



**Absolute encoders  
ARS60 SSI/Parallel**

ARS60-A4A21600



**Model Name** > [ARS60-A4A21600](#)  
**Part No.** > [1038258](#)



#### 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: | 21,600   |
| Max. number of revolutions:          | 1  |
| Resolution power:                    | 21,600 x 1   |
| Error limits:                        | 0.035 ° (binary number of steps)<br>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 <sup>1)</sup>  |

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

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

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#### Electrical data

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

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#### Interfaces

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

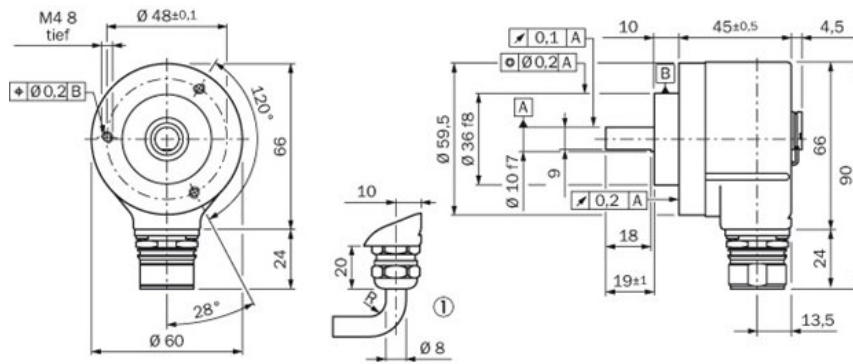
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#### Ambient data

|                                |   |
|--------------------------------|---|
| EMC:                           | According to EN 61000-6-2 and EN 61000-6-3 <sup>1)</sup>    |
| 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)        |

<sup>1)</sup>

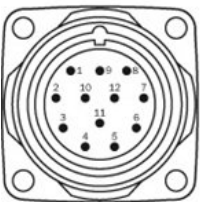
## Dimensional drawing



## PIN assignment

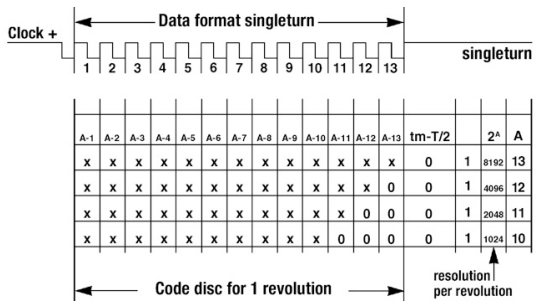
- Anschlussbelegung für Ausführung mit 12-poligem Stecker; SSI-Schnittstelle

| Signal    | 12-poliger Gerätestecker | 11-adriger Leitungsabgang |
|-----------|--------------------------|---------------------------|
| GND       | 1                        | Blau                      |
| Daten (+) | 2                        | Weiß                      |
| Taktl (+) | 3                        | Gelb                      |
| N. C.     | 4                        | -                         |
| V/R       | 5                        | Rosa                      |
| N. C.     | 6                        | -                         |
| N. C.     | 7                        | -                         |
| $U_s$     | 8                        | Rot                       |
| SET       | 9                        | Orange                    |
| Daten (-) | 10                       | Braun                     |
| Taktl (-) | 11                       | Violett                   |
| N. C.     | 12                       | -                         |



Ansicht Gerätestecker M23, 12-polig am Encoder, SSI

# PSDI



**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](http://www.sick.com)