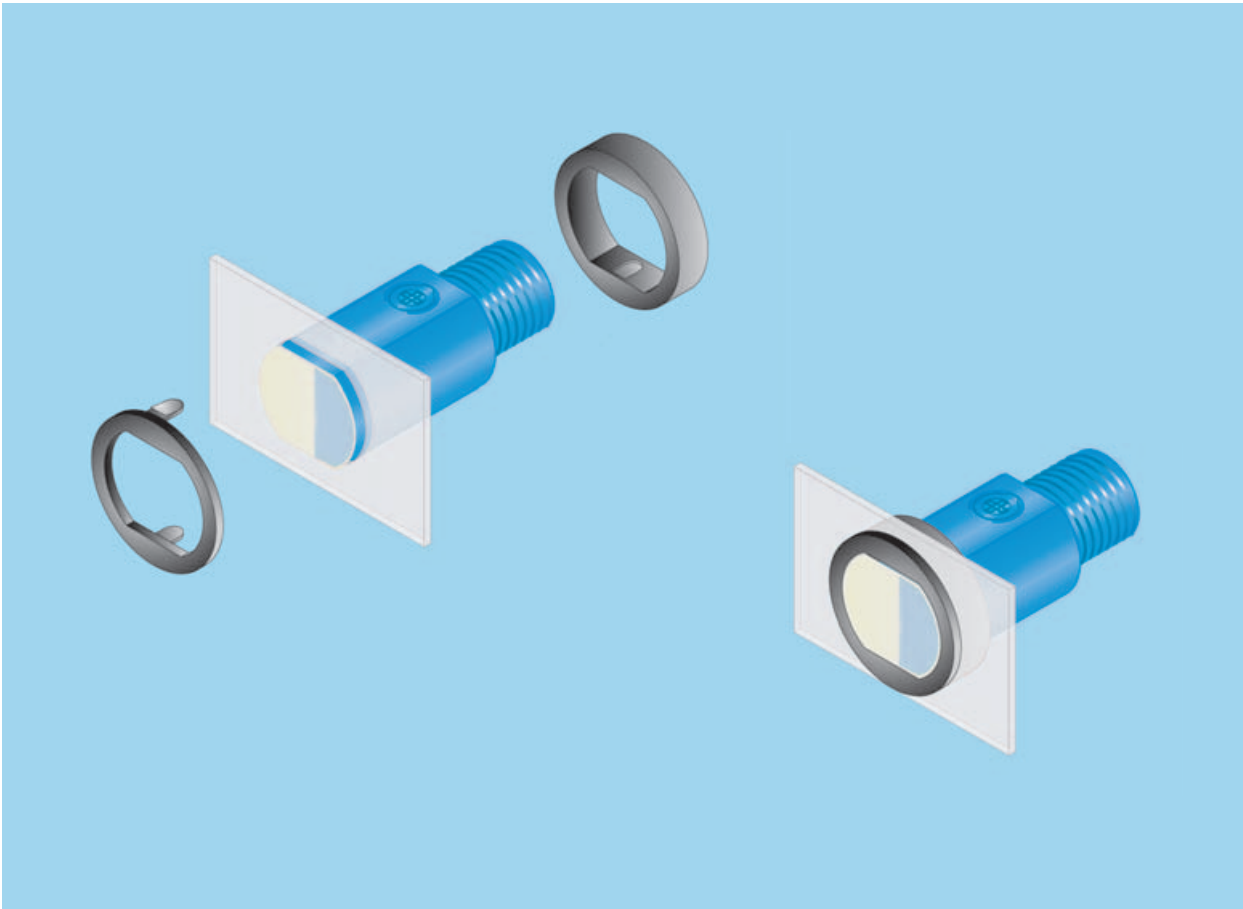
- Reliable detection of objects.
- Functional design for clever, space-saving solutions.
- Accessories and system engineering for fast and inexpensive mounting.

