

AHM36B-BZQC000S28

AHS/AHM36

ABSOLUTE ENCODERS





Ordering information

Туре	Part no.
AHM36B-BZQC000S28	1102009

Other models and accessories → www.sick.com/AHS_AHM36

Illustration may differ







Detailed technical data

Features

Special device	√
Specialty	Blind hollow shaft 12 mm Customized clamping ring
Standard reference device	AHM36B-BDQC012X12, 1092007
Additional information	Insert depth reduced to min/max 15 mm

Performance

Number of steps per revolution (max. resolution)	4,096 (12 bit)
Number of revolutions	4,096 (12 bit)
$\label{eq:max.problem} \begin{tabular}{ll} \textbf{Max. resolution (number of steps per revolution x number of revolutions)} \end{tabular}$	12 bit x 12 bit (4,096 x 4,096)
Error limits G	0.35° (at 20 °C) ¹⁾
Repeatability standard deviation $\boldsymbol{\sigma_{r}}$	0.25° (at 20 °C) ²⁾

¹⁾ In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.

Interfaces

Communication interface	IO-Link
Communication Interface detail	IO-Link V1.1 / COM3 (230,4 kBaud)
Initialization time	2 s ¹⁾
Cycle time	≤ 3.2 ms
Smart Sensor	Efficient communication, Enhanced Sensing, diagnosis
Process data	Position, speed
Parameterising data	Number of steps per revolution Number of revolutions PRESET Counting direction Sampling rate for speed calculation

 $^{^{1)}\,\}mathrm{Valid}$ positional data can be read once this time has elapsed.

 $^{^{2)}}$ In accordance with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

	Unit for output of the speed value
Status information	Via status LED

 $^{^{1)}\,\}mbox{\sc Valid}$ positional data can be read once this time has elapsed.

Electrical data

Connection type	Male connector, M12, 4-pin, universal		
Supply voltage	18 30 V		
Power consumption	≤ 1.5 W		
Reverse polarity protection	✓		
MTTFd: mean time to dangerous failure	240 years (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.

Mechanical data

Mechanical design	Blind hollow shaft
Shaft diameter	12 mm
Weight	0.12 kg ¹⁾
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Zinc
Start up torque	< 0.5 Ncm (+20 °C)
Operating torque	< 0.5 Ncm (+20 °C)
Permissible movement static	± 0.3 mm, ± 0.3 mm (radial, axial)
Permissible movement dynamic	± 0.1 mm (radial) ± 0.1 mm (axial)
Operating speed	≤ 6,000 min ⁻¹
Moment of inertia of the rotor	15 gcm ²
Bearing lifetime	2.0 x 10^9 revolutions
Angular acceleration	≤ 500,000 rad/s²

 $^{^{1)}}$ Based on devices with male connector.

Ambient data

EMC	According to EN 61000-6-2, EN 61000-6-3 and EN 61131-9
Enclosure rating	IP65 (IEC 60529)
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	-20 °C +70 °C
Storage temperature range	-40 °C +100 °C, without package
Resistance to shocks	100 g, 6 ms (EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz 2,000 Hz (EN 60068-2-6)

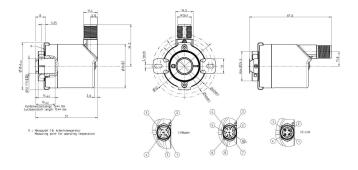
Classifications

ECLASS 5.0	27270502
ECLASS 5.1.4	27270502
ECLASS 6.0	27270590

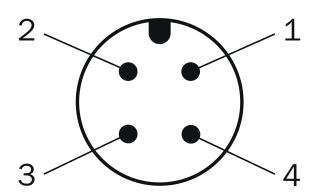
ECLASS 6.2	27270590
ECLASS 7.0	27270502
ECLASS 8.0	27270502
ECLASS 8.1	27270502
ECLASS 9.0	27270502
ECLASS 10.0	27270502
ECLASS 11.0	27270502
ECLASS 12.0	27270502
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

Blind hollow shaft, male connector



PIN assignment



PIN	Wire color	Signal	Function		
			Basic	Advanced	Advanced Smart Task

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PIN	Wire color	Signal	Function		
1	Brown	L+	Encoder supply voltage 18-30 V (+Us)		
2	White	I/Q	Not connected - no function Multifunctional pin (configurable as switching input or switching output)		_
3	Blue	L-	Encoder supply voltage 0 V (GND)		
4	Black	C/Q	IO-Link communication		
			-		Switching output (SIO mode)

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