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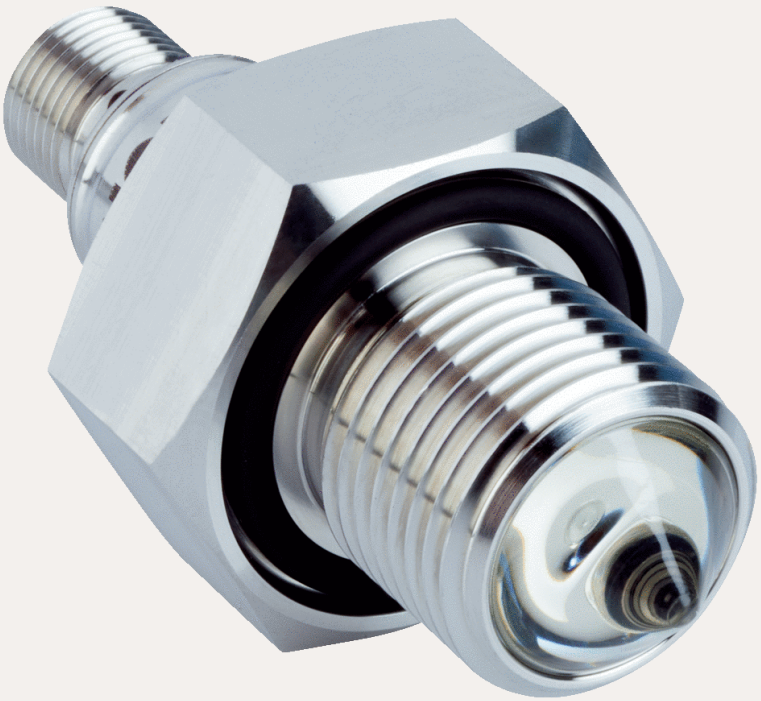


DATA SHEET

GRF18S-P234EV

GRF18S
Level sensors

SICK
Sensor Intelligence

Illustration may differ

LEVEL SENSORS

GRF18S-P234EV

ORDERING INFORMATION

Type	part no.
GRF18S-P234EV	1148197

Further device versions and accessories at www.sick.com/GRF18S

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 ... 20 bar
Process temperature	–10 °C ... +55 °C

SAFETY-RELATED PARAMETERS

$MTTF_D$ (mean time to dangerous failure)	2,304 years

PERFORMANCE

Response time	10 ms
MTBF	1,178 years
MTTFd	2,304 years

ELECTRONICS

Communication interface	-
Supply voltage	10 V DC ... 30 V DC [1]

[1] U_V connections, reverse polarity protected.

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

[3] Output overcurrent and short-circuit protected.

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

Residual ripple	≤ 5 V_{pp} [2]
Power consumption	≤ 30 mA at 24 V DC without output load
Protection class	III
Connection type	M12 round connector x 1, 4-pin
Output signal	1 x PNP [3]
Switching mode	Normally closed
Output current	≤ 100 mA Output overcurrent and short-circuit protected
Switching frequency	250 Hz [4]
Enclosure rating	IP67 IP69

[1] U_V connections, reverse polarity protected.

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

[3] Output overcurrent and short-circuit protected.

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

MECHANICS

Wetted parts	EPDM [1] Stainless steel 1.4404 / 316L Polysulfon
Process connection	G ½
Housing material	Stainless steel 1.4404 / 316L

[1] Peroxide cross-linked.

