



# SG2-AAA00011IA0000

scanGrid2

SAFETY MULTIBEAM SCANNERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
SG2-AAA00011IA0000	1101561

Other models and accessories → [www.sick.com/scanGrid2](http://www.sick.com/scanGrid2)



### Detailed technical data

#### Features

<b>Protective field range</b>	1.1 m (At a resolution of 70 mm)
<b>Warning field range</b>	4 m (At a resolution of 70 mm and a remission of 80%)
<b>Number of simultaneously monitored fields</b>	≤ 2 <sup>1)</sup>
<b>Number of fields</b>	8
<b>Number of monitoring cases</b>	4
<b>Scanning angle</b>	150°
<b>Resolution (can be configured)</b>	50 mm, 70 mm, 150 mm, 200 mm
<b>Angular resolution</b>	6°
<b>Response time</b>	≥ 60 ms
<b>Number of multiple samplings</b>	1 ... 4
<b>Protective field supplement</b>	100 mm
<b>Items supplied</b>	Safe multibeam scanner Safety instruction Mounting instructions Operating instructions for download

<sup>1)</sup> Protective and warning field.

#### Safety-related parameters

<b>Type</b>	Type 2 (IEC 61496-3)
<b>Safety integrity level</b>	SIL1 (IEC 61508)
<b>Category</b>	Category 2 (ISO 13849-1)
<b>Performance level</b>	PL c (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	1.3 × 10 <sup>-6</sup>
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

#### Functions

<b>Restart delay</b>	✓
<b>Multiple sampling</b>	✓
<b>Monitoring case switching</b>	✓

Switch-on delay for monitoring case switching	✓
Simultaneous monitoring	✓
Static protective field switching	✓
Integrated configuration memory	✓
Measured data output	None
Cascading	✓

Interfaces

Connection type	Connector M12, 8-pin, A-coded
Outputs	
OSSD pairs	1
Universal outputs	1
Inputs	
Static control inputs	3
Near Field Communication (NFC)	✓
Configuration method	Via software
Configuration and diagnostic software	Safety Designer (software for configuring and diagnosing safety solutions from SICK AG) Safety Assistant (app for transferring configurations and diagnosing safety solutions from SICK AG)
Configuration and diagnostics interface	USB 2.0 type C (Safety Designer) NFC (Safety Assistant app)
Display elements	LEDs

Electrical data

Protection class	III (IEC 61140)
Supply voltage $V_S$	24 V DC (8.4 V ... 30 V) <sup>1)</sup>
Supply voltage $U_V$ in a cascade	24 V DC (14 V ... 30 V) <sup>1)</sup>
Residual ripple	$\leq 10\%$ <sup>2)</sup>
Power consumption	$\leq 3$ W (DC)
Output signal switching devices (OSSDs)	
Type of output	2 semiconductors, short-circuit protected, cross-circuit monitored <sup>3)</sup>
Output mode (can be configured)	PNP or NPN <sup>4) 5)</sup>
PNP mode (for safety functions)	
ON state, switching voltage HIGH	$(U_V - 2.25\text{ V}) \dots U_V$
OFF state, switching voltage LOW	$\leq 2$ V
Current-carrying capacity per OSSD	$\leq 200$ mA
NPN mode	
ON state, switching voltage LOW	$\leq 2.25$ V
OFF state, switching voltage HIGH	$(U_V - 2\text{ V}) \dots U_V$

<sup>1)</sup> SELV/PELV safety/protective extra-low voltage.

<sup>2)</sup> Within the limits of  $V_S$ .

<sup>3)</sup> Applies to the voltage range between -30 V and +30 V.

<sup>4)</sup> For safety functions, you must always use PNP mode (default setting).

<sup>5)</sup> Both OSSDs of the safe multibeam scanner always use the same mode.

Current-carrying capacity per OSSD	≤ 200 mA
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- 1) SELV/PELV safety/protective extra-low voltage.
- 2) Within the limits of  $V_S$ .
- 3) Applies to the voltage range between -30 V and +30 V.
- 4) For safety functions, you must always use PNP mode (default setting).
- 5) Both OSSDs of the safe multibeam scanner always use the same mode.

Mechanical data

<b>Dimensions (W x H x D)</b>	160 mm x 43 mm x 56 mm
<b>Weight</b>	170 g
<b>Housing material</b>	Durabio (front part, black) Polycarbonate (back part, colza yellow)
<b>Housing color</b>	RAL 9005 (black) RAL 1021 (yellow)

Ambient data

<b>Enclosure rating</b>	IP65 (IEC 60529)
<b>Ambient light immunity</b>	≤ 10 klx
<b>Ambient operating temperature</b>	0 °C ... +50 °C
<b>Storage temperature</b>	-30 °C ... +70 °C
<b>Air humidity</b>	15 % ... 95 %, Non-condensing
<b>Vibration resistance</b>	IEC 60068-2-6, IEC 60068-2-64, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3
Class	5M1 (IEC 60721-3-5)
<b>Shock resistance</b>	IEC 60068-2-27, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3
Class	5M1 (IEC 60721-3-5)
Single shock	150 m/s <sup>2</sup> , 11 ms
Continuous shock	100 m/s <sup>2</sup> , 16 ms
<b>EMC</b>	IEC 61496-1, IEC 61000-6-2, IEC 61000-6-3