The MH 15, offers the following optical variants in both Axial

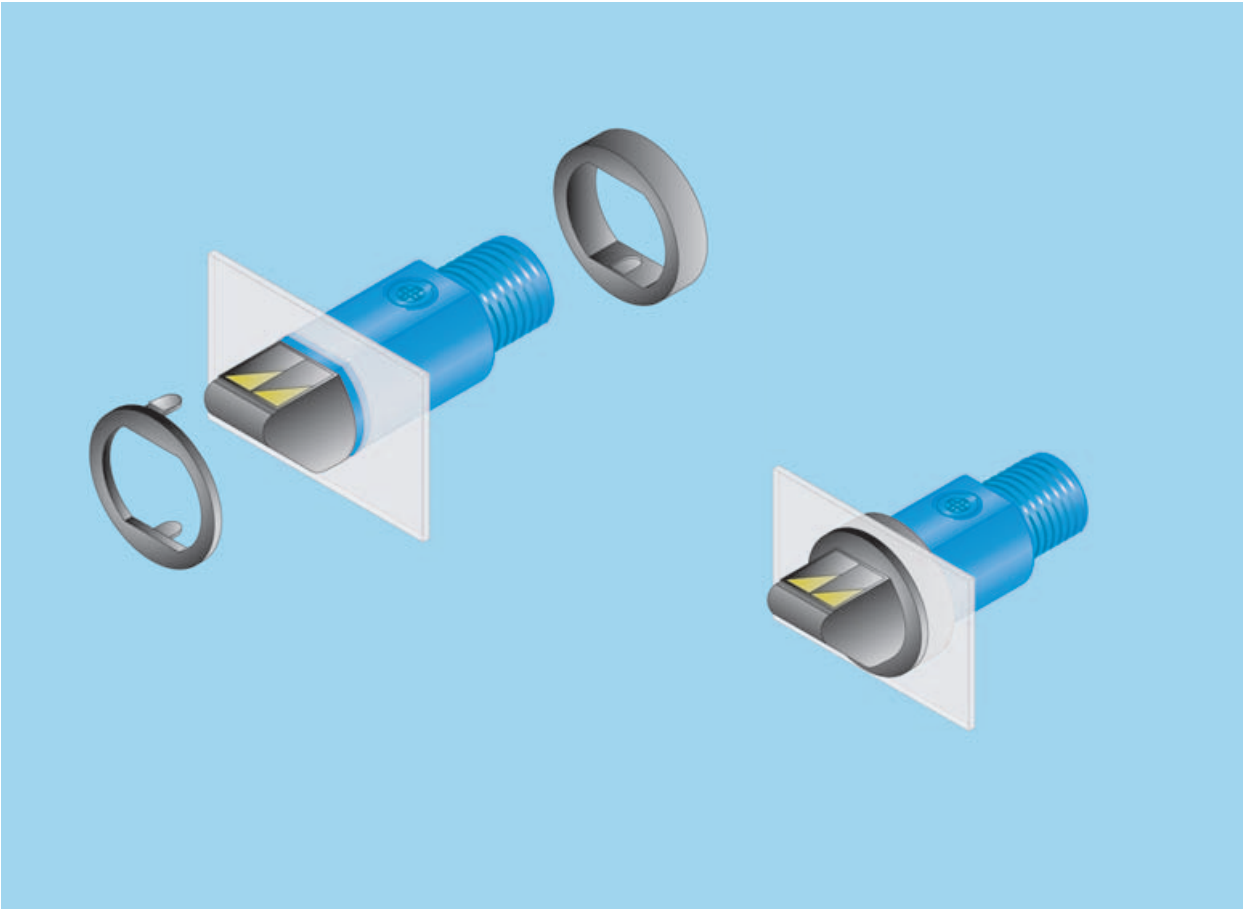
(straight) and Radial (90°) housing forms.


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

The MH 15 can be used in a wide variety of applications, particularly the conveyor/mechanical handling and packaging industries.



◀ Installation without tools has many advantages: with its plastic retaining clip, the MH 15 is installed quickly, easily and securely. ▼

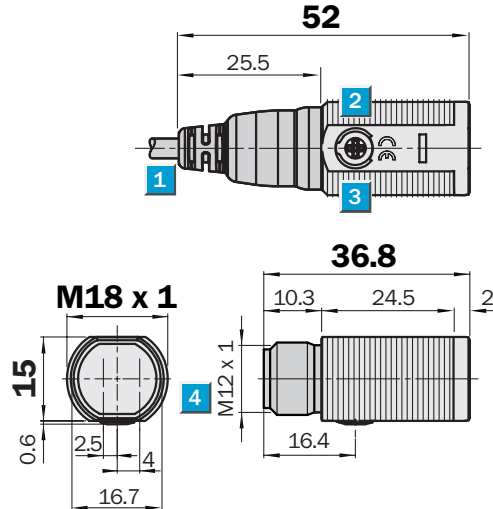



Scanning distance
10 ... 350 mm

Photoelectric proximity switches

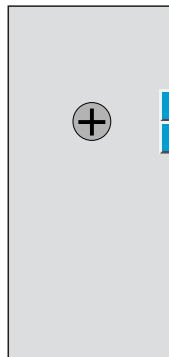
- Large distance
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



