



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

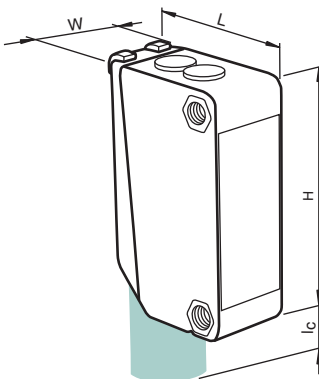
Sensing range adjustment	✓
Light/dark switch	✓
Detection range	5 ... 350 mm
Adjustment range	30 ... 350 mm
Light type	modulated visible red light
Diameter of the light spot	approx. 20 mm at a distance of 350 mm
Operating voltage	10 ... 30 V DC, class 2
No-load supply current	< 20 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA, resistive load
Switching frequency	500 Hz
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67

Properties

- Background suppression
- Rectangular miniature housing
- Plastic housing
- DC sensor
- Discrete output
- Cable, connector and pigtailed connector versions
- Visible red light

Your Benefit

- Reliable detection of all surfaces, regardless of color and texture
- Simplest alignment and set-up with ultra-bright Power-Beam emitter LED
- Small black/white difference
- Adjustable long range version
- Rugged housing has metal-reinforced mounting holes



Model Number

		ML100-8-H-350-RT/102/115	ML100-8-H-350-RT/103/115	ML100-8-H-350-RT/103/115a	ML100-8-H-350-RT/103/115b	ML100-8-H-350-RT/95/102	ML100-8-H-350-RT/95/103	ML100-8-H-350-RT/98/102	ML100-8-H-350-RT/98/103
Signal output	green = preferred type								
	1 NPN output, short-circuit protected, reverse polarity protected, open collector	●				●		●	
	1 PNP output, short-circuit protected, reverse polarity protected, open collector		●	●	●		●		●
Connection	2 m fixed cable	●	●						
	300 mm fixed cable with 4-pin, M12 x 1 connector			●					
	300 mm fixed cable with M8 connector, 4-pin			●					
	connector M8 x 1, 3-pin							●	●
	connector M8 x 1, 4-pin					●	●		

Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure	●	●	●	●	●	●	●	●
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.								

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area l _c [mm]	0 10

Accessories

This and more accessories can be found in chapter 10

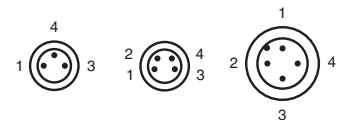
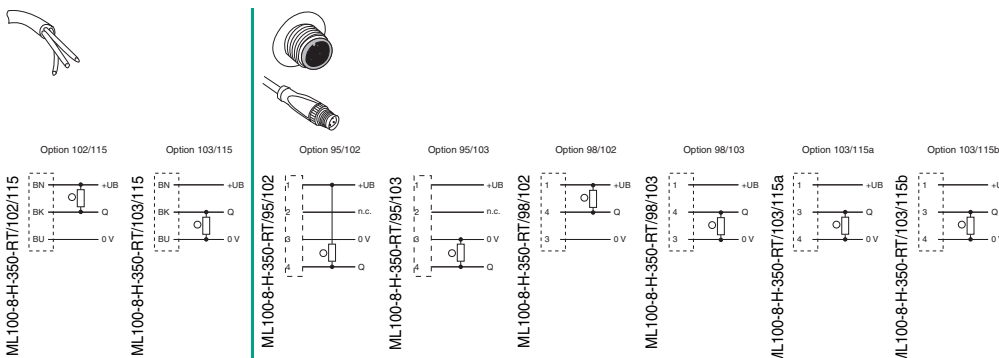
See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

OMH-ML100-01	Mounting bracket
OMH-ML100-02	Mounting bracket
OMH-F10-ML100	Mounting aid for ML100 series

Electrical Connection

○ = light on, ● = dark on



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



Properties

- Diffuse type
- Rectangular miniature housing
- Plastic housing
- DC sensor
- Discrete output
- Cable and connector versions
- Visible red light

Your Benefit

- Simplest alignment and set-up with ultra-bright Power-Beam emitter LED
- Rugged housing has metal-reinforced mounting holes

