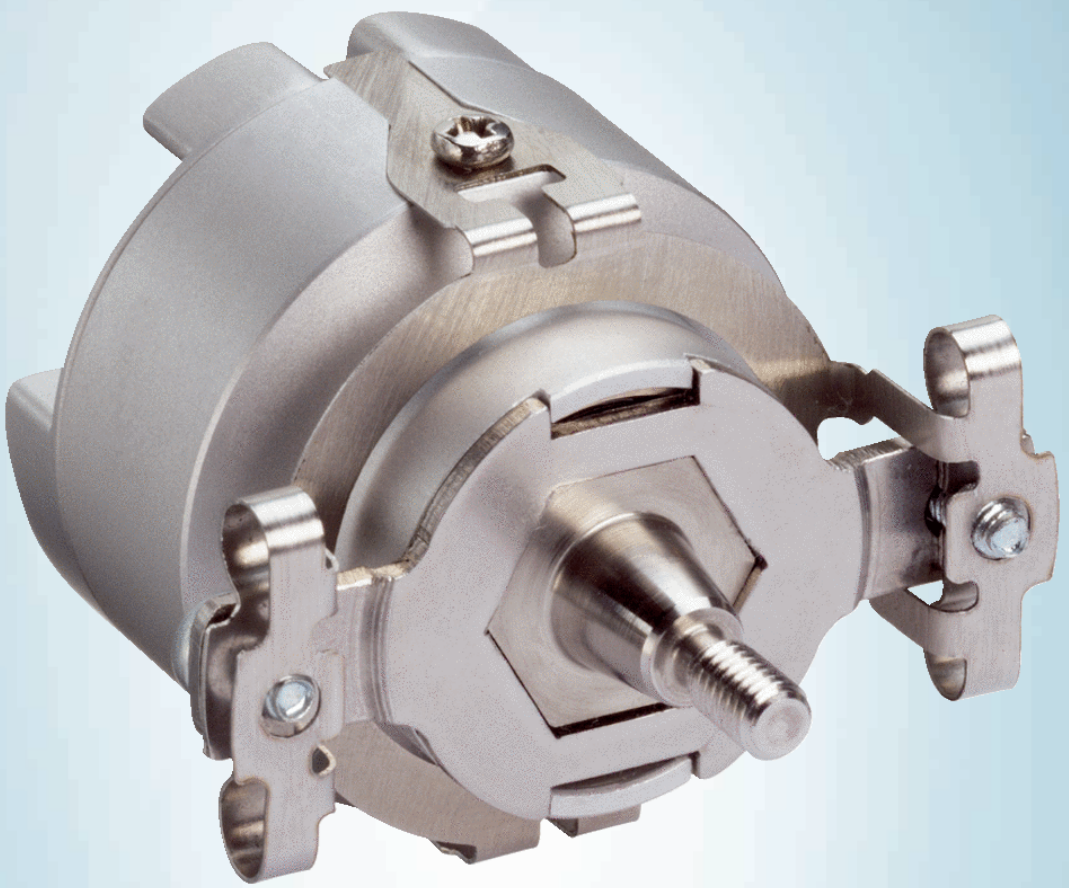
Product data sheet



SKM36S-HFA0-K02

SKS/SKM36

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

SICK
Sensor Intelligence.

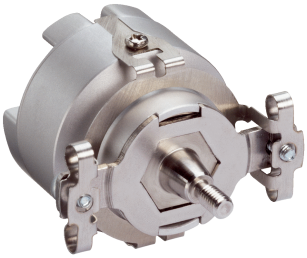


Illustration may differ

Ordering information

Type	Part no.
SKM36S-HFA0-K02	1036558

Other models and accessories ➜ www.sick.com/SKS_SKM36

Detailed technical data

Safety-related parameters

Safety integrity level	SIL2 (IEC 61508), SILCL2 (IEC 62061)
Category	3 (EN ISO 13849)
Performance level	PL d (EN ISO 13849) [1]
PFH_D: Probability of dangerous failure per hour	1.3×10^{-8} [2]
T_M (mission time)	20 years (EN ISO 13849)
MTTFd: mean time to dangerous failure	874 years (EN ISO 13849)

[1] For more detailed information on the exact configuration of your machine/unit, please consult your relevant SICK branch office.

[2] The values displayed apply to a diagnostic degree of coverage of 90%, which must be achieved by the external drive system.

Performance

Sine/cosine periods per revolution	128
Number of the absolute ascertainable revolutions	4,096
Total number of steps	16,777,216
Measuring step	2.5 ″ For interpolation of the sine/cosine signals with, e. g., 12 bits
Integral non-linearity	± 80 Winkelsekunden, Error limits for evaluating sine/cosine period
Differential non-linearity	± 40 ″, Non-linearity within a sine/cosine period
Operating speed	≤ 9,000 min^{-1}, up to which the absolute position can be reliably produced
Available memory area	1,792 Byte

Interfaces

Type of code for the absolute value	Binary
Code sequence	Increasing, when turning the shaft For clockwise rotation, looking in direction “A” (see dimensional drawing)
Communication interface	HIPERFACE®

Electrical data

Connection type	Male connector, 8-pin, radial
Supply voltage	7 V DC ... 12 V DC

[1] Without load.

Recommended supply voltage	8 V DC
Power consumption	60 mA [1]
Output frequency for sine/cosine signals	≤ 65 kHz

[1] Without load.