Adjustments possible

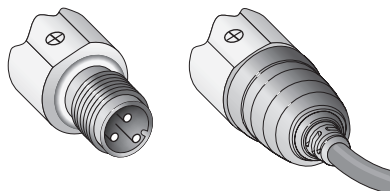
All types



- 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

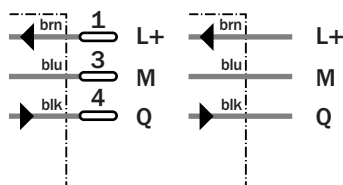
Connection type

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



See chapter Accessories

Cables and connectors

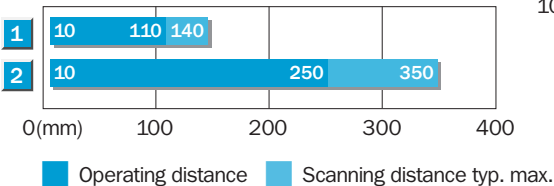
Mounting systems

Technical data	MHT 15-	P2247	P3247	P2347	P3347	N2247	N3247	N2347	N3347		
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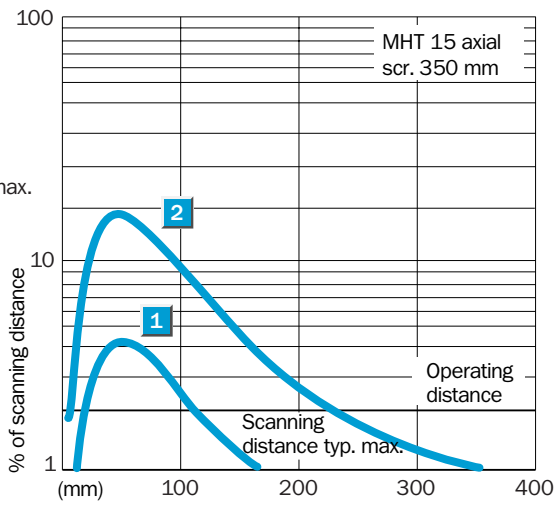
Scanning distance SD , typ. max. ¹⁾	10 ... 350 mm										
Operating distance SD ⁴⁾	10 ... 250 mm										
Light spot diameter	Approx. 50 mm at 350 mm										
Angle of dispersion sender	Approx. 4.5°										
Light source ²⁾ , light type	LED infrared, 950 nm										
Optical axis	Axial										
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



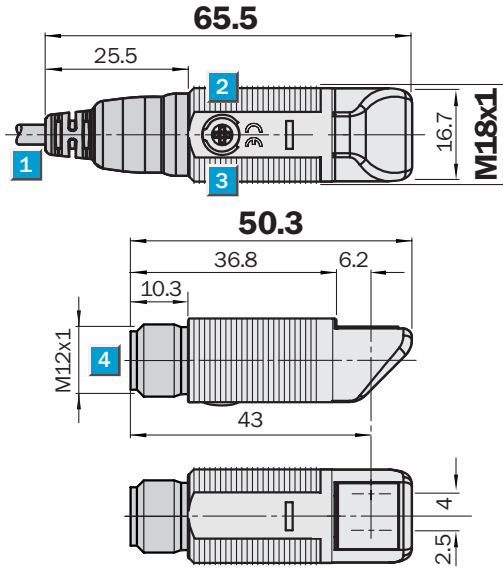
Order information

Type	Order 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

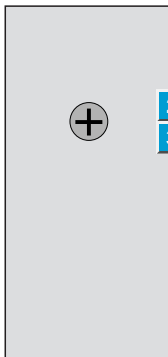
- Large distance
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

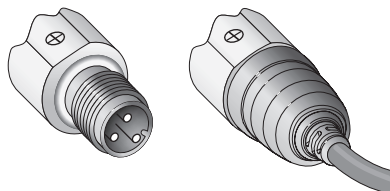
All types



- 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

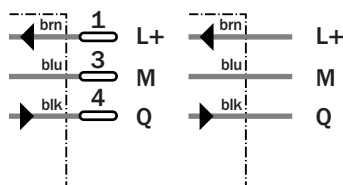
Connection type

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

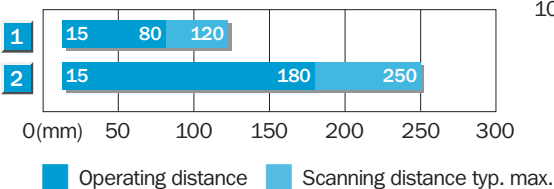


See chapter Accessories
 Cables and connectors
 Mounting systems

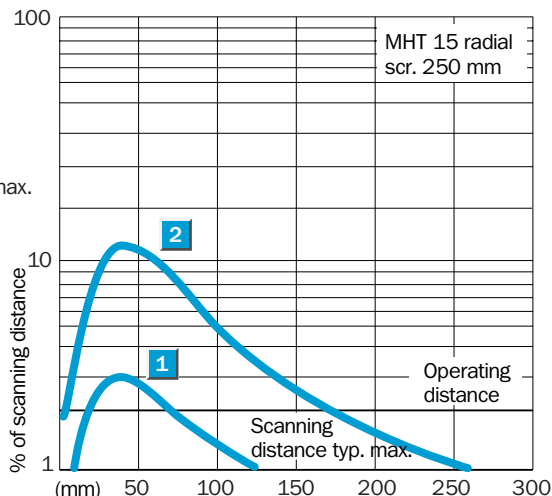
Technical data		MHT 15-	P2249	P3249	P2349	P3349	N2249	N3249	N2349	N3349
Scanning distance SD , typ. max. ¹⁾	15 ... 250 mm									
Operating distance SD ⁴⁾	15 ... 180 mm									
Light spot diameter	Approx. 40 mm at 250 mm									
Angle of dispersion sender	Approx. 4.5°									
Light source ²⁾ , light 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