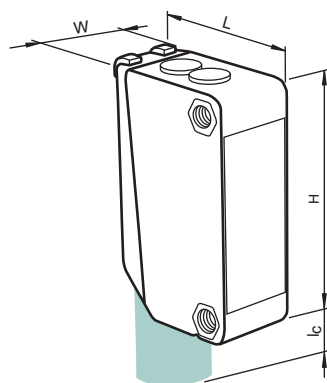
Further Products

In this series, we offer additionally:

ML100-8-1000-RT/103/115b

Technical data like ML100-8-1000-RT/103/115 but:

Connection: 300 mm fixed cable with 4-pin, M12 x 1 connector



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Sensitivity adjustment	✓
Light/dark switch	✓
Detection range	0 ... 1000 mm
Light type	modulated visible red light
Optical face	frontal
Operating voltage	10 ... 30 V DC, class 2
No-load supply current	< 20 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA
Switching frequency	1000 Hz
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67

Model Number

green = preferred type

Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	ML100-8-1000-RT/102/115	ML100-8-1000-RT/103/115	ML100-8-1000-RT/95/102	ML100-8-1000-RT/95/103	ML100-8-1000-RT/98/102	ML100-8-1000-RT/98/103
	1 PNP output, short-circuit protected, reverse polarity protected, open collector						
Connection	2 m fixed cable						
	Male connector M8 x 1, 3-pin						
	Male connector M8 x 1, 4-pin						



Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure	●	●	●	●	●	●
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.						

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area l _c [mm]	0 10

Accessories

This and more accessories can be found in chapter 10

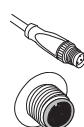
See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

OMH-ML100-01	Mounting bracket
OMH-ML100-03	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
OMH-ML100-02	Mounting bracket
OMH-ML100-04	Mounting bracket
OMH-ML100-05	Mounting bracket
OMH-F10-ML100	Mounting aid for ML100 series
V31-WM-2M-PUR	4-pin, M8 socket, PUR cable
V31-GM-2M-PUR	4-pin, M8 socket, PUR cable
V3-GM-2M-PUR	Cable socket, M8, 3-pin, PUR cable
V3-WM-2M-PUR	Cable socket, M8, 3-pin, PUR cable

Electrical Connection

○ = light on, ● = dark on



Option 102/115

Option 103/115

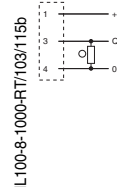
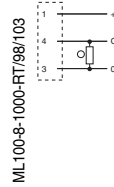
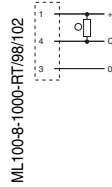
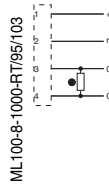
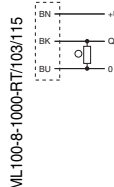
Option 95/102

Option 95/103

Option 98/102

Option 98/103

Option 103/115b



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



Properties

- Polarized type
- Rectangular miniature housing
- Plastic housing
- DC sensor
- Discrete output
- Cable, connector and pigtailed connector versions
- Visible red light

Your Benefit

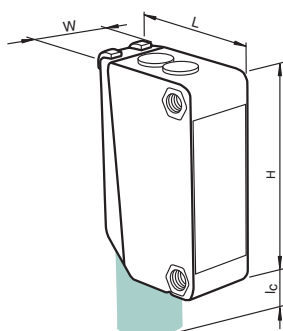
- Simplest alignment and set-up with ultra-bright Power-Beam emitter LED
- Rugged housing has metal-reinforced mounting holes

Further Products

In this series, we offer additionally:

ML100-55/25/103/115b/154
ML100-55/25/95/103/154

Technical data like ML100-55/103/115b and ML100-55/95/103 but:
 No adjusters and light-on switching



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Polarization filter	✓
Sensitivity adjustment	✓
Light/dark switch	✓
Threshold detection range	7 m
Effective detection range	0 ... 5 m
Reference target	H50 reflector
Light type	modulated visible red light
Optical face	frontal
Operating voltage	10 ... 30 V DC, class 2
No-load supply current	< 20 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA, resistive load
Switching frequency	1000 Hz
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67

