



SEK37-HFA0-K02

SEK/SEL

MOTOR FEEDBACK SYSTEMS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
SEK37-HFA0-K02	1037376

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

Detailed technical data

Safety-related parameters

MTTF_D (mean time to dangerous failure)	275 years (EN ISO 13849) ¹⁾
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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 60 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Performance

Sine/cosine periods per revolution	16
Number of the absolute ascertainable revolutions	1
Maximum number of steps per revolution	512 via RS485
Total number of steps	512
Measuring step	20 " For interpolation of the sine/cosine signals with, e. g., 12 bits
Integral non-linearity	± 288 ", Error limits for evaluating sine/cosine period Typical values at nominal position ± 0.1 mm und +20 °C
Differential non-linearity	± 144 ", Non-linearity within a sine/cosine period, typical values at nominal position ± 0.1 mm und +20 °C
Operating speed	≤ 6,000 min ⁻¹ , up to which the absolute position can be reliably produced
Available memory area	1,792 Byte
System accuracy	± 432 "

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, axial
Supply voltage	7 V DC ... 12 V DC
Recommended supply voltage	8 V DC
Current consumption	< 50 mA ¹⁾

¹⁾ Without load.

Mechanical data

Shaft version	Tapered shaft
Dimensions	See dimensional drawing
Weight	≤ 0.05 kg
Moment of inertia of the rotor	1 gcm ²
Operating speed	12,000 min ⁻¹ , 12,000 U/min
Angular acceleration	≤ 500,000 rad/s ²
Permissible radial shaft movement	± 0.15 mm
Permissible axial shaft movement	± 0.3 mm

Ambient data

Operating temperature range	-40 °C ... +115 °C
Storage temperature range	-50 °C ... +125 °C, without package
Relative humidity/condensation	90 %, Condensation not permitted
Resistance to shocks	100 g, 10 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	IP40, built-on version, with mating connector inserted and closed cover (IEC 60529)

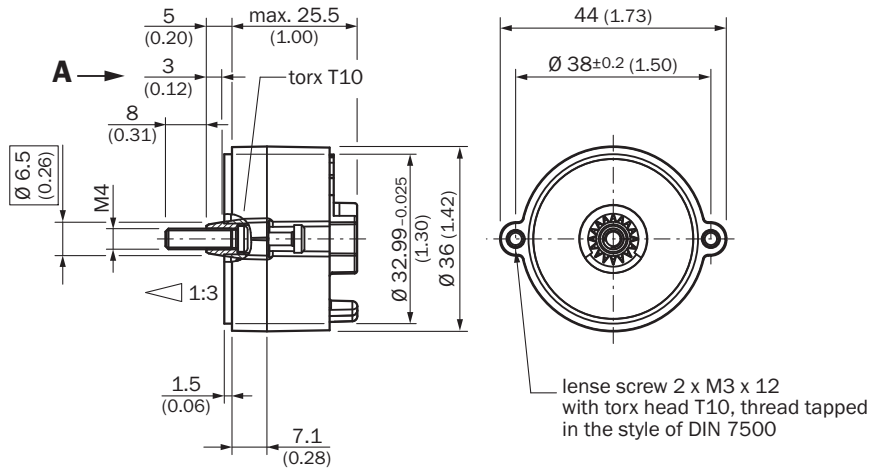
¹⁾ The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen. If other shielding concepts are used, users must perform their own tests.

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

Dimensional drawing (Dimensions in mm (inch))

