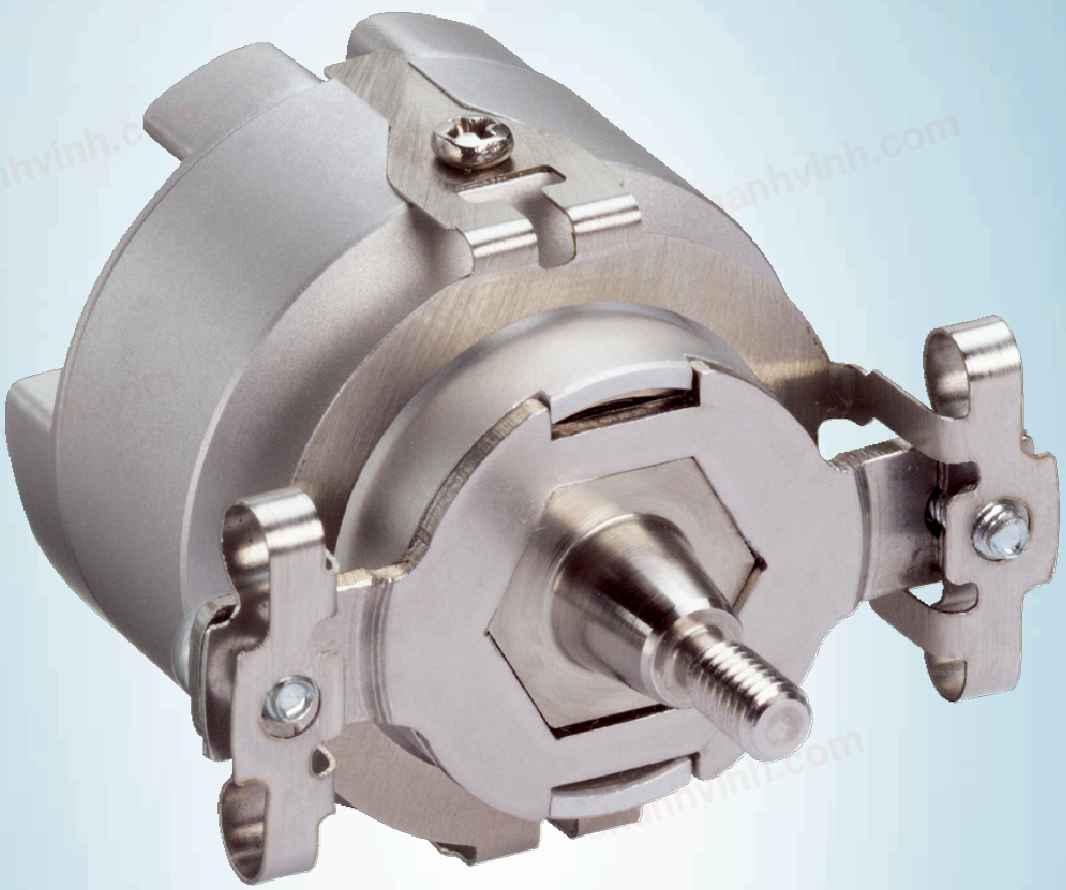
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Product data sheet



SKS36-HFA0-K02

SKS/SKM36

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

SICK
Sensor Intelligence.

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SKS36-HFA0-K02 | SKS/SKM36

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

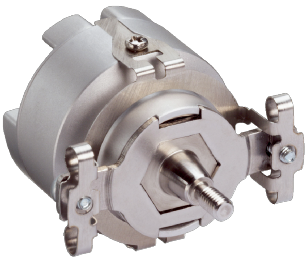


Illustration may differ

Ordering information

Type	Part no.
SKS36-HFA0-K02	1034095

Please use the following part number for a packaging unit of 40 pcs: 1131702.

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

Detailed technical data

Performance

Sine/cosine periods per revolution	128
Number of the absolute ascertainable revolutions	1
Total number of steps	4,096
Measuring step	2.5 ″ For interpolation of the sine/cosine signals with, e. g., 12 bits
Integral non-linearity	± 80 ″, Error limits for evaluating sine/cosine period
Differential non-linearity	± 40 ″, Non-linearity within a sine/cosine period
Operating speed	≤ 12,000 min^{-1}, up to which the absolute position can be reliably produced
Available memory area	1,792 Byte
System accuracy	± 120 ″

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), For clockwise shaft 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
Recommended supply voltage	8 V DC
Current consumption	60 mA [1]
Output frequency for sine/cosine signals	≤ 65 kHz
MTTF: mean time to dangerous failure	210 years (EN ISO 13849) [2]

[1] Without load.

