

SKM36S-HFA0-K02

SKS/SKM36-S

SAFE MOTOR FEEDBACK SYSTEMS

SICK
Sensor Intelligence.

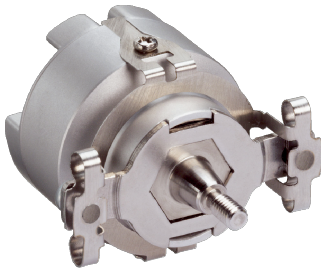


Illustration may differ



Ordering information

Type	part no.
SKM36S-HFA0-K02	1036558

Other models and accessories → www.sick.com/SKS_SKM36-S

Detailed technical data

Safety-related parameters

Safety integrity level	SIL 2 (IEC 61508), SILCL2 (IEC 62061)
Category	3 (EN ISO 13849)
Performance level	PL d (EN ISO 13849) ¹⁾
PFH (mean probability of a dangerous failure per hour)	1.30×10^{-8} ²⁾
T_M (mission time)	20 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 bit
Integral non-linearity	± 80 ", 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
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)
Communication interface	HIPERFACE®

Electronics

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

¹⁾ Without load.

Mechanics

Shaft version	Tapered shaft
Flange type / stator coupling	Stator coupling
Dimensions	See dimensional drawing
Weight	0.07 kg
Moment of inertia of the rotor	4.5 gcm ²
Operating speed	9,000 min ⁻¹
Angular acceleration	≤ 500,000 rad/s ²
Operating torque	0.2 Ncm
Start up torque	+ 0.3 Ncm
Permissible movement static	± 0.1 mm, - 0.4 mm, + 0.2 mm radial, axial, axial
Permissible movement 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 (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

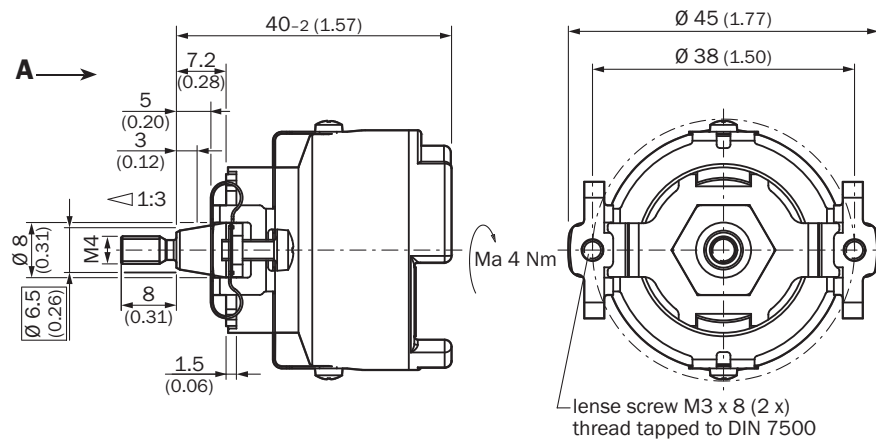
ECLASS 5.0	27270590
ECLASS 5.1.4	27270590
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270590
ECLASS 8.0	27270590
ECLASS 8.1	27270590
ECLASS 9.0	27270590

ECLASS 10.0	27273805
ECLASS 11.0	27273901
ECLASS 12.0	27273901
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
EC-Type-Examination approval	✓

Dimensional drawing General tolerances according to DIN ISO 2768-mk



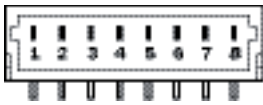
Dimensions in mm (inch)

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

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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