

Technical data sheet

Safety radar sensor

Part no.: 50143343

LBK Sensor

Contents

- Technical data
- Electrical connection
- Operation and display
- Notes
- Accessories



Figure can vary



Technical data

Basic data

Series	LBK-S01-LZ
Type	Radar sensor
Application	Stationary access guarding Stationary danger zone guarding

Radar technical data

Operating principle	Detection of movement
	Detection of persons
	FMCW
Operating range	0 ... 4 m
Angle of radiation, horizontal	Narrow: 50°
	Wide: 110°
Angle of radiation, vertical	Narrow: 15°
	Wide: 30°
Emitted power	≤ 13 dBm
Frequency range	24,000 ... 24,500 MHz

Characteristic parameters

SIL	2, IEC 61508
SILCL	2, IEC/EN 62061
Performance Level (PL)	d, EN ISO 13849-1
PFH _D	4,34E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	2 (3 for all outputs), EN ISO 13849

Electrical data

Performance data	
Supply voltage U _B	12 V, DC, -20 ... 20 %
Power consumption, max.	1.2 W

Timing

Response time	100 ms
Restart delay time (automatic start)	10,000 ms

Connection

Number of connections	2 Piece(s)
Connection 1	
Function	BUS IN Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin

Connection 2

Function	BUS OUT
Type of connection	Connector

Cable properties

Length of connection cable, max.	30 m
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Mechanical data

Dimension (W x H x L)	165 mm x 125 mm x 53 mm
Housing material	Plastic
Plastic housing	PA 66
Mounting bracket material	PA 66, glass fiber reinforced
Net weight	200 g
Housing color	Yellow, RAL 1023

Operation and display

Number of LEDs	1 Piece(s)
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Environmental data

Ambient temperature, operation	-40 ... 60 °C
Ambient temperature, storage	-40 ... 80 °C
Relative humidity (non-condensing)	0 ... 95 %

Certifications

Degree of protection	IP 67
Certifications	IMQ UL

Classification

Customs tariff number	85261000
eCl@ss 5.1.4	27280801
eCl@ss 8.0	27280890
eCl@ss 9.0	27280800
eCl@ss 10.0	27280890
eCl@ss 11.0	27280890
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825

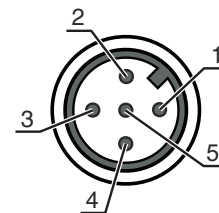
Electrical connection

Connection 1

Function	BUS IN
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	D-coded
Connector housing	FE/SHIELD

Pin Pin assignment

1	PE
2	+12 V DC
3	GND
4	CAN H
5	CAN L

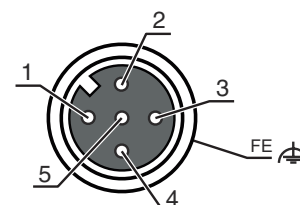


Connection 2

Function	BUS OUT
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	D-coded
Connector housing	FE/SHIELD

Pin Pin assignment

1	PE
2	+12 V DC
3	GND
4	CAN H
5	CAN L



Operation and display

LED	Display	Meaning
1	Blue, continuous light	Normal operation, no movement detected
	Blue, quickly flashing	Normal operation, movement detected
	Blue, slowly flashing	Error


Notes

Observe intended use!


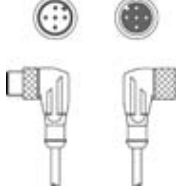
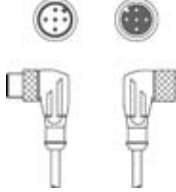
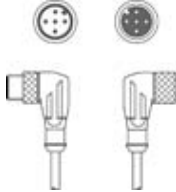

	<ul style="list-style-type: none"> ⚠ The product may only be put into operation by competent persons. ⚠ Only use the product in accordance with its intended use.
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Accessories


Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50143389	KD DN-M12-5W-P1-150	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 5 -pin Connection 2: Open end Shielded: Yes Cable length: 15,000 mm Sheathing material: PUR

Connection technology - Interconnection cables



	Part no.	Designation	Article	Description
	50143385	KDS DN-M12-5W-M12-5W-P3-030	Interconnection cable	Suitable for interface: DeviceNet, CANopen Connection 1: Connector, M12, Angled, Male, A-coded, 5 -pin Connection 2: Connector, M12, Angled, Female, A-coded, 5 -pin Shielded: Yes Cable length: 3.000 mm Sheathing material: PUR
	50143386	KDS DN-M12-5W-M12-5W-P3-050	Interconnection cable	Suitable for interface: DeviceNet, CANopen Connection 1: Connector, M12, Angled, Male, A-coded, 5 -pin Connection 2: Connector, M12, Angled, Female, A-coded, 5 -pin Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR
	50143387	KDS DN-M12-5W-M12-5W-P3-100	Interconnection cable	Suitable for interface: DeviceNet, CANopen Connection 1: Connector, M12, Angled, Male, A-coded, 5 -pin Connection 2: Connector, M12, Angled, Female, A-coded, 5 -pin Shielded: Yes Cable length: 10.000 mm Sheathing material: PUR
	50143388	KDS DN-M12-5W-M12-5W-P3-150	Interconnection cable	Suitable for interface: CANopen, DeviceNet Connection 1: Connector, M12, Angled, Male, A-coded, 5 -pin Connection 2: Connector, M12, Angled, Female, A-coded, 5 -pin Shielded: Yes Cable length: 15.000 mm Sheathing material: PUR
	50143459	KSS US-USB2-A-mic-B-V0-018	Interconnection cable	Suitable for interface: USB Connection 1: USB Connection 2: USB Cable length: 1,800 mm

Connection technology - Terminating resistors

	Part no.	Designation	Article	Description
	50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Function: Bus termination

Accessories

Mounting technology - Other

	Part no.	Designation	Article	Description
	50143342	LBK Controller	Safety relay	
	50143346	LBK Sensor Protector	Shielding	Dimensions: 54.5 mm x 90 mm x 192 mm Color: Black Type of fastening, at system: Through-hole mounting Type of fastening, at device: Screw type Material: Metal

Note



A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.