[2] 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 60 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Mechanical data

Shaft version	Tapered shaft
Flange type / stator coupling	Spring mounting plate, stator coupling

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Dimensions	See dimensional drawing
Weight	≤ 0.07 kg
Moment of inertia of the rotor	4.5 gcm²
Operating speed	12,000 min⁻¹, 12,000 U/min
Angular acceleration	≤ 500,000 rad/s²
Operating torque	0.2 Ncm
Start up torque	+ 0.3 Ncm
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 (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 (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.

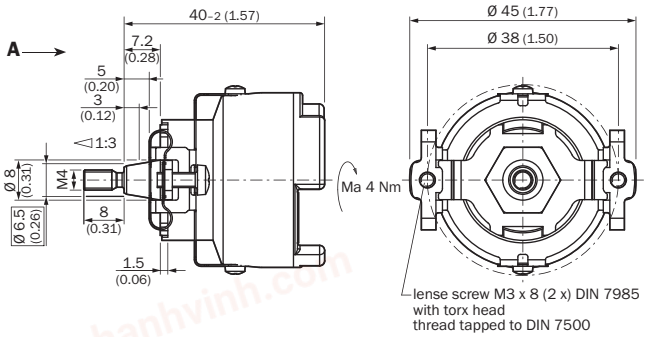
Classifications

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
eCl@ss 12.0	27273901
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

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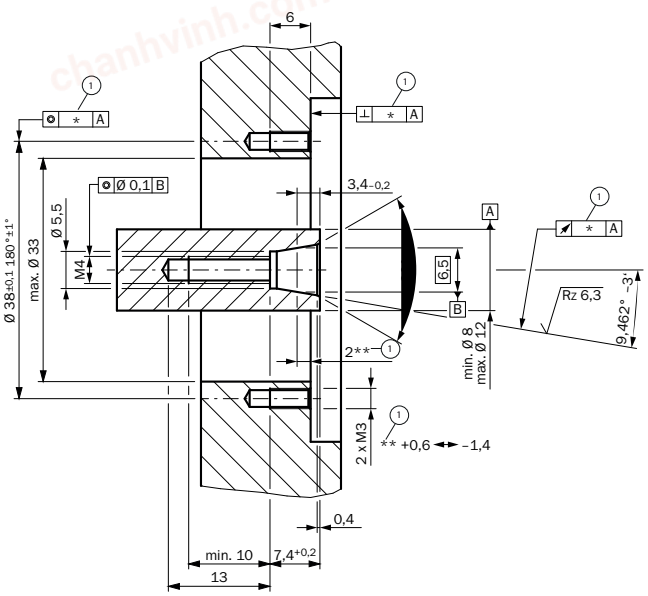
Dimensional drawing (Dimensions in mm (inch))

General tolerances according to DIN ISO 2768-mk



Attachment specifications

General tolerances according to DIN ISO 2768-mk



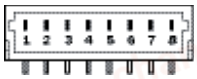
① The size of the tolerance reduces the permissible wave movement, see data sheet

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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

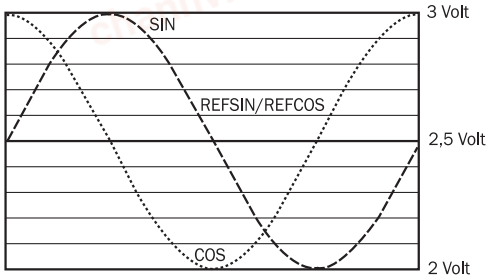
The housing is electrically connected to the motor housing, via the stator coupling.
The GND (0 V) connection of the supply voltage has no connection to the housing.



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
Other mounting accessories			
	BEF-MW-SKX36	BEF-MW-SKX36	2031079
Plug connectors and cables			
	Head A: female connector, JST, 8-pin, straight Head B: Flying leads Cable: HIPERFACE®, unshielded, 0.2 m	DOL-0J08-G0M2XB6	2031086

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SICK AT A GLANCE

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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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