

ONLINE DATA SHEET
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Motor feedback systems rotary HIPERFACE®
SKS/SKM36

SKM36S-HFA0-K02



SICK
Sensor Intelligence.

Motor feedback systems rotary HIPERFACE® SKS/SKM36

Model Name > SKM36S-HFA0-K02
Part No. > 1036558

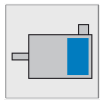




Illustration may differ

At a glance

- Motor feedback systems for the standard performance range
- 128 sine/cosine periods per revolution
- Absolute position with a resolution of 4,096 increments per revolution and 4,096 revolutions with the multiturn system
- Programming of the position value and electronic type label
- HIPERFACE® interface
- Integrated version and stand-alone design
- Certified according to SIL2/PL d (only valid for SKS36S/SKM36S-H...)
- Conforms to RoHs

Your benefits

- The small dimension allows manufacturers of low-power and minimal-power motors to considerably reduce the size of their motors
- The stand-alone version is ideally suited as a master and path encoders
- The SKS/SKM36 motor feedback systems have strongly penetrated the drive technology market
- The consistent mechanical components in SEK/SEL37 allow for a high degree of flexibility with various encoder systems

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]
TM (mission time):	20 a (EN ISO 13849)
PFHD: probability of dangerous failure per hour:	1.3 * 1E-08 [2]
MTTFd: mean time to dangerous failure:	874 a (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

Number of sine/cosine periods per revolution:	128
Number of the absolute ascertainable revolutions:	4,096 (Multiturn)
Total number of steps:	16,777,216
Measuring step:	2.5 angular seconds at interpolation of the sine/cosine signals with e.g. 12 Bit
Error limits for the digital absolute value:	± 320 angular seconds (via RS485)

Differential non-linearity:	± 40 angular seconds (Non-linearity within a sine/cosine period)
Operating speed:	9,000 /min, up to which the absolute position can be reliably produced
Available memory area:	1,792 Byte, 1,792 Byte (E2PROM 2048)
Integral non-linearity typ.:	± 80 angular seconds (Error limits for evaluating sine/cosine period)

Mechanical data

Flange type/stator coupling:	Spring mounting plate
Dimensions:	See dimensional drawing
Mass:	0.07 kg
Moment of inertia of the rotor:	4.5 gcm²
Maximum angular acceleration:	500,000 rad/s²
Operating torque:	0.2 Ncm
Start up torque:	0.3 Ncm
Permissible shaft movement, radial, static:	± 0.1 mm
Permissible shaft movement, radial, dynamic:	± 0.05 mm
Permissible shaft movement, axial, static:	± 0.2 mm
Permissible shaft movement, axial, dynamic:	± 0.1 mm
Life of ball bearings:	3.6 x 10^9 revolutions
Connection type:	Connector, 8-pin, radial
Shaft version:	Tapered shaft

Electrical data

Electrical interface:	HIPERFACE
Operating voltage range/supply Voltage:	7 V DC ... 12 V DC
Recommended supply voltage:	8 V DC
Output frequency for sine/cosine signals:	0 kHz ... 65 kHz
Operating power consumption (no load):	60 mA [1]

[1] Without load

Interfaces

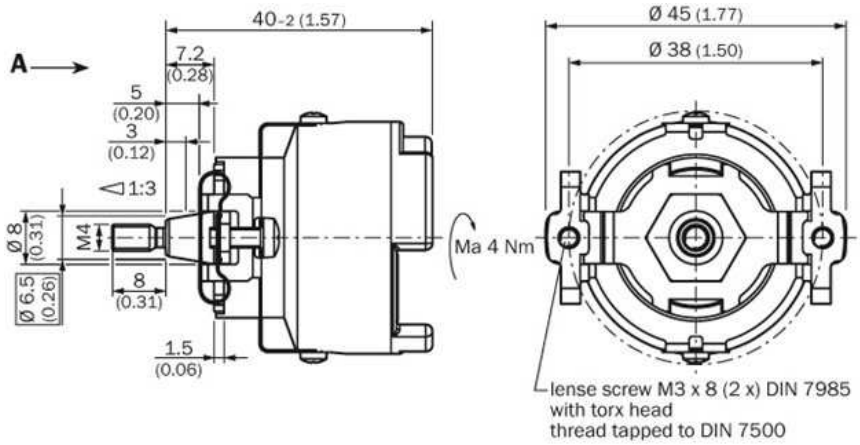
Type of code for the absolute value:	Binary
Code sequence:	Increasing, for clockwise shaft rotation, looking in direction "A" (see dimensional drawing)
Interface signals:	Parameter channel RS 485: digital, Process data channel SIN, REFSIN, COS, REFCOS: analog, differential

Ambient data

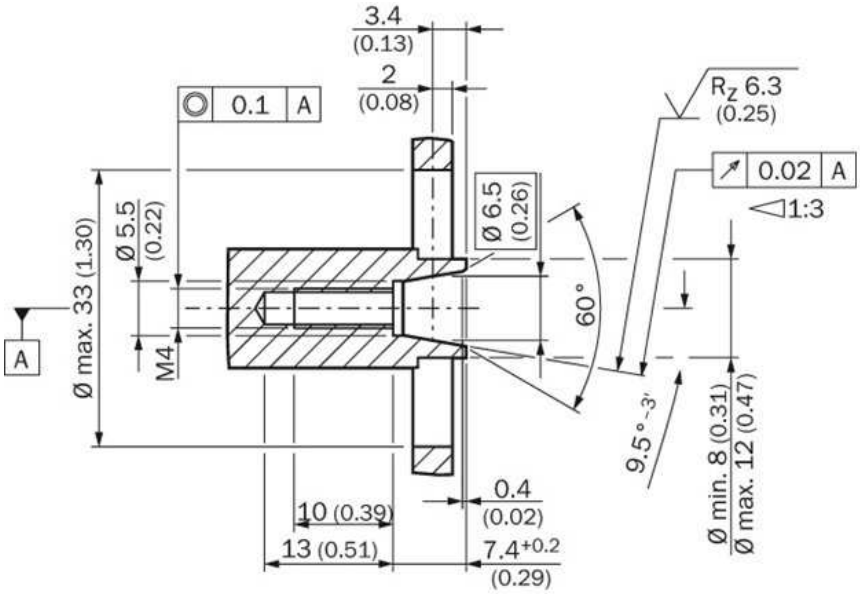
Working temperature range:	-20 °C ... +110 °C
Storage temperature range:	-40 °C ... +125 °C, without package
Relative humidity/Condensation:	90 %, Condensation not permitted
Resistance to shocks:	100 g/6 ms/according to EN 60068-2-27
Resistance to vibration:	50 g/10 Hz/2,000 Hz/according to EN 60068-2-6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

[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. This is also where the GND (0 V) connection of the power supply voltage is linked to earth. Users must perform their own tests when other screen designs are used.

Dimensional drawing



Proposed fitting



All dimensions in mm (inch)

A4 4c int43

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