Product data sheet



ARS60-ADA32768

ARS60 SSI/Parallel

ABSOLUTE ENCODERS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
ARS60-ADA32768	1031522

Other models and accessories ➜ www.sick.com/ARS60_SSI_Parallel

Detailed technical data

Performance

Number of steps per revolution (max. resolution)	32,768 (15 bit) Any number of steps from 00002 to 32768 possible. Always 5 characters in cleartext.
Error limits G	0.035° (binary number of steps) [1] 0.046° (non-binary number of steps)
Repeatability standard deviation σ_r	0.005° [2]

[1] In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.
[2] In accordance with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

Interfaces

Communication interface	SSI
Initialization time	80 ms [1]
SSI	
Code type	Gray
Code sequence parameter adjustable	CW (clockwise) increasing when viewing the clockwise rotating shaft Increasing, when turning the shaft For clockwise rotation, looking in direction “A” (see dimensional drawing)

[1] Valid positional data can be read once this time has elapsed.

Electrical data

Connection type	Male connector, M23, 12-pin, radial
Supply voltage	10 ... 32 V DC
MTTFd: mean time to dangerous failure	300 years (EN ISO 13849-1) [1]

[1] This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Mechanical data

Mechanical design	Through hollow shaft

[1] Order collets for 6, 8, 10, and 12 mm and 1/4", 3/8", and 1/2" separately as accessories.

Shaft diameter	14 mm [1]
Weight	0.3 kg
Housing material	Aluminum die cast
Start up torque	2.2 Ncm
Operating torque	1.6 Ncm
Permissible shaft movement, axial static/dynamic	± 0.5 mm, ± 0.2 mm
Permissible shaft movement, radial static/dynamic	± 0.3 mm, ± 0.1 mm
Bearing lifetime	3.6 x 10^9 revolutions
Angular acceleration	≤ 500,000 rad/s²

[1] Order collets for 6, 8, 10, and 12 mm and 1/4", 3/8", and 1/2" separately as accessories.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3 [1]
Enclosure rating	IP64, with mating connector fitted (according to IEC 60529)
Permissible relative humidity	90 % (condensation of the optical scanning not permitted)
Operating temperature range	–20 °C ... +85 °C
Storage temperature range	–40 °C ... +100 °C
Resistance to shocks	50 g, 11 ms (according to EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)

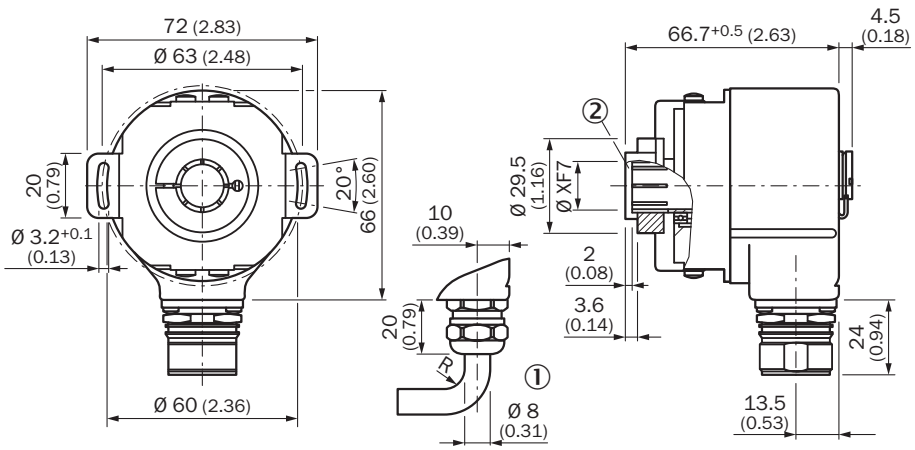
[1] EMC according to the standards quoted is achieved if shielded cables are used.

Classifications

ECl@ss 5.0	27270502
ECl@ss 5.1.4	27270502
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270502
ECl@ss 8.0	27270502
ECl@ss 8.1	27270502
ECl@ss 9.0	27270502
ETIM 5.0	EC001486
ETIM 6.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

Through hollow shaft, radial plug connection M12 and M23

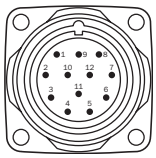


General tolerances according to DIN ISO 2768-mk
① R = min. bending radius 40 mm
② Inseration depth of mounting shaft min. 15 mm

PIN assignment

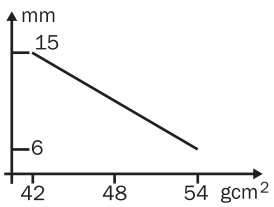
- Allocation for encoder with 12-pin connector; SSI interface

Signal	12-pin connector	11-core cable outlet
GND	1	Blue
Data (+)	2	White
Clock (+)	3	Yellow
N. C.	4	–
V/$\overline{R}$	5	Pink
N. C.	6	–
N. C.	7	–
U_s	8	Red
SET	9	Orange
Data (–)	10	Brown
Clock (–)	11	Lilac
N. C.	12	–



View of the connector M23 fitted to the encoder body SSI

Maximum revolution range



Recommended accessories

Other models and accessories ➜ www.sick.com/ARS60_SSI_Parallel

	Brief description	Type	Part no.
Shaft adaptation			
	Collet for through hollow shaft, shaft diameter 6 mm, outer diameter 14 mm	SPZ-006-AD-D	2029192
	Collet for through hollow shaft, shaft diameter 8 mm, outer diameter 14 mm	SPZ-008-AD-D	2029194
	Collet for through hollow shaft, shaft diameter 10 mm, outer diameter 14 mm	SPZ-010-AD-D	2029196
	Collet for through hollow shaft, shaft diameter 12 mm, outer diameter 14 mm	SPZ-012-AD-D	2029197
	Collet for through hollow shaft, shaft diameter 1/2" (12.7 mm), outer diameter 14 mm	SPZ-1E2-AD-D	2029198
	Collet for through hollow shaft, shaft diameter 1/4" (6.35 mm), outer diameter 14 mm	SPZ-1E4-AD-D	2029193
	Collet for through hollow shaft, shaft diameter 3/8" (9.525 mm), outer diameter 14 mm	SPZ-3E8-AD-D	2029195

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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.”

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