Model Number

green = preferred type

	ML100-55/102/115	ML100-55/103/115	ML100-55/103/115a	ML100-55/103/115b	ML100-55/98/102	ML100-55/98/103	ML100-55/95/102	ML100-55/95/103
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	1 PNP output, short-circuit protected, reverse polarity protected, open collector						
Connection	2 m fixed cable	300 mm fixed cable with 4-pin, M12 x 1 connector	300 mm fixed cable with 4-pin, M8 x 1 connector	M8 x 1 connector, 3-pin connector M8 x 1, 4-pin				

Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area lc [mm]	0 10

Accessories

This and more accessories can be found in chapter 10

See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

OMH-F10-ML100	Mounting aid for ML100 series
OMH-ML100-01	Mounting bracket
OMH-ML100-03	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
REF-H85-2	Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes
V3-GM-2M-PUR	Cable socket, M8, 3-pin, PUR cable
V31-GM-2M-PUR	Cable socket, M8, 4-pin, PUR cable

Electrical Connection

○ = light on, ● = dark on



Option 102/115

Option 103/115

Option 103/115a

Option 95/102

Option 95/103

Option 98/102

Option 98/103

ML100-55/102/115

ML100-55/103/115

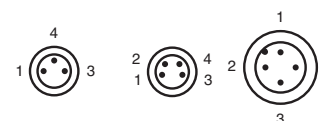
ML100-55/103/115a

ML100-55/95/102

ML100-55/95/103

ML100-55/98/102

ML100-55/98/103



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

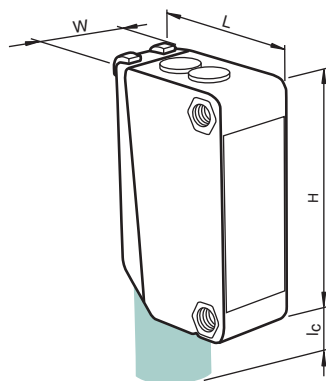


Properties

- Non-polarized type
- Rectangular miniature housing
- Plastic housing
- DC sensor
- Discrete output
- Cable and connector versions
- Infrared light

Your Benefit

- Rugged housing has metal-reinforced mounting holes



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Sensitivity adjustment	✓
Light/dark switch	✓
Threshold detection range	7 m
Effective detection range	0 ... 5 m
Reference target	H50 reflector
Light type	modulated infrared light
Optical face	frontal
Operating voltage	10 ... 30 V DC, class 2
No-load supply current	< 20 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA, resistive load
Switching frequency	1000 Hz
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67

Model Number

		ML100-6-IR/102/115	ML100-6-IR/103/115	ML100-6-IR/95/102	ML100-6-IR/95/103
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector 1 PNP output, short-circuit protected, reverse polarity protected, open collector	●	●	●	●
Connection	fixed cable connector M8 x 1, 4-pin	●	●	●	●

Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure	●	●	●	●
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.				

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area l _c [mm]	0 10

Accessories

This and more accessories can be found in chapter 10
See pages from 972 ... for cordsets See pages 1068 ... for mounting aids

OMH-ML100-03	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
OMH-ML100-02	Mounting bracket
OMH-ML100-04	Mounting bracket
OMH-ML100-05	Mounting bracket
OMH-F10-ML100	Mounting aid for ML100 series
OMH-10	Mounting aid
REF-H33	Reflector with screw fixing
V31-WM-2M-PUR	4-pin, M8 socket, PUR cable
V31-GM-2M-PUR	4-pin, M8 socket, PUR cable
OMH-ML100-01	Mounting bracket

Electrical Connection

○ = light on, ● = dark on



ML100-6-IR/102/115

Option 102/115



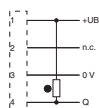
ML100-6-IR/103/115

Option 103/115



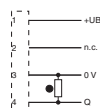
ML100-6-IR/95/102

Option 95/102



ML100-6-IR/95/103

Option 95/103



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

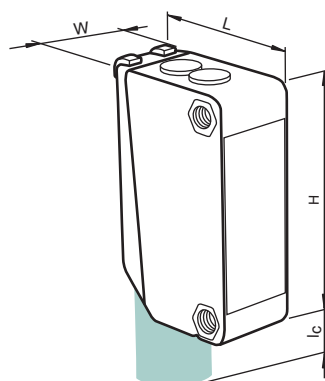


Properties

- Emitter / receiver set
- Rectangular miniature housing
- Plastic housing
- Discrete output
- Cable version
- Visible red light

