



## Absolute encoders ARS60 SSI/Parallel

ARS60-F1K32768



**Model Name** > [ARS60-F1K32768](#)  
**Part No.** > [1031643](#)



*Illustration may differ*

#### 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

- Optical and magnetic variants for the widest range of requirements
- Reduced maintenance costs thanks to magnetic, wearless scanning in single and multiturn design
- High level of productivity due to optical encoders with a high level of precision and fast calculation of positions
- Robust design for maximum system availability, even in extreme environmental conditions
- Absolutely compact - specially suited in cases where installation space is tight
- Flexible integration in all common networks



#### Performance

|                                      |                                                                          |
|--------------------------------------|--------------------------------------------------------------------------|
| Max. number of steps per revolution: | 32,768                                                                   |
| Max. number of revolutions:          | 1                                                                        |
| Resolution power:                    | 32,768 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, Servo flange |
| Shaft diameter:       | 6 mm                      |
| Start up torque:      | 0.25 Ncm                  |

|                                     |                                                                              |
|-------------------------------------|------------------------------------------------------------------------------|
| Operating torque:                   | 0.2 Ncm                                                                      |
| Permissible Load capacity of shaft: | 10 N (axial), 20 N (radial)                                                  |
| Maximum operating speed:            | 10,000 /min (without shaft seal), 6,000 /min (with shaft seal) <sup>1)</sup> |
| Moment of inertia of the rotor:     | 48 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)

## Electrical data

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|                                        |                                      |
|----------------------------------------|--------------------------------------|
| Operating voltage range:               | 10 V DC ... 32 V DC                  |
| Operating power consumption (no load): | 90 mA                                |
| MTTFd: mean time to dangerous failure: | 300 a (EN ISO 13849-1) <sup>1)</sup> |

<sup>1)</sup> 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.

## Interfaces

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|                       |                              |
|-----------------------|------------------------------|
| Electrical interface: | Cable, 22-pin, radial, 1.5 m |
|-----------------------|------------------------------|

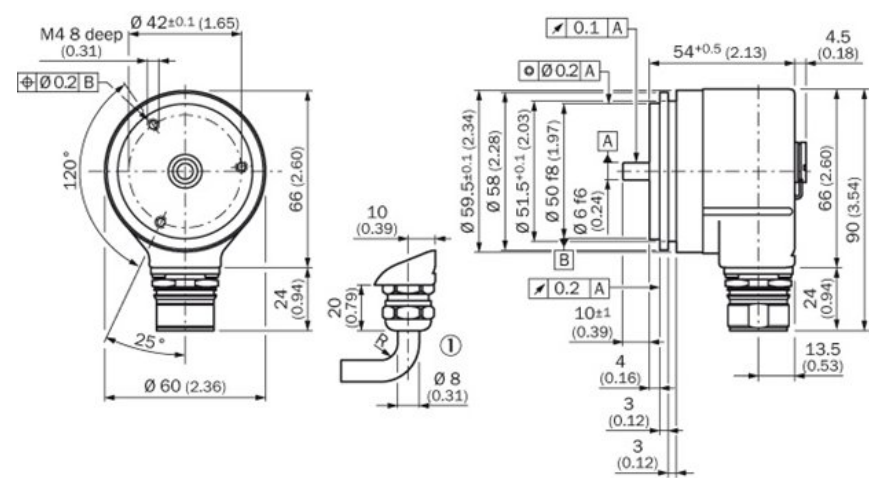
## Ambient data

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|                                |                                                            |
|--------------------------------|------------------------------------------------------------|
| EMC:                           | (according to EN 61000-6-2 and EN 61000-6-3) <sup>1)</sup> |
| Enclosure rating:              | IP 66 (according to IEC 60529)                             |
| 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



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