Data sheet

LFR-XXFFHJBHZXX

LFR SicWave

LEVEL SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
LFR-XXFFHJBHZXX	6074400

Other models and accessories ➜ www.sick.com/LFR_SicWave

Detailed technical data

Features

Medium	Fluids
Measurement	Continuous
Probe type	Flange with encapsulated antenna system
Frequency band	W-band (within 75 ... 85 GHz)
Measuring range	Up to 30 m (98.43 ft)
Angle of dispersion	3° [1]
Process pressure	–1 bar ... 16 bar (-100 kPa ... 2,000 kPa / –14.5 psig ... 290.1 psig)
Process temperature	–40 °C ... +200 °C
RoHS certificate	✓
HART	✓
Display	Without

[1] Outside the specified aperture angle, the level of the radar signal energy is lowered by 50% (-3 dB).

Performance

Accuracy of sensor element	≤ 1 mm [1]
Non-repeatability	≤ 1 mm
Digital measurement resolution	< 1 mm
Analog measurement resolution	0.3 µA
Digital output temperature drift	≤ 3 mm / 10 K, max. 10 mm
Current output temperature drift	≤ 0.03% / 10 K relating to the 16 mA span or ≤ 0.3%
Deviation on current output due to digital-analog conversion	< 15 µA
Measurement cycle time	Approx. 700 ms
Step response time	≤ 3 s [2]
MTBF	3,37*10^6 h

[1] Measurement distance > 0.25 m / 0.8202 ft.

[2] Time span after abrupt change to the measurement distance by max. 2 m for bulk material applications until the output signal has assumed 90% of its steady-state value for the first time (IEC 61298-2).

Electronics

Communication interface	HART
Supply voltage	12 V DC ... 35 V DC, 18 V DC ... 35 V DC with illumination switched on [1]
Protection class	III (IEC 61010-1)
Connection type	M20 x 1.5 / plug connector M12 x 1 pin assignment B
Output signal	4 mA ... 20 mA / HART [2]
Contamination rating	4
Enclosure rating	IP66 / IP68 / IP69
EMC	EN 61326-1
Start-up current	< 3.6 mA
Overvoltage category	III (IEC 61010-1)
Short-circuit protection	✓

[1] All connections are polarity protected. All outputs are overload and short-circuit protected.
[2] Range of the output signal: 3.8 mA ... 20.5 mA / HART (factory setting); fault current < 3.6 mA or 22 mA.

Mechanics

Process connection	Flange DN 80 PN 40 form C, DIN 2501 / 316L
Housing material	Stainless steel (electropolished)
Housing design	Single-chamber housing
Sealing material	PTFE
Antenna material	PTFE
Second line of defense	Not integrated

Ambient data

Ambient operating temperature	–40 °C ... +80 °C
Ambient temperature, storage	–40 °C ... +80 °C

Classifications

ECLASS 5.0	27200505
ECLASS 5.1.4	27200505
ECLASS 6.0	27200505
ECLASS 6.2	27200505
ECLASS 7.0	27200505
ECLASS 8.0	27200505
ECLASS 8.1	27200505
ECLASS 9.0	27200505
ECLASS 10.0	27270807
ECLASS 11.0	27270807
ECLASS 12.0	27274501
ETIM 5.0	EC001447
ETIM 6.0	EC001447
ETIM 7.0	EC001447
ETIM 8.0	EC001447

UNSPSC 16.0901	41111950

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com