Other information

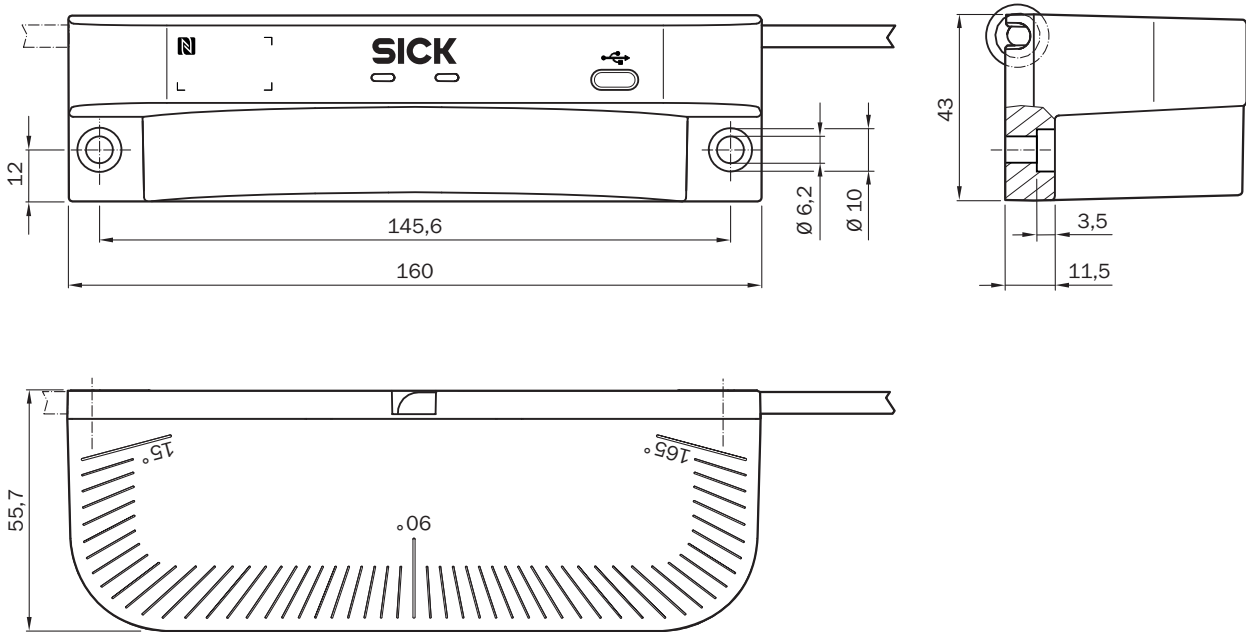
<b>Type of light</b>	Pulsed laser diode
<b>Wave length</b>	850 nm
<b>Detectable remission factor</b>	4% ... several 1,000%
<b>Laser class</b>	1

Classifications

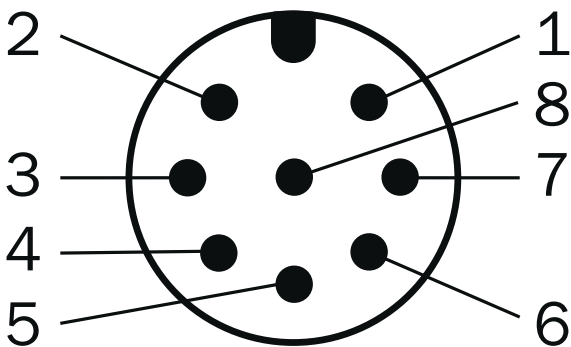
<b>eCl@ss 5.0</b>	27272705
<b>eCl@ss 5.1.4</b>	27272705
<b>eCl@ss 6.0</b>	27272705
<b>eCl@ss 6.2</b>	27272705
<b>eCl@ss 7.0</b>	27272705
<b>eCl@ss 8.0</b>	27272705
<b>eCl@ss 8.1</b>	27272705
<b>eCl@ss 9.0</b>	27272705
<b>eCl@ss 10.0</b>	27272705
<b>eCl@ss 11.0</b>	27272705

eCl@ss 12.0	27272705
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))



Pin assignment








Pin	Designation	Description
1	+24 V DC	Supply voltage +24 V DC
2	OSSD1	OSSD1

Pin	Designation	Description
3	0 V DC	Supply voltage 0 V DC
4	OSSD2	OSSD2
5	Uni-0	Universal output, configurable: Monitoring result, contamination, error
6	IN 1	Control input 1: Monitoring case switching
7	IN 2	Control input 2: Monitoring case switching
8	IN 3	Control input 3: Monitoring case switching

For details see operating instructions

### Recommended accessories

Other models and accessories → [www.sick.com/scanGrid2](http://www.sick.com/scanGrid2)

	Brief description	Type	Part no.
<b>Other adapters</b>			
	Connector for cascading safe multibeam scanners Connection option for 2 scanGrid2 units or connection option for 1 scanGrid2 unit and 1 additional Multi Sensor Connector.	scanGrid2 Multi Sensor Connector	2118543
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	DOL-1208G02MD25KM1	2079314
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	DOL-1208G05MD25KM1	2079315
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	DOL-1208G10MD25KM1	2079316
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 1 m	YF2A18-010UA5M2A18	2096032
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A18-020UA5M2A18	2096033
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A18-050UA5M2A18	2096034
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.5 m	YF2A18-C50UA5M2A18	2108996
	Head A: male connector, USB-C, 4-pin, straight Head B: male connector, USB-A, 4-pin, straight Cable: PVC, 2 m	YMUSA4-020VG5MUSC4	2119989
<b>Terminal and alignment brackets</b>			
	Alignment bracket for scanGrid2, can be aligned ± 10°	BEF-1GHAHVKU1	2116913

## 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)