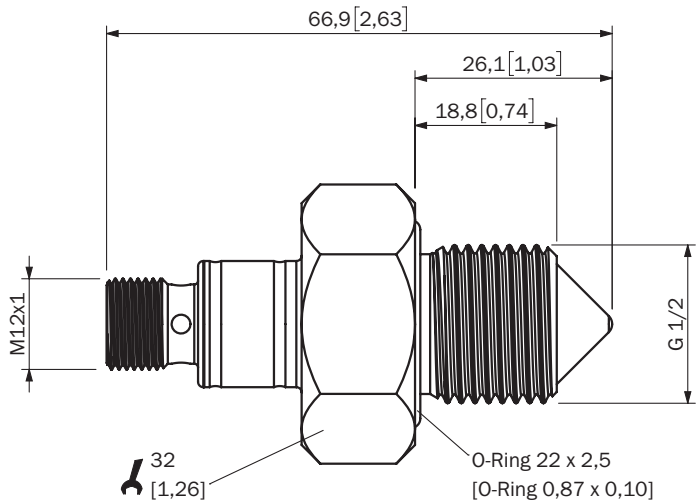
AMBIENT DATA

Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–25 °C ... +70 °C

CERTIFICATES

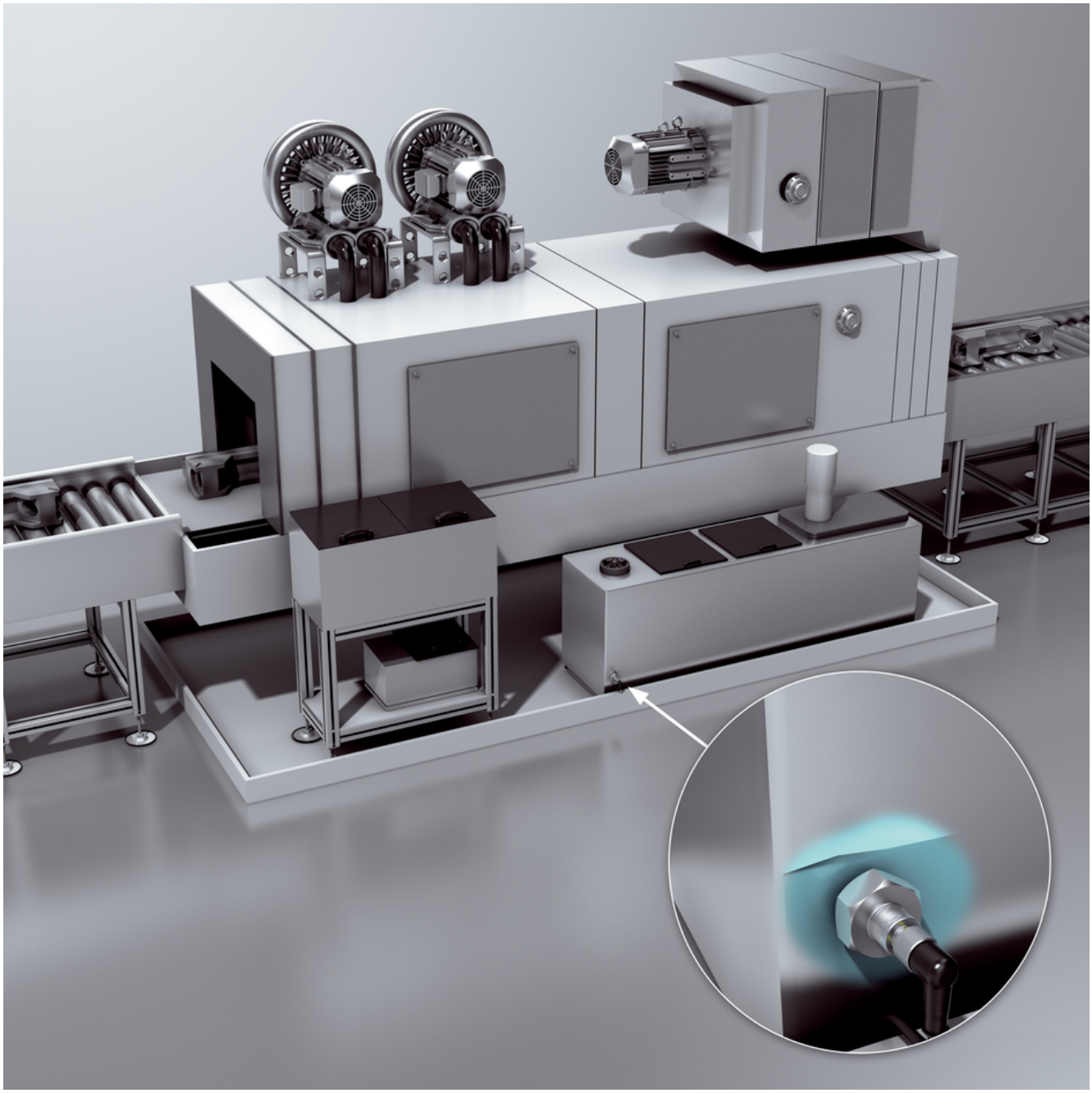
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

DIMENSIONAL DRAWING

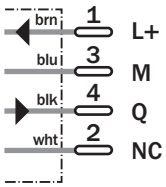


Dimensions in mm (inch)

APPLICATION

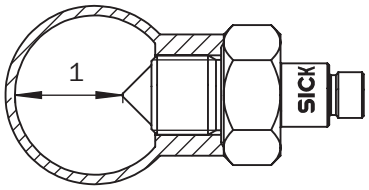


CONNECTION DIAGRAM



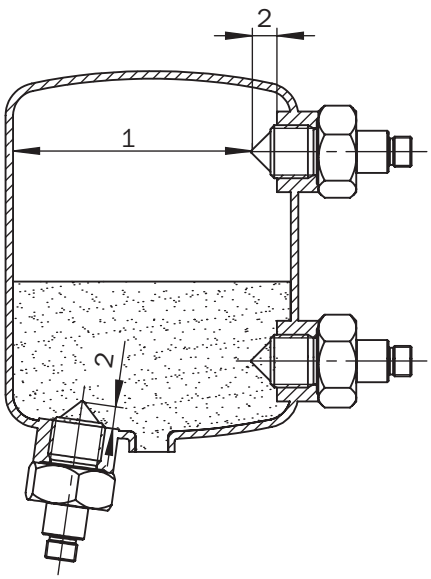
CONNECTION TYPE

INSTRUCTION FOR INSTALLATION INSTALLATION IN PIPELINES FOR PUMP DRY-RUN PROTECTION



Note:
Fluids which leave heavy coatings can cause sensor deposits and disrupt the function.
Applications with foam:
Foam with low foam density is not detected by the GRF18S.
Foam with high foam density can be detected by the GRF18S and cause switching errors.
① Distance ≥ 40 mm

INSTRUCTION FOR INSTALLATION INSTALLATION IN CONTAINERS



The apex should protrude into the container
① Distance ≥ 40 mm
② Filler tip = 8 mm

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1148197

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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