



Absolute encoders ARS60 SSI/Parallel

ARS60-H1A32768



Model Name > ARS60-H1A32768
Part No. > 1031717



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) 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
Mass:	0.3 kg

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:	Connector M23, 21-pin, radial
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Ambient data

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

¹⁾

Set low only possible with a Ladder switch

Supply voltage to the encoder (before current conversion), rule must be taken if the type label of the encoder is 24V

Supply voltage to the encoder, electrically isolated from the housing. The voltage referred to GND (V₀)

Power-to-reverse: this input programs the counting direction of the encoder. If not connected this input is high. If the encoder starts, as viewed on the front side, rotates in the clockwise direction, it counts as an increasing speed. It should count downwards when the shaft rotates in the anti-clockwise direction. If the input is connected to ground, the encoder counts downwards.

Stop: this input activates the data output when a new level is signaled. If not connected, this input is low. In the case of a high level, this input is in the STOP state.

Encoder: this input allows the encoder data in Gray code when a new level is applied. This assigns a read error if the natural data is requested in binary code. If this input is not used, the data is the encoder output in state. In respect to whether the input must be connected or whether it is not, the manual points to input high.

Power to high level: this input is the power supply for the high level. It is not necessary to connect this input to the power supply.

SET: this input serves to set the zero electrically. If the SET line is active for more than 100 ms, the mechanical position corresponds to the value 0.



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