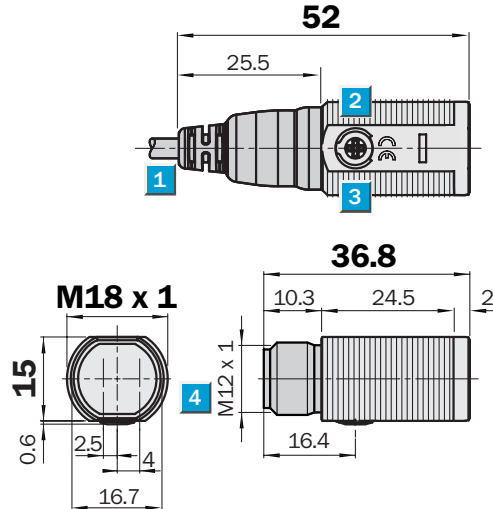
Type	Order no.
MHT 15-N2249	1 026 114
MHT 15-N3249	1 026 115
MHT 15-N2349	1 026 116
MHT 15-N3349	1 026 117
MHT 15-P2249	1 026 118
MHT 15-P3249	1 026 119
MHT 15-P2349	1 026 120
MHT 15-P3349	1 026 121


Scanning distance
10 ... 100 mm

Photoelectric proximity switches

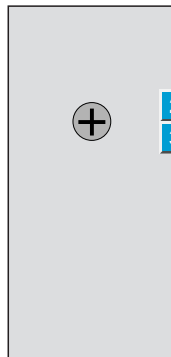
- Standard scanning distance
- Adjustable sensitivity
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



Adjustments possible

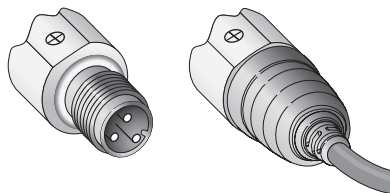
All types



- 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

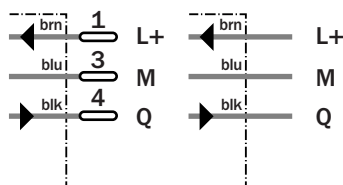
Connection type

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



See chapter Accessories

Cables and connectors

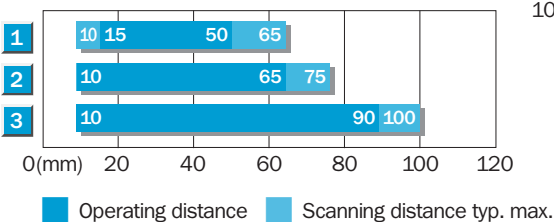
Mounting systems

Technical data	MHT 15-	P2217	P3217	P2317	P3317	N2217	N3217	N2317	N3317		
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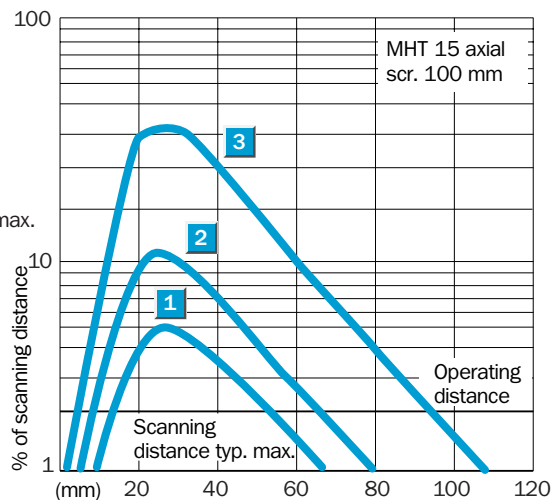
Scanning distance SD , typ. max. ¹⁾	10 ... 100 mm										
Operating distance SD ⁴⁾	10 ... 90 mm										
Light spot diameter	Approx. 20 mm at 100 mm										
Angle of dispersion sender	Approx. 4.5°										
Light source ²⁾ , light type	LED infrared, 950 nm										
Optical axis	Axial										
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



