



## Absolute encoders ARS60 SSI/Parallel

ARS60-F4L00720



**Model Name** > ARS60-F4L00720  
**Part No.** > 1037963



#### 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: | 720                                                                      |
| Max. number of revolutions:          | 1                                                                        |
| Resolution power:                    | 720 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                          |
| 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)

#### Electrical data

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|                                        |                     |
|----------------------------------------|---------------------|
| Operating voltage range:               | 10 V DC ... 32 V DC |
| Operating power consumption (no load): | 90 mA               |

#### Interfaces

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|                       |                            |
|-----------------------|----------------------------|
| Electrical interface: | Cable, 22-pin, radial, 3 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



PSDI

|         |    |    |    |    |    |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|----|----|----|----|----|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Clock + | 1  | 2  | 3  | 4  | 5  | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|         | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5  | 4  | 3  | 2  | 1  | 0  | E1 | E2 | 0  | 14 | 13 | 12 | 11 | 10 | 9  | 8  |

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