



Absolute encoders ARS60 SSI/Parallel

ARS60-F1K05000



Model Name > [ARS60-F1K05000](#)
Part No. > [1035570](#)



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:	5,000
Max. number of revolutions:	1
Resolution power:	5,000 x 1
Error limits:	0.035 ° (binary number of steps) 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 ¹⁾

¹⁾ 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) ¹⁾
Moment of inertia of the rotor:	48 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):	90 mA
MTTFd: mean time to dangerous failure:	300 a (EN ISO 13849-1) ¹⁾

¹⁾ 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

Electrical interface:	Cable, 22-pin, radial, 1.5 m
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Ambient data

EMC:	(according to EN 61000-6-2 and EN 61000-6-3) ¹⁾
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)

¹⁾

Technical drawing of a 1/2" NPT female adapter with a 1/4" NPT male thread. The drawing includes three views: a front view, a side view, and a detail view of the male thread. Dimensions are given in millimeters and inches.

Front View Dimensions:

- Top thread: M4 8 deep (0.31)
- Top hole: $\varnothing 42 \pm 0.1$ (1.65)
- Top hole tolerance: $\oplus \varnothing 0.2$ B
- Angle: 120°
- Angle: 25°
- Height: 66 (2.60)
- Bottom thread: 24 (0.94)
- Bottom hole: $\varnothing 60$ (2.36)

Side View Dimensions:

- Length: 54 ± 0.5 (2.13)
- Height: 4.5 (0.18)
- Height: 66 (2.60)
- Height: 90 (3.54)
- Bottom thread: 24 (0.94)
- Bottom hole: 13.5 (0.53)

Detail View Dimensions:

- Length: 10 (0.39)
- Height: 20 (0.79)
- Bottom hole: $\varnothing 8$ (0.31)

Other Dimensions:

- Top hole tolerance: $\nabla 0.1$ A
- Top hole tolerance: $\oplus \varnothing 0.2$ A
- Top hole tolerance: $\nabla 0.2$ A
- Top hole tolerance: 10 ± 1 (0.39)
- Top hole tolerance: 4 (0.16)
- Top hole tolerance: 3 (0.12)
- Top hole tolerance: 3 (0.12)

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