

AHM36A-S3CC000S03

AHS/AHM36

ABSOLUTE ENCODERS





Ordering information

Туре	Part no.
AHM36A-S3CC000S03	1074702

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

Illustration may differ









Detailed technical data

Features

Special device	✓
Specialty	Baudrate set to 500 kbit/s A copy of the packaging label is included in the scope of delivery for individual use of the customer
Standard reference device	AHM36A-S3CC014X12, 1065999

Performance

Number of steps per revolution (max. resolution)	16,384 (14 bit)
Number of revolutions	4,096 (12 bit)
$\label{eq:max_problem} \begin{tabular}{ll} \textbf{Max. resolution (number of steps per revolution x number of revolutions)} \end{tabular}$	14 bit x 12 bit (16,384 x 4,096)
Error limits G	0.35° (at 20 °C) ¹⁾
Repeatability standard deviation $\boldsymbol{\sigma}_{r}$	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.

Interfaces

Communication interface	CANopen		
Data protocol	CANopen CiA DS-301 V4.02, CiA DSP-305 LSS, Encoder Profile: - CIA DS-406, V3.2 Class C2		
Address setting	0 127, default: 5		
Data transmission rate (baud rate)	20 kbit/s 1,000 kbit/s, default: 125 kbit/s		
Initialization time	2 s ¹⁾		
Process data	Position, speed, Temperature		
Parameterising data	Number of steps per revolution Number of revolutions PRESET		

 $^{^{1)}\,\}mathrm{Valid}$ 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.

²⁾ See accessories.

	Counting direction Sampling rate for speed calculation Unit for output of the speed value Round axis functionality Electronic cams(2 channels x 8 cams)
Available diagnostics data	Minimum and maximum temperature Maximumspeed Power-on counter Operatinghours counter power-on/motion Counter of direction changes/number of movements cw/number of movements ccw Minimum andmaximum operating voltage
Status information	CANopen status via status LED
Bus termination	Via external terminator ²⁾

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

Electrical data

Connection type	Male connector, M12, 5-pin, universal		
Supply voltage	10 30 V		
Power consumption	≤ 1.5 W (without load)		
Reverse polarity protection	1		
MTTFd: mean time to dangerous failure	270 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	6 mm
Shaft length	12 mm
Weight	$0.12 \mathrm{kg}^{ 1)}$
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Zinc
Material, cable	PUR
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 2)}
Moment of inertia of the rotor	2.5 gcm ²
Bearing lifetime	3.6 x 10^8 revolutions
Angular acceleration	≤ 500,000 rad/s²

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

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3	
Enclosure rating	IP66 (IEC 60529)	

²⁾ See accessories.

 $^{^{2)}}$ Allow for self-heating of 3.5 K per 1,000 rpm when designing the operating temperature range.

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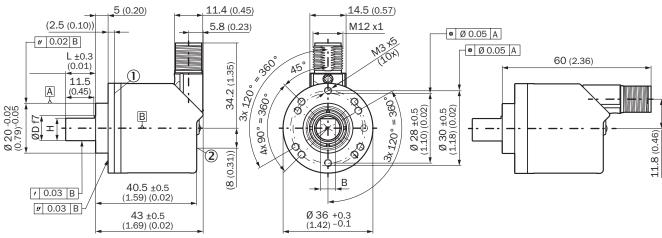
	IP67 (IEC 60529)	
Permissible relative humidity	90 % (Condensation not permitted)	
Operating temperature range	-40 °C +85 °C	
Storage temperature range	-40 °C +100 °C, without package	
Resistance to shocks	100 g, 6 ms (EN 60068-2-27)	
Resistance to vibration	20 g, 10 Hz 2,000 Hz (EN 60068-2-6)	

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

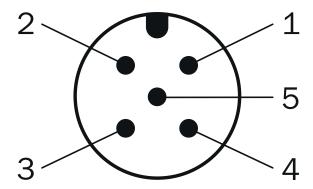
Dimensional drawing (Dimensions in mm (inch))

Solid shaft, face mount flange, male connector



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

PIN assignment



PIN	Signal	Wire colors (cable connection)	Function
1	CAN Shield	White	Screen
2	VDC	Red	Supply voltage Encoder 10 V DC 30 V DC
3	GND/CAN GND	Blue	0 V (GND)
4	CAN high	Black	CAN signal
5	CAN low	Pink	CAN signal
Housing	-	-	Screen

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