MHF15
SIMPLE, COMPACT AND ROBUST

Level sensors

SICK
Sensor Intelligence.

SIMPLE, COMPACT AND ROBUST

Product description

The MHF15 is a compact optical level limit switch that is easy to commission. The sensor is based on SICK's energetic photoelectric proximity sensor technology, which has been tested and optimized over a number of decades. This sensor has a simple, robust and reliable construction. The use of high-quality materials, such as stainless steel 1.4404 and polysulfone, combined with the IP 69K-rated housing, provides reliability not only on the process side, but also in situations where there are adverse ambient conditions outside the tank. In addition, fast, hassle-free commissioning does not require medium calibration, reducing commissioning costs and maintenance. The optical technology makes the MHF15 particularly well-suited to use with water-based media.

At a glance

- Robust level monitoring in liquid without additional requirements
- Small, compact design; no medium calibration required
- Process temperature up to 55 °C, process pressure up to 16 bar
- IP 67 and IP 69K enclosure rating
- Process connection G ½
- Highly medium resistant due to stainless steel housing 1.4404, polysulfone apex
- Output available as PNP or NPN transistor
- FDA-compliant, UL

Your benefits

- Small, compact sensor ideal for difficult installation conditions with limited space
- Quick commissioning without medium calibration saves time and money
- No moving mechanical parts reduce maintenance and eliminate the need to recalibrate -- even after long periods of use.

Additional information

➜ **www.mysick.com/en/MHF15**

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Detailed technical data

Features

Medium	Fluids
Measurement	Switch
Light source	LED
Type of light	Visible red light
Wave length	650 nm
Process pressure	–0.5 bar ... 16 bar
Process temperature	–25 °C ... +55 °C
GOST approval	✔
UL approval	✔
RoHS certificate	✔

Performance

Response time	2 ms

Mechanics

Wetted parts	Stainless steel 316L, polysulfon, FPM
Process connection	G ½
Housing material	Stainless steel 1.4404

Electronics

Supply voltage	10 V DC ... 30 V DC [1]
Residual ripple	≤ 5 V_{pp} [2]
Power consumption	≤ 30 mA at 24 V DC without output load
Protection class	III
Electrical connection	Round connector M12 x 1, 4-pin
Output signal	1x PNP [3] 1x NPN [3] (depending on type)
Switching mode	Normally closed / Normally open (depending on type)
Signal voltage HIGH	Vs - 2.9 V
Signal voltage LOW	Approx. 0 V (PNP) ≤ 2,9 V (NPN)
Output current	≤ 100 mA [3]
Switching frequency	250 Hz [4]
Enclosure rating	IP 67: EN 60529, IP 69K: EN 40050

[1] V_S connections reverse-polarity protected.

[2] May not exceed or fall below U_v tolerances.

[3] Output overcurrent and short-circuit protected.

[4] With light/dark ratio 1:1.

Ambient data

Ambient operating temperature	–25 °C ... +55 °C
Ambient storage temperature	–25 °C ... +70 °C

Type code

|		
Switch output		
P	1 x PNP transistor output, normally closed
N	1 x NPN transistor output, normally closed
H	1 x PNP transistor output, normally open
T	1 x NPN transistor output, normally open

| MHF15 - | 2 | 1 | N | G | 1 | | S | M |

Ordering information

- **Enclosure rating:** IP 67: EN 60529, IP 69K: EN 40050
- **Process connection:** G ½
- **Process temperature:** –25 °C ... +55 °C
- **Process pressure:** –0.5 bar ... 16 bar
- **Housing material:** Stainless steel 1.4404
- **Electrical connection:** round connector M12 x 1, 4-pin

Output signal	Switching mode	Model name	Part no.
1x PNP	Normally open	MHF15-21NG1HSM	1052273
1x NPN	Normally closed	MHF15-21NG1NSM	1052272
1x PNP	Normally closed	MHF15-21NG1PSM	1052237
1x NPN	Normally open	MHF15-21NG1TSM	1052274

Dimensional drawing (Dimensions in mm (inch))

MHF15

63.6 (2.50)
26.7 (1.05)
19 (0.75)
9.1 (0.36)
M12x1
G 1/2
32 (1.26)
O-Ring 22 x 2,5 (O-Ring 0.87 x 0.10)
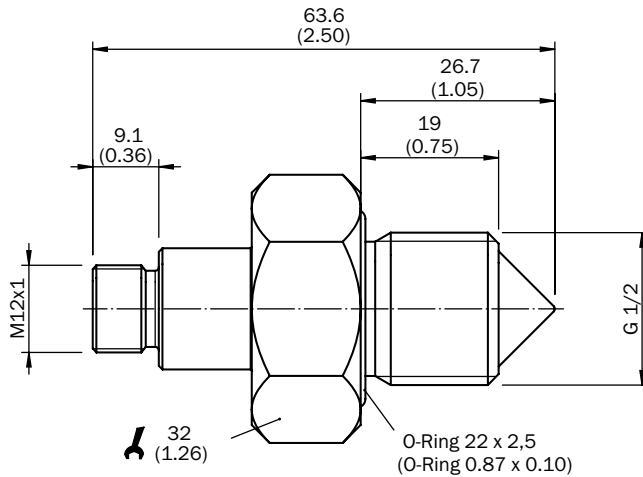
Connection type and diagram