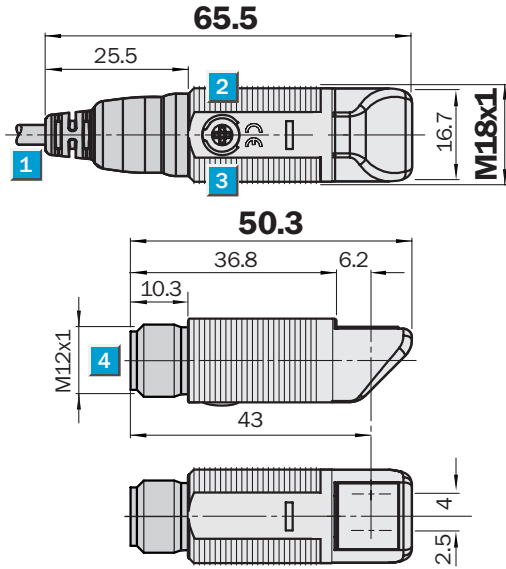
Order information

Type	Order 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

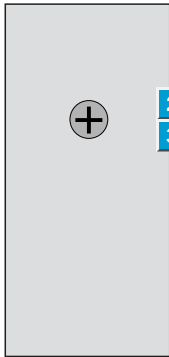

Scanning distance
 5 ... 90 mm
Photoelectric proximity switches

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

Dimensional drawing



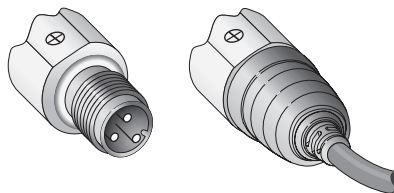
Adjustments possible
All types



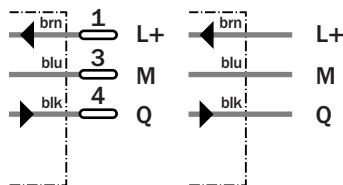
- 1** Connector cable 2 m
- 2** Sensitivity control 270°
- 3** Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.3
 - blinks: Light reception > reserve factor 1.3, but light reception > switching threshold 1
- 4** M12 plug, 3-pin

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



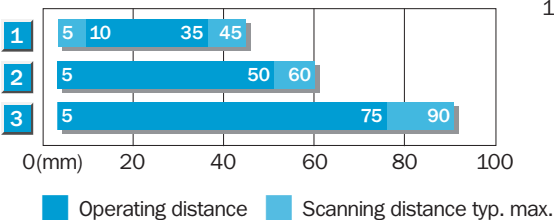
See chapter Accessories
Cables and connectors
Mounting systems

Technical data	MHT 15-	P2219	P3219	P2319	P3319	N2219	N3219	N2319	N3319		
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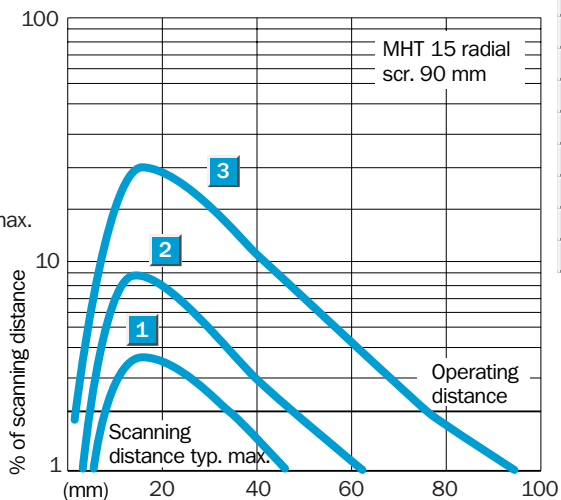
Scanning distance SD , typ. max. ¹⁾	5 ... 90 mm										
Operating distance SD ⁴⁾	5 ... 75 mm										
Light spot diameter	Approx. 25 mm at 90 mm										
Angle of dispersion sender	Approx. 5°										
Light source ²⁾ , light type	LED, infrared light, 950 nm										
Optical axis	Radial (90°)										
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



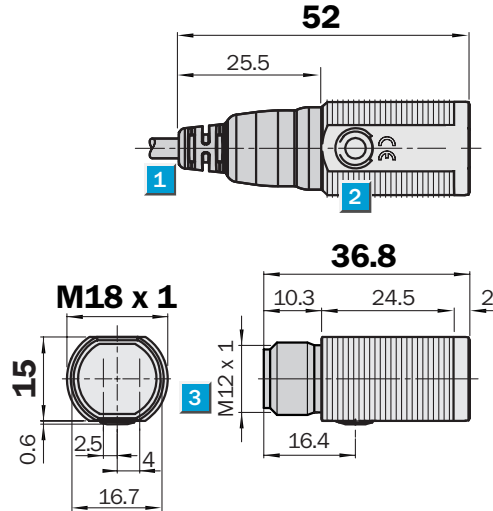
Order information

Type	Order 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

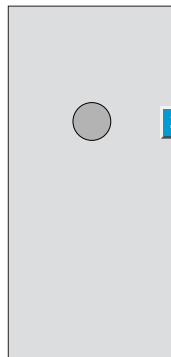
- Polarizing filter for reliable detection of shiny surfaces
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



