

## Technical data sheet

### Safety radar sensor

Part no.: 50143343

LBK S-01

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For illustration purposes only



## 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
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
Shape of the detection fields	conical

### Functions

Functions	Detection of movement Detection of persons
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### Characteristic parameters

SIL	2, IEC 61508
SILCL	2, IEC/EN 62061
Performance Level (PL)	d, EN ISO 13849-1
Mission time $T_M$	20 years, EN ISO 13849-1
Category	2, EN ISO 13849

### Electrical data

#### Performance data

Supply voltage $U_B$	12 V, DC, -20 ... 20 %, Via controller
Power consumption, max.	1.2 W

### Time behavior

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

### Connection

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

### Cable properties

Permissible conductor cross section, type.	0.34 mm <sup>2</sup>
Length of connection cable, max.	30 m

### Mechanical data

Dimension (W x H x L)	165 mm x 123 mm x 49 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

Type of display	LED
Number of LEDs	1 Piece(s)

### Environmental data

Ambient temperature, operation	-30 ... 60 °C
Ambient temperature, storage	-40 ... 80 °C
Relative humidity (non-condensing)	0 ... 95 %

### Certifications

Degree of protection	IP 67
Approvals	TÜV Süd Italia UL

### Classification

Customs tariff number	85261000
ECLASS 5.1.4	27280801
ECLASS 8.0	27280890
ECLASS 9.0	27280890
ECLASS 10.0	27280890
ECLASS 11.0	27280890
ECLASS 12.0	27274501
ECLASS 13.0	27274501
ECLASS 14.0	27274501
ECLASS 15.0	27274501
ECLASS 16.0	27274501
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
ETIM 9.0	EC001825
ETIM 10.0	EC001825
UNSPSC 26.08	43211710

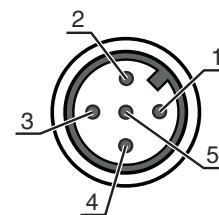
# Electrical connection

## Connection 1

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

### Pin Pin assignment

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

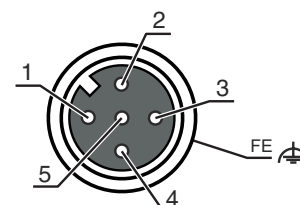


## Connection 2

Function	BUS OUT
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-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!




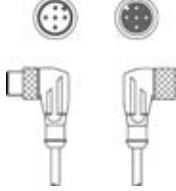
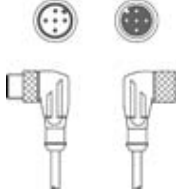
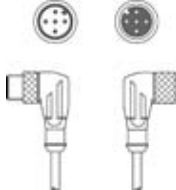
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

## Accessories


### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50143389	KD DN-M12-5W-P1-150	Connection cable	Application: Oil and lubricant resistant Connection 1: Connector, M12, Angled, Female, A-coded, 5 -pin Connector, LED: No 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	Application: Oil and lubricant resistant 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	Application: Oil and lubricant resistant 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	Application: Oil and lubricant resistant 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	Application: Oil and lubricant resistant 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

### Connection technology - Terminating resistors

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

# Accessories

## Mounting

	Part no.	Designation	Article	Description
	50150219	BTP0710M	Loop guard	Suitable for: LBK SBV
	50150141	BTU0700P	Mounting system	Design of mounting device: Angle, U-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Plastic Shock absorber: No
	50143346	LBK Sensor Protector	Shielding	Suitable for: Safe radar sensor LBK Dimensions: 102 mm x 136 mm x 165 mm

### Note



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