Connector M12x1, 4-pin

brn	1	L+
blu	3	M
blk	4	Q
wht	2	NC
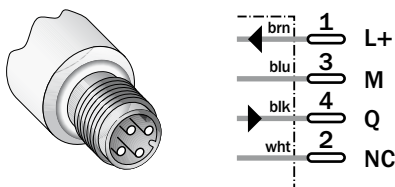
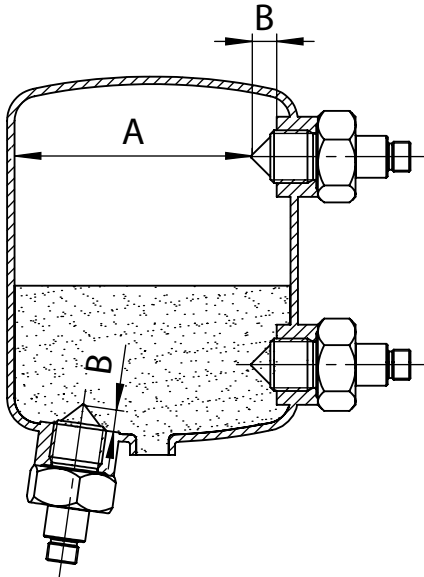## Application information

Use in tanks (side mounting)
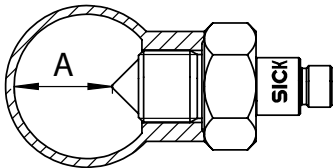
The distance A ≥ 40mm (1.57).

Sensor prism B = 8 mm (0.31).

The conical prism is to project into the container.

Installation in a pipe for dry running protection. A ≥ 40 mm (1.57)

Note:

Strong surface-forming liquids can lead to deposits on the sensor and affect the function.

Applications with foam:

- Foam with low density can´t be detected by MHF15.
- Foam with high density can be detected by MHF15 and can lead to faulty operation.

Recommended accessories

Flanges

Brief description	Type	Part no.
Welded flange G1/2	BEF-FL-316G12-LMH1	4065669

Plug connectors and cables

Brief description	Model name	Part No.
Cable, M12, 4-pin, straight connector female with molded cable, 2 m, PVC	DOL-1204-G02M	6009382
Cable, M12, 4-pin, straight connector female with molded cable, 2 m, PUR halogen free	DOL-1204-G02MC	6025900
Cable, M12, 4-pin, straight connector female with molded cable, 5 m, PVC	DOL-1204-G05M	6009866
Cable, M12, 4-pin, straight connector female with molded cable, 5 m, PUR halogen free	DOL-1204-G05MC	6025901
Cable, M12, 4-pin, straight connector female with molded cable, 10 m, PVC	DOL-1204-G10M	6010543
Cable, M12, 4-pin, straight connector female with molded cable, 10 m, PUR halogen free	DOL-1204-G10MC	6025902
Cable, M12, 4-pin, straight connector female with molded cable, 15 m, PVC	DOL-1204-G15M	6010753
Cable, M12, 4-pin, angled connector female with molded cable, 2 m, PVC	DOL-1204-W02M	6009383
Cable, M12, 4-pin, angled connector female with molded cable, 2 m, PUR halogen free	DOL-1204-W02MC	6025903
Cable, M12, 4-pin, angled connector female with molded cable, 5 m, PVC	DOL-1204-W05M	6009867
Cable, M12, 4-pin, angled connector female with molded cable, 5 m, PUR halogen free	DOL-1204-W05MC	6025904
Cable, M12, 4-pin, angled connector female with molded cable, 5 m, PUR halogen free, irradiated	DOL-1204-W05MD	6020399
Cable, M12, 4-pin, angled connector female with molded cable, 10 m, PVC	DOL-1204-W10M	6010541
Cable, M12, 4-pin, angled connector female with molded cable, 10 m, PUR halogen free	DOL-1204-W10MC	6025905

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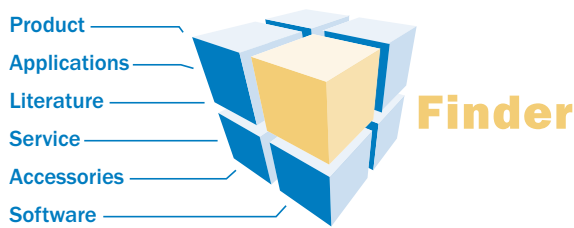
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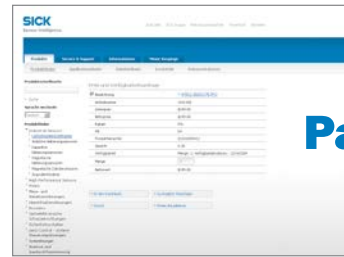
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SICK AT A GLANCE

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