Adjustments possible

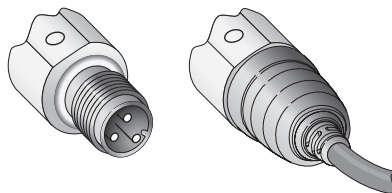
All types



- 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

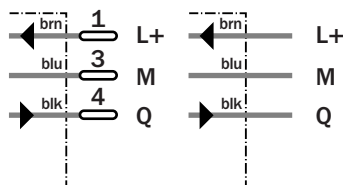
Connection type

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



See chapter 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									

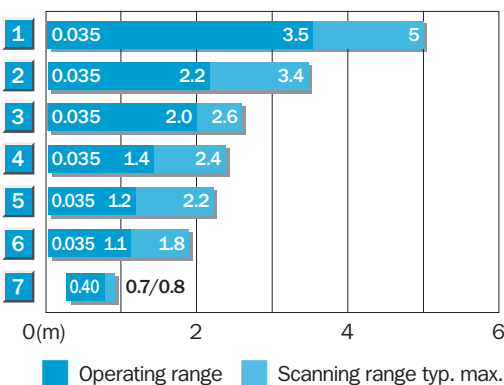
1) Average service life 100,000 h at T_A = +25 °C
2) Limit values

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

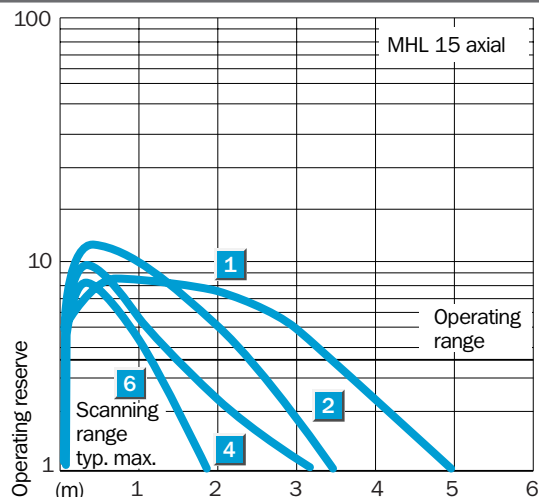
5) Signal transit time with resistive load
6) With light/dark ratio 1:1
7) Do not bend below 0 °C
8) Reference voltage 50 V DC

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



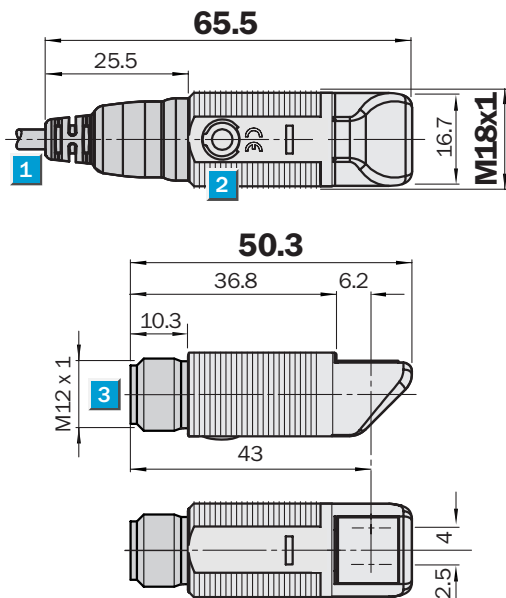
Order information

Type	Order 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

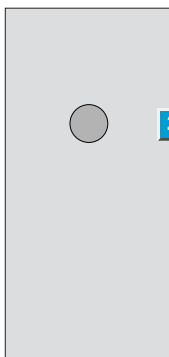
- Polarizing filter for reliable detection of shiny surfaces
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

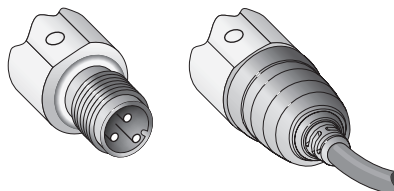
All types



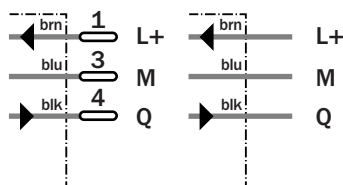
- 1 Connector cable 2 m
- 2 Yellow LED indicator,
 - lights continuously: Light reception > reserve factor 1.5
 - blinks: Light reception > reserve factor 1.5, but light reception > switching threshold 1
- 3 M12 plug, 3-pin

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



See chapter 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 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. 8 g											
with cable 2 m	Approx. 91 g											
Housing material	Housing: ABS Optic: PMMA											

