

AHM36I-SCPC000S01

AHS/AHM36

ABSOLUTE ENCODERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
AHM36I-SCPC000S01	1131446

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



Detailed technical data

Features

Special device	✓
Specialty	Pre-programmed: Preset pos: 0, operating mode: binary, counting direction: CW, SSI code type: binary, position error bit: immediately after, SSI mode: synchronous
Standard reference device	AHM36I-SCPC014x12, 1099370

Performance

Number of steps per revolution (max. resolution)	4,096 (12 bit)
Number of revolutions	4,096 (12 bit)
Max. resolution (number of steps per revolution x number of revolutions)	12 bit x 12 bit (4,096 x 4,096)
Error limits G	0.35° (at 20 °C) ¹⁾
Repeatability standard deviation σ_r	0.2° (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.

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

Interfaces

Communication interface	SSI
Initialization time	100 ms ¹⁾
Position forming time	125 µs
Process data	Position
Parameterising data	Number of steps per revolution Number of revolutions PRESET Counting direction Code type Offset of position bits Position error bit Round axis functionality SSI mode
Code type	Gray, binary
Code sequence parameter adjustable	CW/CCW (V/R) configurable via programming tool or cable

¹⁾ Valid positional data can be read once this time has elapsed.

²⁾ Minimum, LOW level (Clock +): 250 ns.

Clock frequency	2 MHz ²⁾
Set (electronic adjustment)	H-active (L = 0 - 3 V, H = 4,0 - U _s V)
CW/CCW (counting sequence when turning)	L-active (L = 0 - 1 V, H = 2,0 - U _s V)

¹⁾ Valid positional data can be read once this time has elapsed.

²⁾ Minimum, LOW level (Clock +): 250 ns.

Electrical data

Connection type	Male connector, M12, 8-pin, universal
Supply voltage	4.5 ... 32 V DC
Power consumption	≤ 1.5 W (without load)
Reverse polarity protection	✓
MTTFd: mean time to dangerous failure	230 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	Solid shaft, face mount flange
Shaft diameter	10 mm ¹⁾
Shaft length	24 mm
Weight	0.2 kg ²⁾
Shaft material	Stainless steel 1,4305
Flange material	Stainless steel 1,4305
Housing material	Stainless steel 1,4305
Start up torque	1 Ncm (+20 °C)
Operating torque	< 1 Ncm (+20 °C)
Permissible shaft loading	40 N (radial) 20 N (axial)
Operating speed	≤ 6,000 min ⁻¹ ³⁾
Moment of inertia of the rotor	2.5 gcm ²
Bearing lifetime	3.6 x 10 ⁸ revolutions
Angular acceleration	≤ 500,000 rad/s ²

¹⁾ For use with the adapters 2072298 and 2072295.

²⁾ Based on devices with male connector.

³⁾ Allow for self-heating of 3.5 K per 1,000 rpm when designing the operating temperature range.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP67 (IEC 60529) IP69K (IEC 60529)
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	-40 °C ... +100 °C
Storage temperature range	-40 °C ... +100 °C, without package

¹⁾ For side-mounted encoders (horizontal encoder shaft, vertical stator coupling), additional damping measures may be required in some cases as resonances can arise. Furthermore, the cable must be fastened with the shortest possible distance to the encoder.

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) ¹⁾

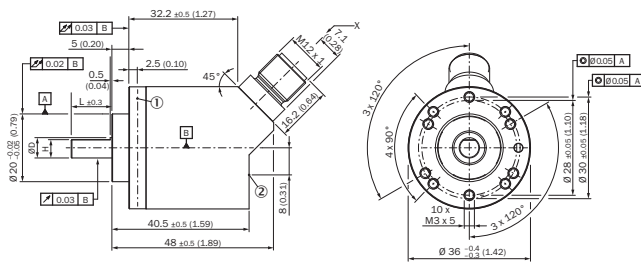
¹⁾ For side-mounted encoders (horizontal encoder shaft, vertical stator coupling), additional damping measures may be required in some cases as resonances can arise. Furthermore, the cable must be fastened with the shortest possible distance to the encoder.

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))

Solid shaft, face mount flange, male connector



Non-tolerated dimensions according to DIN-ISO 2768-mk

- ① Measuring point for operating temperature
- ② Measuring point for vibrations

Brief description		Type	Part no.
Shaft adaptation			
		KUP-0810-D	5326704
		KUP-0810-J	2128267
		KUP-1010-B	5312983
		KUP-1010-D	5326703
		KUP-1010-F	5312986
		KUP-1010-J	2127054
		KUP-1012-B	5312984
		KUP-1012-D	5326702
		KUP-1012-J	2128265
Others			
		DOL-1208-G02MAC1	6032866
		DOL-1208-G05MAC1	6032867
		DOL-1208-G10MAC1	6032868
		DOL-1208-G20MAC1	6032869
		DSL-2D08-G0M5AC2	2048439
		YF12ES8-0050S5586A	2097334
		YM12ES8-0050S5586A	2097337

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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