



LBR SicWave

Simply brilliant - level measurement in bulk materials with 80 GHz radar

SICK
Sensor Intelligence.



Technical data overview

Measurement principle	Free-space radar
Detection principle	Non contact
Medium	Bulk solids
Measurement	Continuous
Process temperature	-40 °C ... +200 °C (depending on type)
Process pressure	-1 bar ... 20 bar, (-100 kPa ... 200 kPa / -14.5 psig ... 29.1 psig), (-100 kPa ... 2,000 kPa / -14.5 psig ... 290.1 psig), (-100 kPa ... 300 kPa / -14.5 psig ... 43.5 psig) (depending on type)
Output signal	4 mA ... 20 mA / HART
Accuracy of sensor element	≤ 5 mm

Product description

The LBR SicWave free-space radar makes continuous level measurements and works with all solids. It is highly resistant to external interference, dust or deposits. Thanks to its non-contact 80 GHz radar technology, the LBR SicWave can be put into operation easily and is maintenance-free. A wide range of options for antenna design, process connections and housing ensure ideal connection to any application. HART communication and WPAN connection simplify service and diagnostics on the device and prepare it optimally for Industry 4.0 applications.

At a glance

- 80 GHz free-space radar with various antennas
- Measuring range: up to 120 m
- Process temperature: -40 °C ... +200 °C
- Process pressure: -1 bar ... 20 bar
- Process connection: thread, flange, special brackets
- Housing: plastic (IP66 / IP67) or aluminum (IP66 / IP68)
- With or without display and WPAN
- Certificates: Ex d, Ex ia, Ex ta

Your benefits

- One device for all continuous level measurements in solids, simplifies spare part logistics
- Increased plant availability due to non-contact, continuous level measurement
- Quick to commission, saving time and costs
- Low costs and time expenditure as it is maintenance-free
- Rugged to external interference for high plant availability
- Insensitive to foam and dust, preventing unexpected plant downtime
- Ex-certificates available
- Simplified service and diagnostic via HART or WPAN

Fields of application

- Crushers, belt transfer, raw meal, clinker and cement silos as well as silos for solid fuels in cement systems
- Breakers, storage silos for ores, silos in the metal and steel industry
- Breakers, bulk material stockpiles, belt transfer, buffer and production silos in the mining industry
- Storage and small silos in the food and beverage industry

Type code

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

Type code

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)

Electronics

H	Two-wire, 4 ... 20 mA/HART
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Housing/Enclosure rating

K	Plastic single chamber/IP67 / IP67
A	Aluminum single chamber/IP66 / IP68

Display/Control module

X	Without display
A	Integrated display
K	Enclosed display; with WPAN, magnetic pen operation



Not all variants of the type code can be combined!

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