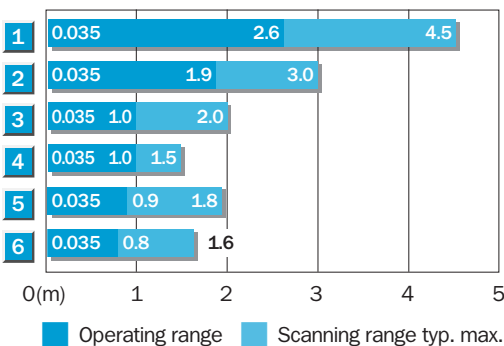
1) Average service life 100,000 h at T_A = +25 °C
2) Limit values

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

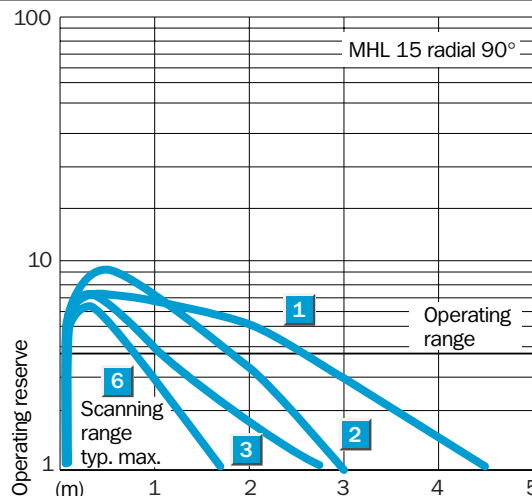
5) Signal transit time with resistive load
6) With light/dark ratio 1:1
7) Do not bend below 0 °C
8) Reference voltage 50 V DC

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 0.035 ... 2.6 m
2	P 250 0.035 ... 1.9 m
3	PL 50 A/PL 40 A 0.035 ... 1.0 m
4	C 110 0.035 ... 1.0 m
5	PL 30 A/PL 31 A 0.035 ... 0.9 m
6	PL 20 A 0.035 ... 0.8 m



Order information

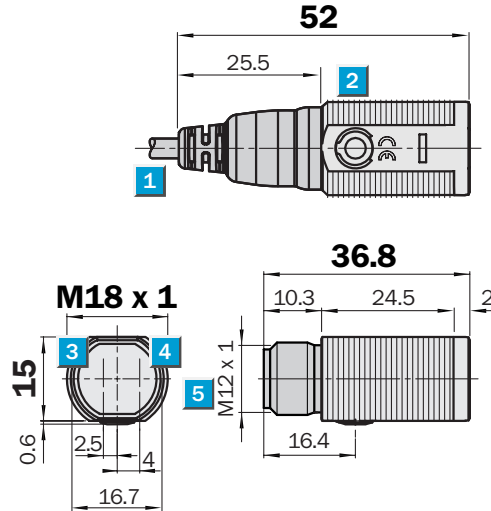
Type	Order no.
MHL 15-N2238	1 026 130
MHL 15-N3238	1 026 131
MHL 15-N2338	1 026 132
MHL 15-N3338	1 026 133
MHL 15-P2238	1 026 134
MHL 15-P3238	1 026 135
MHL 15-P2338	1 026 136
MHL 15-P3338	1 026 137

Scanning range
0 ... 5.0 m

Through-beam photoelectric switches

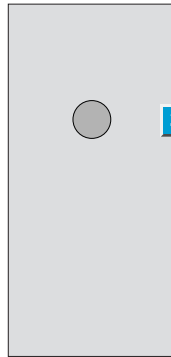
- Large range
- LED indicator: Switching output active and operation reserve
- Optical axis axial
- Mounting accessories

Dimensional drawing



Adjustments possible

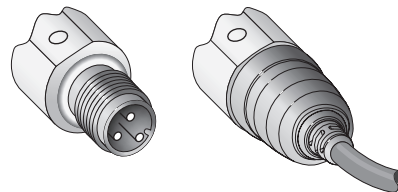
All types



- 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

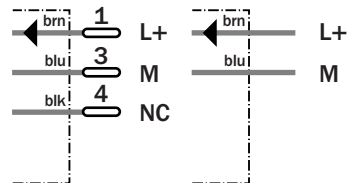
MHSE 15-N3236	MHSE 15-N2236
MHSE 15-N3336	MHSE 15-N2336
MHSE 15-P3236	MHSE 15-P2236
MHSE 15-P3336	MHSE 15-P2336



Sender MHS 15

3-pin, M12

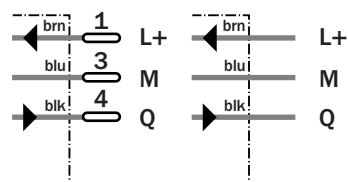
2 x 0.14 mm²



Receiver MHE 15

3-pin, M12

3 x 0.14 mm²



See chapter 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 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 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

