



# SRA2-AAR140AKZI

safeRS/safeRS3

**SAFETY RADAR SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Variant	Protective field range	Field of view	Type	Part no.
safeRS	1 m ... 4 m	110° (horizontal plane), 30° (vertical plane), configurable	SRA2-AAR140AKZI	6073487

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

Other models and accessories → [www.sick.com/safeRS\\_safeRS3](http://www.sick.com/safeRS_safeRS3)



### Detailed technical data

#### Features

<b>Application</b>	Indoor				
<b>Protective field range</b>	1 m ... 4 m				
<b>Warning field range</b>	1 m ... 4 m				
<b>Number of protective fields</b>	1				
<b>Field of view</b>	<table border="0"> <tr> <td>Large</td> <td>110° (horizontal plane) 30° (vertical plane)</td> </tr> <tr> <td>Narrow</td> <td>50° (horizontal plane) 15° (vertical plane)</td> </tr> </table>	Large	110° (horizontal plane) 30° (vertical plane)	Narrow	50° (horizontal plane) 15° (vertical plane)
Large	110° (horizontal plane) 30° (vertical plane)				
Narrow	50° (horizontal plane) 15° (vertical plane)				
<b>Response time</b>	≤ 100 ms				

#### Safety-related parameters

<b>Safety integrity level</b>	SIL2 (IEC 62061)
<b>Category</b>	Category 2 (outputs category 3) (EN ISO 13849)
<b>Performance level</b>	PL d (EN ISO 13849)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$4.34 \times 10^{-8}$
<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	40 years (IEC 60050)
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)
<b>Safe state in the event of a fault</b>	At least one safety relay is in the OFF state

#### Functions

<b>Restart interlock</b>	✓
<b>Muting</b>	✓
<b>Manipulation protection</b>	✓
<b>Safe detection of a person</b>	✓

## Interfaces

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

## Electrical data

<b>Supply voltage <math>V_s</math></b>	24 V DC (20 V DC ... 28 V DC)
<b>Power consumption</b>	$\leq 0.6$ A
<b>Power consumption</b>	$\leq 11$ W, control unit and six sensors

## Mechanical data

<b>Dimensions (W x H x D)</b>	85 mm x 85 mm x 53 mm
<b>Housing material</b>	PA 66

## Ambient data

<b>Enclosure rating</b>	IP67 (IEC 60529)
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Storage temperature</b>	-40 °C ... +80 °C

## Other information

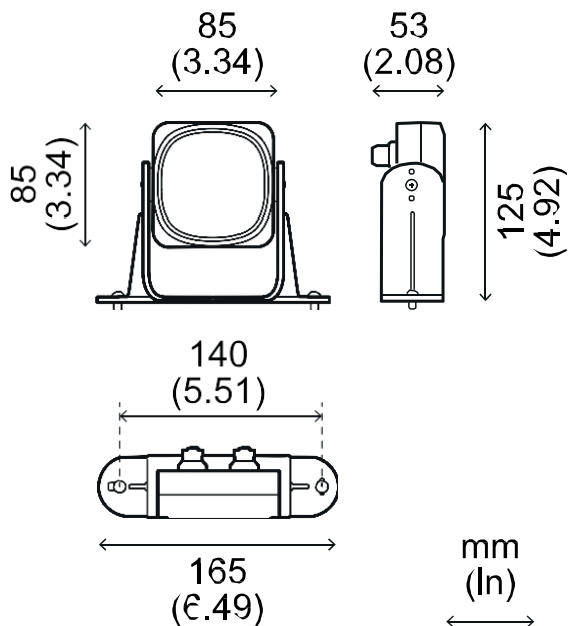
<b>Bandwidth</b>	24 GHz ... 24.25 GHz
<b>Transmissin power</b>	$\leq 13$ dBm
<b>Radio class</b>	Class 2 (2014/53/EU, RED - radio equipment)
<b>Detection method</b>	FMCW radar for motion detection
<b>Items supplied</b>	safeRS sensor Safety instruction Mounting instructions Operating instructions for download safeRS3 Designer (configuration and diagnostic software) for download

## Classifications

<b>eCl@ss 5.0</b>	27270890
<b>eCl@ss 5.1.4</b>	27270890
<b>eCl@ss 6.0</b>	27280800
<b>eCl@ss 6.2</b>	27280800
<b>eCl@ss 7.0</b>	27280890
<b>eCl@ss 8.0</b>	27280890
<b>eCl@ss 8.1</b>	27280890
<b>eCl@ss 9.0</b>	27280890
<b>eCl@ss 10.0</b>	27280890
<b>eCl@ss 11.0</b>	27280890
<b>eCl@ss 12.0</b>	27280890
<b>ETIM 5.0</b>	EC001825
<b>ETIM 6.0</b>	EC001825
<b>ETIM 7.0</b>	EC001825
<b>ETIM 8.0</b>	EC001825
<b>UNSPSC 16.0901</b>	39121528

### Dimensional drawing (Dimensions in mm (inch))





safeRS sensor



### Recommended accessories

Other models and accessories → [www.sick.com/safeRS\\_safeRS3](http://www.sick.com/safeRS_safeRS3)

Brief description		Type	Part no.
Device protection (mechanical)			
	Protective metal housing for safeRS sensor, stainless steel, Protective metal housing incl. mounting kit	Protective housing	5341984
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

	Brief description	Type	Part no.
	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
	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](http://www.sick.com)