



SRA3-AAR150BKZI

safeRS/safeRS3

SAFETY RADAR SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Variant	Protective field range	Field of view	Type	Part no.
safeRS3	0.5 m ... 5 m	10° ... 100°, adjustable in 10° intervals (horizontal plane), 20° (vertical plane)	SRA3-AAR150BKZI	6080599

The system consists of a control unit and up to 6 sensors.

Other models and accessories → www.sick.com/safeRS_safeRS3



Detailed technical data

Features

Application	Indoor / Outdoor
Suitable for mobile applications	✓
Protective field range	0.5 m ... 5 m
Number of protective fields	4
Field of view	10° ... 100°, adjustable in 10° intervals (horizontal plane) 20° (vertical plane)
Response time	≤ 100 ms
Vehicle speed	≤ 2 m/s

Safety-related parameters

Safety integrity level	SIL2 (IEC 62061)
Category	Category 3 (EN ISO 13849)
Performance level	PL d (EN ISO 13849)
PFH_D (mean probability of a dangerous failure per hour)	
Access protection	1.66 x 10 ^{-8 1)}
MTTF_D (mean time to dangerous failure)	38 years (IEC 60050)
T_M (mission time)	20 years (EN ISO 13849)
Safe state in the event of a fault	At least one OSSD pair is in the OFF state.

¹⁾ For details see operating instructions.

Functions

Restart interlock	✓
Muting	✓
Manipulation protection	✓
Safe detection of a person	✓

Interfaces

Connection type	
Voltage supply and signal transmission	Male connector, M12, 5-pin, A-coded Female connector, M12, 5-pin, A-coded

Electrical data

Supply voltage V_s	12 V DC, $\pm 20\%$ ¹⁾
Power consumption	≤ 1 A
Power consumption	≤ 4.7 W

¹⁾ Via control unit.

Mechanical data

Dimensions (W x H x D)	85 mm x 85 mm x 71 mm
Housing material	
Sensor	PA 66
Rear view	Aluminum
Bracket	PA 66, Glass fiber

Ambient data

Enclosure rating	IP67 (IEC 60529)
Ambient operating temperature	-30 °C ... +60 °C
Storage temperature	-40 °C ... +80 °C

Other information

Bandwidth	60.6 GHz ... 62.8 GHz
Transmissin power	≤ 16 dBm
Radio class	Class 2 (2014/53/EU, RED - radio equipment)
Detection method	FMCW radar for motion detection
Items supplied	safeRS3 sensor Two-axis/three-axis bracket Safety instruction Mounting instructions Operating instructions for download safeRS3 Designer (configuration and diagnostic software) for download

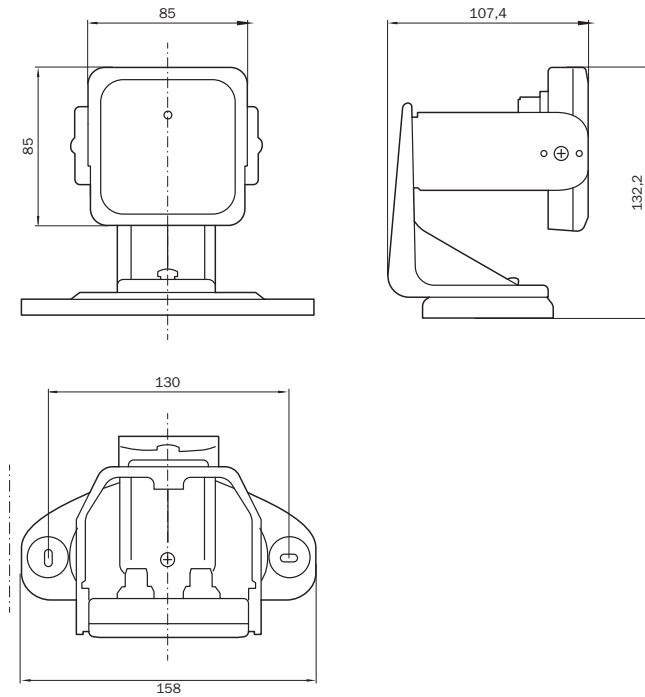
Classifications

eCl@ss 5.0	27270890
eCl@ss 5.1.4	27270890
eCl@ss 6.0	27280800
eCl@ss 6.2	27280800
eCl@ss 7.0	27280890
eCl@ss 8.0	27280890
eCl@ss 8.1	27280890
eCl@ss 9.0	27280890
eCl@ss 10.0	27280890
eCl@ss 11.0	27280890
eCl@ss 12.0	27280890
ETIM 5.0	EC001825