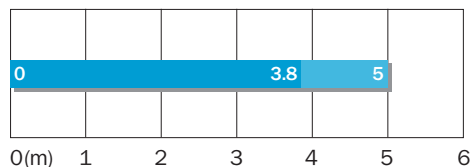
⁸⁾ Reference voltage 50 V DC

⁹⁾ A = V_S connections reverse-polarity protected

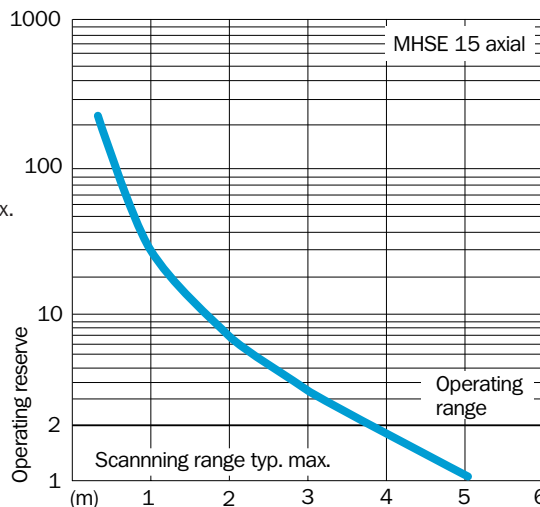
B = Interference pulse suppression

C = Outputs overcurrent and short-circuit protected

Operating range and operating reserve



■ Operating range ■ Scanning range typ. max.



Order information

Type	Order 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

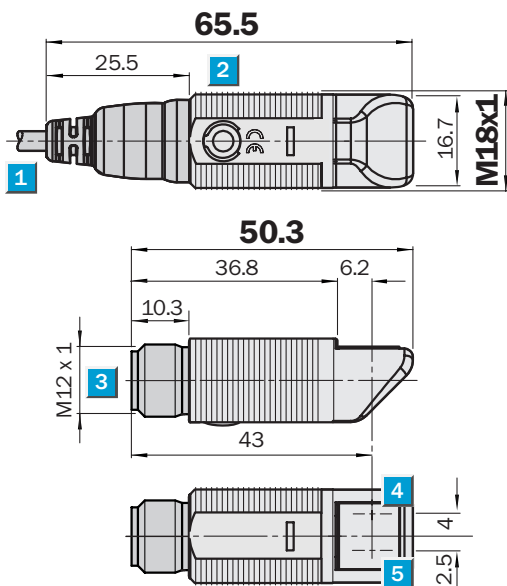
¹⁰⁾ Order no. includes sender and receiver (pair)

Scanning range
0 ... 4.0 m

Through-beam photoelectric switches

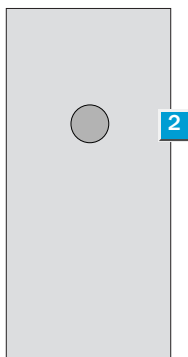
- Large range
- LED indicator: Switching output active and operation reserve
- Optical axis radial 90°
- Mounting accessories

Dimensional drawing



Adjustments possible

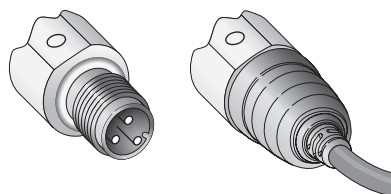
All types



- 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

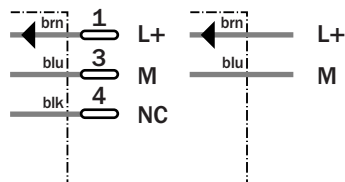
Connection type

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



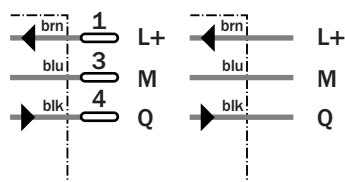
Sender MHS 15

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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See chapter 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 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 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

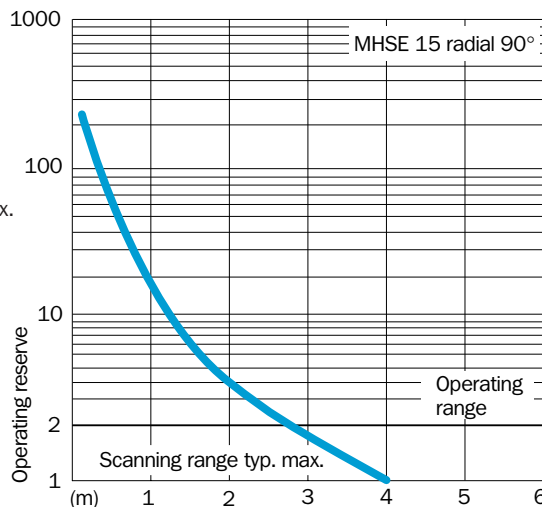
B = Interference pulse suppression

C = Outputs overcurrent and short-circuit protected

Operating range and operating reserve



0(m) 1 2 3 4 5 6
 ■ Operating range ■ Scanning range typ. max.



Order information

Type	Order 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⁾ Order no. includes sender and receiver (pair)