Mechanical data

Shaft version	Tapered shaft
Flange type / stator coupling	Spring mounting plate, stator coupling
Dimensions	See dimensional drawing
Weight	≤ 0.07 kg
Moment of inertia of the rotor	4.5 gcm²
Operating speed	9,000 min⁻¹, 9,000 U/min
Angular acceleration	≤ 500,000 rad/s²
Operating torque	0.2 Ncm
Start up torque	+ 0.3 Ncm
Permissible radial shaft movement	± 0.15 mm
Permissible axial shaft movement	± 0.3 mm
Permissible movement of the drive element, static	± 0.1 mm radial - 0.4 mm axial + 0.2 mm axial
Permissible movement of the drive element, dynamic	± 0.05 mm radial ± 0.1 mm axial
Life of ball bearings	3.6 x 10^9 revolutions

Ambient data

Operating temperature range	–20 °C ... +110 °C
Storage temperature range	–40 °C ... +125 °C, without package
Relative humidity/condensation	90 %, Condensation not permitted
Resistance to shocks	100 g, 6 ms, 6 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	50 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)
EMC	According to EN 61000-6-2 and EN 61000-6-3 [1]
Enclosure rating	IP50, with mating connector inserted and closed cover (according to IEC 60529)

[1] The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen. The GND-(0 V) connection of the supply voltage is also grounded here. If other shielding concepts are used, users must perform their own tests.

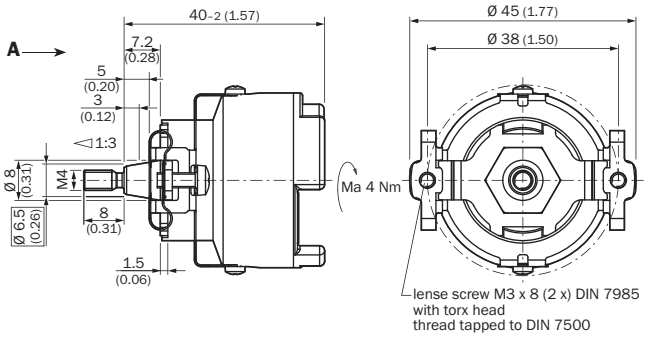
Classifications

ECl@ss 5.0	27270590
ECl@ss 5.1.4	27270590
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270590
ECl@ss 8.0	27270590
ECl@ss 8.1	27270590
ECl@ss 9.0	27270590

ECl@ss 10.0	27273805
ECl@ss 11.0	27273901
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

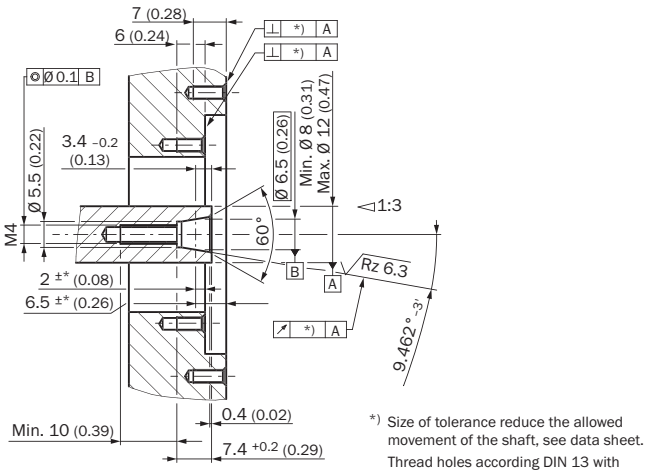
Dimensional drawing (Dimensions in mm (inch))

General tolerances according to DIN ISO 2768-mk



Attachment specifications

General tolerances according to DIN ISO 2768-mk

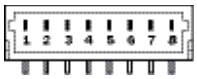


*) Size of tolerance reduce the allowed movement of the shaft, see data sheet.
Thread holes according DIN 13 with counterbore according DIN 76 min. 1.05 x diameter of thread.

PIN assignment

PIN	Signal	Colour of Wires	Explanation
1	U_s	red	Supply voltage 7 ... 12 V
2	+ SIN	white	Process data channel
3	REFSIN	brown	Process data channel
4	+ COS	pink	Process data channel
5	REFCOS	black	Process data channel
6	GND	blue	Ground connection
7	Data +	grey or yellow	RS-485-parameter channel
8	Data –	green or purple	RS-485-parameter channel

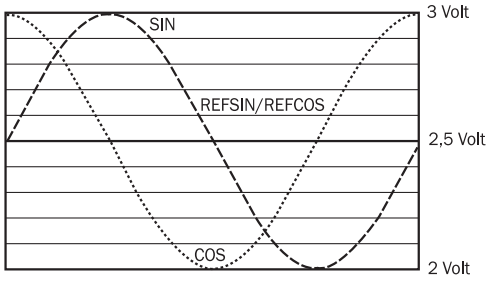
The housing is electrically connected to the motor housing, via the stator coupling.
The GND (0 V) connection of the supply voltage has no connection to the housing.



View of the plug-in face

Diagrams

Signal diagram for clockwise shaft rotation, looking in direction “A” (see dimensional drawing) 1 period = 360° : 128



Recommended accessories

Other models and accessories ➜ www.sick.com/SKS_SKM36

	Brief description	Type	Part no.
Programming and configuration tools			
	SVip® LAN programming tool for all motor feedback systems	PGT-11-S LAN	1057324
	SVip® WLAN programming tool for all motor feedback systems	PGT-11-S WLAN	1067474

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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

For us, that is “Sensor Intelligence.”

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