



Absolute encoders ARS60 SSI/Parallel

ARS60-A4A32767



Model Name > ARS60-A4A32767
Part No. > 1031486



At a glance

- Absolute singleturn encoder
- Resolution: up to 15 bits (32,768 increments)
- Electrical interface: SSI with gray code type or gray capped
- Electrical interface: Parallel with gray, gray capped, binary, BCD code type
- Zero-set function
- Mechanical interfaces: face mount flange, servo flange, blind and through hollow shaft
- Enclosure rating: Up to IP66

Your benefits

- Freely programmable resolution (up to 15 bits)
- Simple zero adjustment directly by press of a button on the encoder or via signal line (cable version)
- Suitable for all mounting methods thanks to individual mechanical interfaces
- A basic device for flexible use thanks to simple interchangeable collets for blind hollow shaft and through hollow shaft
- Versions with cable and M23 connector outlet available in axial and radial designs



Performance

Max. number of steps per revolution:	32,767
Max. number of revolutions:	1
Resolution power:	32,767 x 1
Error limits:	0.035 ° (binary number of steps) 0.046 ° (non-binary number of steps)
Repeat accuracy:	0.005 °
Measuring step deviation:	0.005 °, 0.016 °
Measuring step:	360 ° /number of lines
Initialization time:	80 ms ¹⁾

¹⁾ Valid positional data can be read once this time has elapsed

Mechanical data

Mechanical interface:	Solid shaft, Face mount flange
Shaft diameter:	10 mm
Mass:	0.3 kg
Start up torque:	0.4 Ncm
Operating torque:	0.3 Ncm

Permissible Load capacity of shaft:	20 N (radial) 10 N (axial)
Maximum operating speed:	10,000 /min (without shaft seal) 6,000 /min (with shaft seal) ¹⁾
Moment of inertia of the rotor:	54 gcm ²
Bearing lifetime:	3.6 x 10 ⁹ revolutions
Max. angular acceleration:	500,000 rad/s ²
Operation of zero-set:	≥ 100 ms ²⁾

¹⁾ If the shaft seal has been removed by the customer ²⁾ Only with shaft stationary (note initialisation time)

Electrical data

Operating voltage range:	10 V DC ... 32 V DC
Operating power consumption (no load):	60 mA

Interfaces

Electrical interface:	Connector M23, 12-pin, radial
-----------------------	-------------------------------

Ambient data

EMC:	According to EN 61000-6-2 and EN 61000-6-3 ¹⁾
Enclosure rating:	IP 65, according to IEC 60529, with mating connector fitted
Permissible relative humidity:	90 % (condensation of the optical scanning not permitted)
Working temperature range:	-20 °C ... 85 °C
Storage temperature range:	-40 °C ... 100 °C
Resistance to shocks:	50 g (according to EN 60068-2-27)
Resistance to vibration:	20 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)

¹⁾

A diagram of a 12-pin circular connector. The pins are arranged in two concentric circles of six pins each. The pins are numbered 1 through 12. Pins 1, 3, 5, 7, 9, and 11 are in the outer circle, and pins 2, 4, 6, 8, 10, and 12 are in the inner circle. The numbering starts at the top and proceeds clockwise.



Figure 10.10 Timing diagram for the 12-bit parallel data format. The diagram shows the relationship between the clock, data format singleturn, and singleturn. The data format singleturn is divided into 13 clock cycles, labeled 1 through 13. The singleturn is shown as a single high pulse. Below the timing diagram is a table showing the data format for 12-bit parallel data. The table has 4 rows and 13 columns. The columns are labeled A-1 through A-12, tm-T/2, 2ⁿ, and A. The rows show the data format for 12-bit parallel data, with the last row showing the resolution per revolution.

A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	tm-T/2	2 ⁿ	A
x	x	x	x	x	x	x	x	x	x	x	x	0	1	8192 13
x	x	x	x	x	x	x	x	x	x	x	x	0	0	1 4096 12
x	x	x	x	x	x	x	x	x	x	x	x	0	0	1 2048 11
x	x	x	x	x	x	x	x	x	x	0	0	0	1	1024 10

Code disc for 1 revolution

resolution per revolution

Australia

Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com