



LBR-XXCFAABHKKX

LBR SicWave

LEVEL SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
LBR-XXCFAABHKXX	6075019

Other models and accessories → www.sick.com/LBR_SicWave

Detailed technical data

Features

Medium	Solids
Measurement	Continuous
Probe type	Metal jacketed lens antenna / PEEK / c/w air purge connection
Frequency band	W-band (within 75 ... 85 GHz)
Measuring range	Up to 120 m (393.7 ft), recommended measuring range in thread version with integrated horn antenna up to 20 m (65.62 ft)
Angle of dispersion	4° ¹⁾
Process pressure	-1 bar ... 3 bar (-100 kPa ... 300 kPa / -14.5 psig ... 43.5 psig)
Process temperature	-40 °C ... +130 °C
RoHS certificate	✓
HART	✓
Indication	Installed
Control element	Bluetooth Magnet pin operation

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

Performance

Accuracy of sensor element	≤ 5 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

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).

Measurement cycle time	Approx. 700 ms
Step response time	$\leq 3 \text{ s}^{2)}$

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

Supply voltage	9 V DC ... 30 V DC ¹⁾
Protection class	I (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	IP67 / IP67
EMC	EN 61326-1
Start-up current	< 3.6 mA
Overvoltage category	III (IEC 61010-1)
Short-circuit protection	✓
Isolation	✓

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 16 form B, DIN 316 / 316L
Housing material	Plastic PBT (polyester)
Housing design	Single-chamber housing
Sealing material	PTFE
Antenna material	PEEK

Ambient data

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

Classifications

ECl@ss 5.0	27200505
ECl@ss 5.1.4	27200505
ECl@ss 6.0	27200505
ECl@ss 6.2	27200505
ECl@ss 7.0	27200505
ECl@ss 8.0	27200505
ECl@ss 8.1	27200505
ECl@ss 9.0	27200505
ECl@ss 10.0	27270807
ECl@ss 11.0	27270807
ETIM 5.0	EC001447
ETIM 6.0	EC001447

ETIM 7.0	EC001447
ETIM 8.0	EC001447
UNSPSC 16.0901	41111950

Type code

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Certification

XX	Without certification
AC	ATEX II 1G, 1/2G, 2G Ex ia IIC T6...T1, Ga, Ga/Gb, Gb, EU-type examination no.: KIWA 20ATEX0039 X
AH	ATEX II 1G, 1/2G, 2G Ex ia IIC T6...T1, Ga, Ga/Gb, Gb, EU-type examination no.: KIWA 20ATEX0039 X; ATEX II 1D, 1/2D, 1/3D, 2D Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db, EU-type examination no.: KIWA 20ATEX0041 X
AE	ATEX II 1/2G, 2G Ex db IIC T6...T1, Ga/Gb, Gb, EU-type examination no.: KIWA 20ATEX0040 X
AJ	ATEX II 1/2G, 2G Ex db IIC T6...T1, Ga/Gb, Gb, EU-type examination no.: KIWA 20ATEX0040 X, ATEX II 1D, 1/2D, 1/3D, 2D Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db, EU-type examination no.: KIWA 20ATEX0041 X
AR	ATEX II 1D, 1/2D, 1/3D, 2D Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db, EU-type examination no.: KIWA 20ATEX0041 X
IC	IEC Ex ia IIC T6...T1, Ga, Ga/Gb, Gb, EU-type examination no.: IECEX KIWA 20.0014X
IH	IEC Ex ia IIC T6...T1, Ga, Ga/Gb, Gb, EU-type examination no.: IECEX KIWA 20.0014X, IEC Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db, EU-type examination no.: IECEX KIWA 20.0016X
IE	IEC Ex db IIC T6...T1, Ga/Gb, Gb, EU-type examination no.: IECEX KIWA 20.0015X
IJ	IEC Ex db IIC T6...T1, Ga/Gb, Gb, EU-type examination no.: IECEX KIWA 20.0015X, IEC Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db, EU-type examination no.: IECEX KIWA 20.0016X
IR	IEC Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db, EU-type examination no.: IECEX KIWA 20.0016X

Antenna version/Material

B	Plastic horn antenna made from PP
C	Metal jacketed lens antenna / PEEK / c/w air purge connection
T	Thread with integrated horn antenna made from PEEK

Process connection/Material

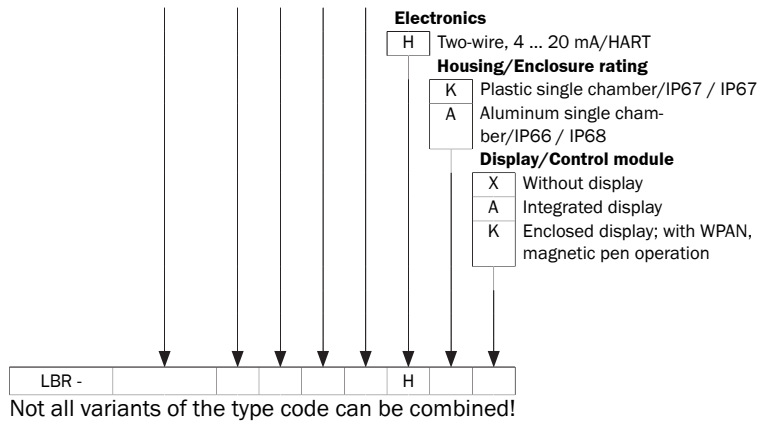
XX	Without process connection
XC	Mounting clamp, length: 170 mm / 316L
XD	Mounting clamp, length: 300 mm / 316L
SD	Swivel holder with flange 4" 150 lb / 316/316L
SA	Swivel holder with flange DN 100, PN16, form B, DIN / 316/316L
SB	Swivel holder with flange DN 150, PN16, form B, DIN / 316/316L
TC	Thread G 1½, PN20, DIN3852-A / 316L
TD	Thread 1½ NPT, PN20, ASME B1.20.1/316L
FA	Flange DN 80, PN16, form B, DIN / 316/316L
FB	Flange DN 100, PN16, form B, DIN / 316/316L
FC	Flange DN 150, PN16, form B, DIN / 316/316L

Antenna seal/Process temperature

A	FKM (SHS FPM 70C3 GLT) and PEEK / -40 ... +130 °C
B	FKM (SHS FPM 70C3 GLT) and PEEK / -40 ... +200 °C
C	PP / -40 ... +80 °C

Cable entry/Connection

B	Round connector, M12x1 pin assignment B
M	M20x1.5 / cable gland, PA black (ø 5-9 mm), standard
2	M20x1.5 / cable gland, nickel-plated brass (ø 5-9 mm)
O	M20x1.5 / cable gland, nickel-plated brass (ø 6-12 mm)
J	½ NPT/cable gland, PA black (ø 5-9 mm)
P	½ NPT/cable gland, nickel-plated brass (ø 6-12 mm)



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