



## Absolute encoders ARS60 SSI/Parallel

ARS60-A4A08192



**Model Name** > [ARS60-A4A08192](#)  
**Part No.** > [1031447](#)



**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: | 8,192                                                                    |
| Max. number of revolutions:          | 1                                                                        |
| Resolution power:                    | 8,192 x 1                                                                |
| Error limits:                        | 0.035 ° (binary number of steps)<br>0.046 ° (non-binary number of steps) |
| Repeatability (Ta not constant):     | 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 |
|-----------------------|-------------------------------|

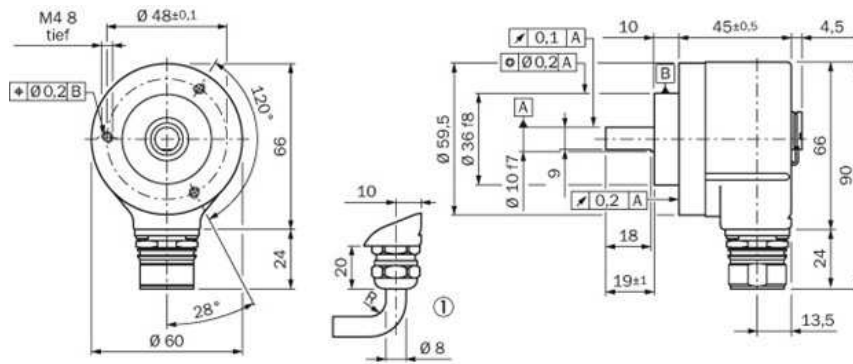
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#### Ambient data

|                                |                                                             |
|--------------------------------|-------------------------------------------------------------|
| 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>

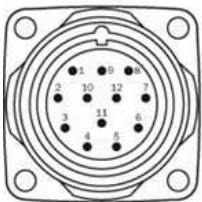
## Dimensional drawing



## PIN assignment

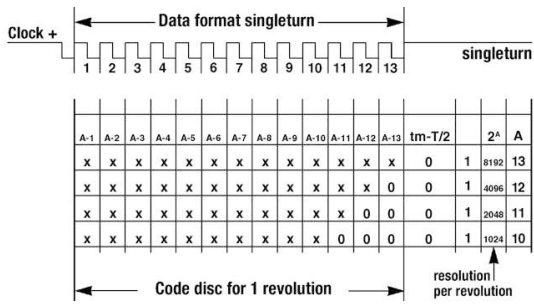
- Anschlussbelegung für Ausführung mit 12-poligem Stecker; SSI-Schnittstelle

| 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

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