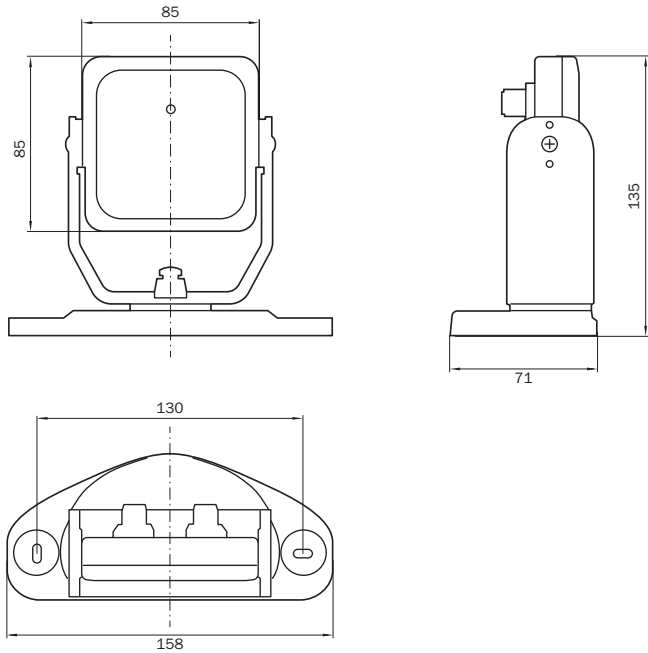
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))

safeRS3 sensor on three-axis bracket

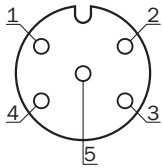


safeRS3 sensor on two-axis bracket



Pin assignment

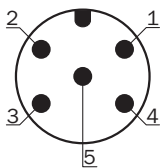
Female connector



Pin	Description
1	Shield, for connecting to the ground connection of the control unit
2	+ 12 V DC
3	GND
4	CAN H
5	CAN L

For details see operating instructions

Male connector



Pin	Description
1	Shield, for connecting to the ground connection of the control unit


Pin	Description
2	+ 12 V DC
3	GND
4	CAN H
5	CAN L

For details see operating instructions

Recommended accessories

Other models and accessories → www.sick.com/safeRS_safeRS3

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, angled Head B: Flying leads Cable: Fieldbus, DeviceNet™, PUR, halogen-free, shielded, 5 m A-coded	YG2A15-050C1BXLEAX	2112753
	Head A: female connector, M12, 5-pin, angled Head B: Flying leads Cable: Fieldbus, DeviceNet™, PUR, halogen-free, shielded, 10 m A-coded	YG2A15-100C1BXLEAX	2112754
	Head A: female connector, M12, 5-pin, angled Head B: Flying leads Cable: Fieldbus, DeviceNet™, PUR, halogen-free, shielded, 15 m A-coded	YG2A15-150C1BXLEAX	2112755
	Head A: male connector, USB-A Head B: male connector, Micro-B Cable: USB 2.0, unshielded, 2 m	USB cable	6036106
	Head A: male connector, USB-A, straight Head B: female connector, USB-A, straight Cable: USB, unshielded, 10 m Used to extend the USB interface by 10 m. The cable can be extended up to 20 m by plugging in another 10 m extension.	USB extension cable, repeater	6069292
	Head A: female connector, M12, 5-pin, angled Head B: male connector, M12, 5-pin, angled Cable: Fieldbus, DeviceNet™, shielded, 3 m A-coded	YG2A15-030C1BN2A15	2112756
	Head A: female connector, M12, 5-pin, angled Head B: male connector, M12, 5-pin, angled Cable: Fieldbus, shielded, 5 m A-coded	YG2A15-050C1BN2A15	2115283
	Head A: female connector, M12, 5-pin, angled Head B: male connector, M12, 5-pin, angled Cable: CANopen, DeviceNet™, shielded, 10 m A-coded	YG2A15-100C1BN2A15	2115284
	Head A: female connector, M12, 5-pin, angled Head B: male connector, M12, 5-pin, angled Cable: CANopen, DeviceNet™, shielded, 15 m A-coded	YG2A15-150C1BN2A15	2115285
	Head A: male connector, Micro-B, 4-pin, straight Head B: male connector, USB-A, 4-pin, straight Cable: USB 2.0, PVC, shielded, 5 m	YMUSA4-050VG4MUIA4	2118400

	Brief description	Type	Part no.
	Head A: male connector, M12, 5-pin, straight, A-coded Cable: CANopen, DeviceNet™	YM2W15-000000XXXXX	2123627

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