Your Benefit

- Simplest alignment and set-up with ultra-bright Power-Beam emitter LED
- Rugged housing has metal-reinforced mounting holes



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Test input	✓
Sensitivity adjustment	✓
Light/dark switch	✓
Light type	modulated visible red light
Operating voltage	10 ... 30 V DC, class 2
No-load supply current	Emitter: ≤ 15 mA Receiver: ≤ 8 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA
Test input	emitter deactivation
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67
Connection	2 m fixed cable



Model Number

		M100/MV100-RT/35/76b/102/115	M100/MV100-RT/35/76a/103/115	M100/MV100-RT/76a/103/115	M100/MV100-RT/76b/102/115
Threshold detection range	15 m				
	30 m	•	•	•	•
Effective detection range	0 ... 10 m	•	•	•	•
	0 ... 20 m	•	•	•	•
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	•	•	•	•
	1 PNP output, short-circuit protected, reverse polarity protected, open collector		•	•	
Switching frequency	1000 Hz	•	•	•	•
	250 Hz	•	•	•	•

Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure	•	•	•	•
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.				

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area L _c [mm]	0

Accessories

This and more accessories can be found in chapter 10

See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

OMH-ML100-01	Mounting bracket
OMH-ML100-02	Mounting bracket
OMH-F10-ML100	Mounting aid for ML100 series

Electrical Connection

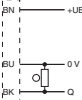
○ = light on, ● = dark on



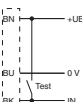
M100/MV100-RT/35/76a/103/115
M100/MV100-RT/76a/103/115

Option /103/115

Receiver



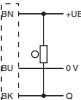
Transmitter ...76a



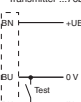
M100/MV100-RT/35/76b/102/115
M100/MV100-RT/76b/102/115

Option /102/115

Receiver



Transmitter ...76b





Properties

- Emitter / receiver set
- Rectangular miniature housing
- Plastic housing
- Discrete output
- Connector version
- Visible red light

Your Benefit

- Simplest alignment and set-up with ultra-bright Power-Beam emitter LED
- Rugged housing has metal-reinforced mounting holes

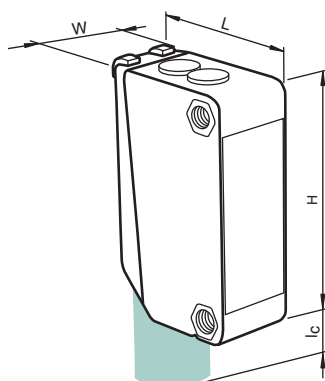
Further Products

In this series, we offer additionally:

M100/MV100-RT/76a/103/115a

Technical data like M100/MV100-RT/76a/98/103 but:

Connection: 300 mm fixed cable with M8 connector, 4-pin



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Test input	✓
Sensitivity adjustment	✓
Light/dark switch	✓
Light type	modulated visible red light
Operating voltage	10 ... 30 V DC , class 2
No-load supply current	Emitter: ≤ 15 mA Receiver: ≤ 8 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA , resistive load
Test input	emitter deactivation
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67

Model Number

		green = preferred type							
Threshold detection range	15 m	●		●		●		●	
	30 m		●		●		●		●
Effective detection range	0 ... 10 m	●		●		●		●	
	0 ... 20 m		●		●		●		●
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	●	●			●	●		
	1 PNP output, short-circuit protected, reverse polarity protected, open collector			●	●			●	●
Switching frequency	1000 Hz	●		●		●		●	
	250 Hz		●		●		●		●
Connection	M8 x 1 connector, 3-pin	●	●	●	●				
	M8 x 1 connector, 4-pin					●	●	●	●



Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure	       
CCC approval	Products with a maximum operating voltage of ≤ 36 V do not bear a CCC mark because they do not require approval.	

