



# SRA2-AAC140AANI

safeRS/safeRS3

SAFETY RADAR SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
SRA2-AAC140AANI	6073486

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

Detailed technical data

Features

Number of monitoring cases	≤ 1
Response time	≤ 100 ms

Safety-related parameters

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

Functions

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

Interfaces

Outputs	
Safety outputs	1 relay output, dual-channel
Universal outputs	2 relay outputs
Inputs	
Universal inputs	3 dual-channel
Test input	1
Configuration method	PC with safeRS Designer (Configuration and Diagnostic software)
Configuration and diagnostics interface	USB 2.0, micro USB
Display elements	LEDs

Electrical data

Supply voltage V <sub>s</sub>	24 V DC (20 V DC ... 28 V DC)
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<b>Power consumption</b>	≤ 0.6 A
<b>Power consumption</b>	≤ 11 W, control unit and six sensors

## Mechanical data

<b>Dimensions (W x H x D)</b>	166.25 mm x 92.6 mm x 46.5 mm
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## Ambient data

<b>Enclosure rating</b>	IP20 (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>	≤ 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 control unit Safety instruction Mounting instructions Operating instructions for download safeRS Designer (configuration and diagnostic software) for download

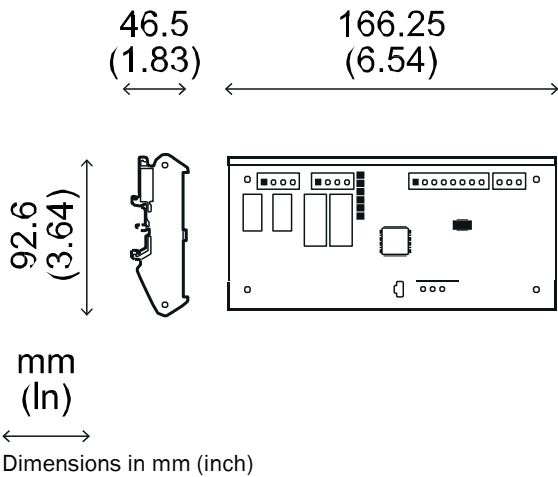
## Certificates

<b>EU declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Radio Approval certificate</b>	✓

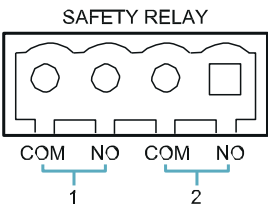
## Classifications

<b>ECLASS 5.0</b>	27270890
<b>ECLASS 5.1.4</b>	27270890
<b>ECLASS 6.0</b>	27280800
<b>ECLASS 6.2</b>	27280800
<b>ECLASS 7.0</b>	27280890
<b>ECLASS 8.0</b>	27280890
<b>ECLASS 8.1</b>	27280890
<b>ECLASS 9.0</b>	27280890
<b>ECLASS 10.0</b>	27280890
<b>ECLASS 11.0</b>	27280890
<b>ECLASS 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 safeRS control unit



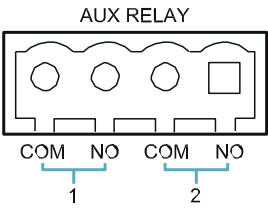
Pin assignment Safety outputs



Terminal	Description
COM	Common safety output 1
NO	Relay output, normally open
COM	Common safety output 2
NO	Relay output, normally open

For details see operating instructions

Pin assignment Universal outputs

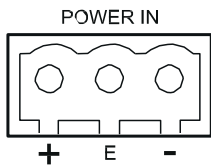


functions: status warning field intrusion, diagnosis signal, muting status

Terminal	Description
COM	Mutual universal output 1
NO	Relay output, normally open
COM	Mutual universal output 2
NO	Relay output, normally open

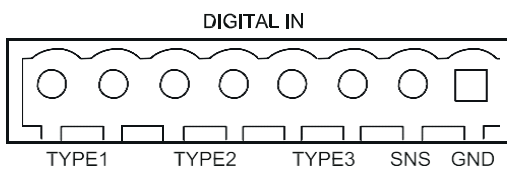
Terminal	Description
For details see operating instructions	

### Pin assignment Voltage supply



Terminal	Description
+	+24 V DC
E	Earthing
-	GND
For details see operating instructions	

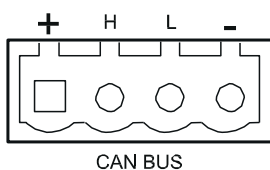
### Pin assignment Universal inputs



functions: emergency stop button, manual restart interlock, muting function

Terminal	Description
Type 1	Input, 24 V DC
Type 1	Input, 24 V DC
Type 2	Input, 24 V DC
Type 2	Input, 24 V DC
Type 3	Input, 24 V DC
Type 3	Input, 24 V DC
SNS	Input, 24 V DC, diagnostics
GND	Common reference for all digital inputs
-	The cables used must be maximum 30 m long
For details see operating instructions	

### Pin assignment Sensor connection



Terminal	Description
+	+12 V DC
H	CAN H
L	CAN L
-	GND
For details see operating instructions	

## Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, Micro-B, 4-pin, straight</li> <li><b>Connection type head B:</b> Male connector, USB-A, 4-pin, straight</li> <li><b>Signal type:</b> USB 2.0</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> USB 2.0, shielded</li> </ul>	YMUSA4-050VG4MUIA4	2118400
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, USB-A, straight</li> <li><b>Connection type head B:</b> Female connector, USB-A, straight</li> <li><b>Signal type:</b> USB</li> <li><b>Cable:</b> 10 m, 4-wire</li> <li><b>Description:</b> USB, unshielded</li> <li><b>Note:</b> 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.</li> </ul>	USB extension cable, repeater	6069292
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, Micro-B, 4-pin, straight</li> <li><b>Connection type head B:</b> Male connector, USB-A, 4-pin, straight</li> <li><b>Signal type:</b> USB 2.0</li> <li><b>Cable:</b> 2 m, 4-wire</li> <li><b>Description:</b> USB 2.0, unshielded</li> </ul>	USB cable	6036106
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, angled, A-coded</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 3 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-030C1B-N2A15	2112756
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-100C1BXLAX	2112754
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-050C1BXLAX	2112753
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 15 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-150C1BXLAX	2112755
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, angled, A-coded</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-100C1B-N2A15	2115284
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, angled, A-coded</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 15 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-150C1B-N2A15	2115285
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, angled, A-coded</li> <li><b>Signal type:</b> Fieldbus, CANopen, DeviceNet™</li> <li><b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Fieldbus, shieldedCANopenDeviceNet™</li> <li><b>Note:</b> A-coded</li> </ul>	YG2A15-050C1B-N2A15	2115283
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li><b>Signal type:</b> CANopen, DeviceNet™</li> <li><b>Description:</b> CANopenDeviceNet™</li> </ul>	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)