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area I_c [mm]	10

Accessories

This and more accessories can be found in chapter 10

See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

OMH-ML100-03	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
OMH-ML100-01	Mounting bracket
OMH-F10-ML100	Mounting aid for ML100 series
V31-GM-2M-PVC	M8, 4-pin socket, PVC cable
V3-GM-2M-PVC	M8, 3-pin socket, PVC cable

Electrical Connection

○ = light on, ● = dark on



M100/MV100-RT/35/76a/95/103 M100/MV100-RT/76a/95/103	M100/MV100-RT/35/76b/98/102 M100/MV100-RT/76b/98/102	M100/MV100-RT/35/76b/95/102 M100/MV100-RT/76b/95/102	M100/MV100-RT/76a/103/115a	M100/MV100-RT/35/76a/98/103 M100/MV100-RT/76a/98/103
Option 95/103 Receiver	Option 98/102 Receiver	Option 95/102 Receiver	Option 103/115a Receiver	Option 98/103 Receiver
Transmitter ...76a	Transmitter ...76b	Transmitter ...76b	Transmitter ...76a	Transmitter ...76a

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

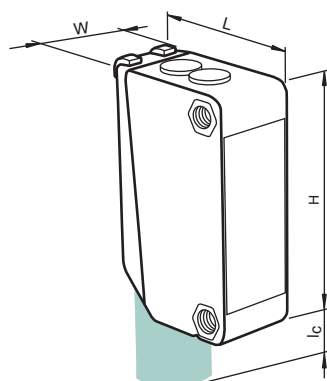


Properties

- Emitter / receiver set
- Rectangular miniature housing
- Plastic housing
- Discrete output
- Cable and connector versions
- Infrared light

Your Benefit

- Rugged housing has metal-reinforced mounting holes



Technical Data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Test input	✓
Sensitivity adjustment	✓
Light/dark switch	✓
Threshold detection range	20 m
Effective detection range	0 ... 15 m
Light type	modulated infrared light
Operating voltage	10 ... 30 V DC, class 2
No-load supply current	Emitter: ≤ 15 mA Receiver: ≤ 8 mA
Switching type	light/dark on, switchable
Switching current	max. 100 mA, resistive load
Switching frequency	250 Hz
Test input	emitter deactivation
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Protection degree	IP67

Model Number

	M100/MV100-IR/76b/102/115	M100/MV100-IR/76a/103/115	M100/MV100-IR/76a/95/103
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	•	•
	1 PNP output, short-circuit protected, reverse polarity protected, open collector	•	•
Connection	2 m fixed cable	•	•
	M8 x 1 connector, 4-pin	•	•

Approvals and Certificates

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure	•	•	•
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.			

Dimensions

Length L [mm]	20
Width W [mm]	11
Height H [mm]	31
Connector area l _c [mm]	010

Accessories

This and more accessories can be found in chapter 10

See pages from 972 ... for cordsets

See pages 1068 ... for mounting aids

OMH-ML100-01	Mounting bracket
OMH-ML100-03	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
OMH-ML100-02	Mounting bracket
OMH-ML100-04	Mounting bracket
OMH-ML100-05	Mounting bracket
OMH-F10-ML100	Mounting aid for ML100 series
OMH-10	Mounting aid
V3-GM-2M-PUR	Cable socket, M8, 3-pin, PUR cable

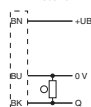
Electrical Connection

○ = light on, ● = dark on

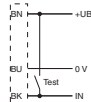


M100/MV100-IR/76a/103/115

Option /103/115
Receiver

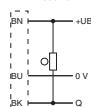


Transmitter ...76a

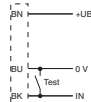


M100/MV100-IR/76b/102/115

Option /102/115
Receiver

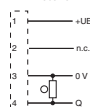


Transmitter ...76b

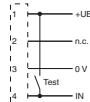


M100/MV100-IR/76a/95/103

Option 95/103
Receiver



Transmitter ...76a



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)