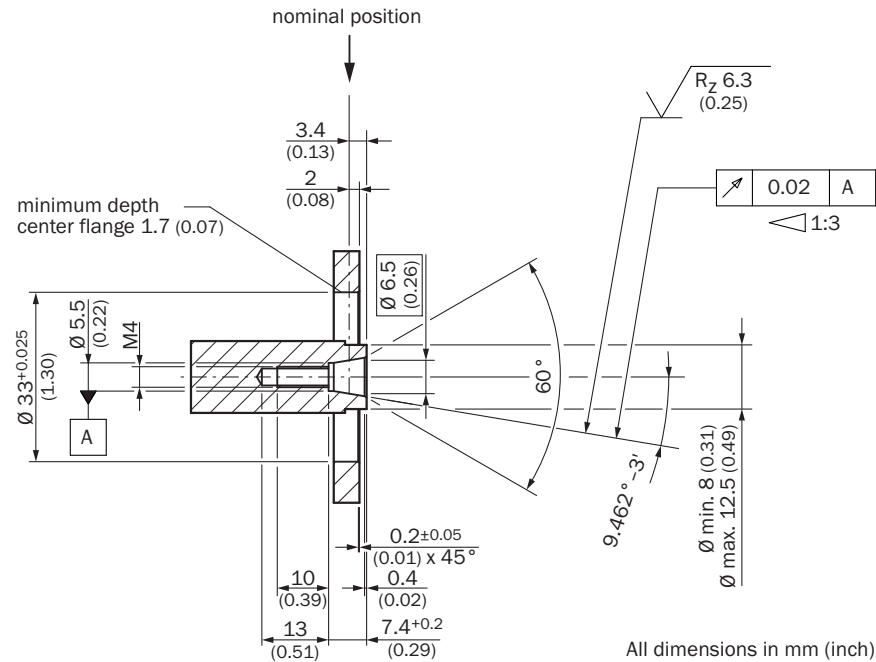
General tolerances according to DIN ISO 2768-mk



Axial

Attachment specifications

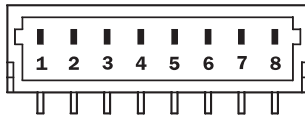
General tolerances according to DIN ISO 2768-mk



Axial

PIN assignment

View of the plug-in face

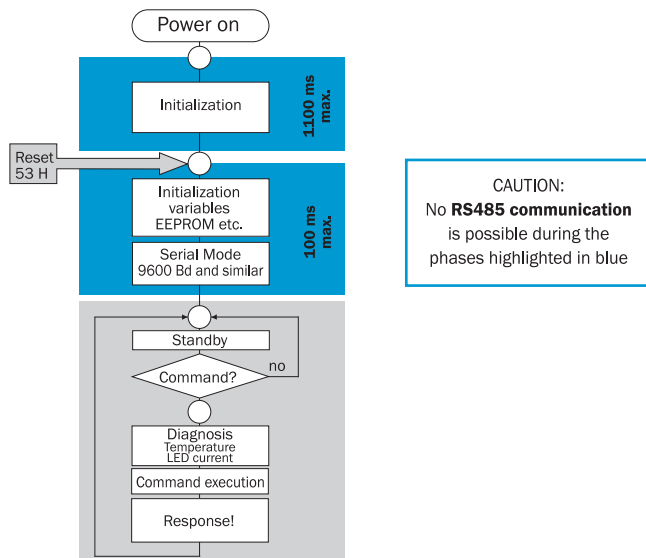
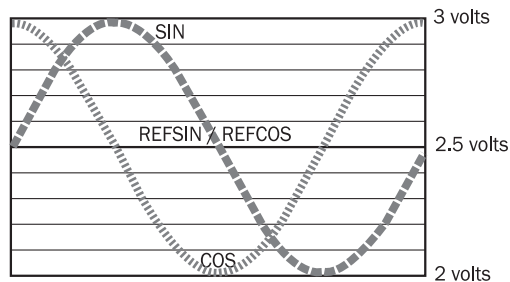


PIN	Signal	Wire colors (cable connection)	Explanation
1	U _S	Red	Supply voltage
2	+ SIN	White	Process data channel
3	REFSIN	Brown	Process data channel
4	+ COS	Pink	Process data channel
5	REFCOS	Black	Process data channel
6	GND	Blue	Ground connection
7	Data +	Gray or yellow	Parameter channel RS 485
8	Data -	Green or purple	Parameter channel RS 485

The GND connection (0 V) of the supply voltage is not connected to the housing

Diagrams

Signal diagram for clockwise shaft rotation, looking in direction "A" (see dimensional drawing) 1 period = 360° : 16



Recommended accessories

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

	Brief description	Type	Part no.
Others			
	• Connection type head A: Flying leads • Connection type head B: Flying leads • Signal type: HIPERFACE®, HIPERFACE® • Cable: 8-wire, PUR, halogen-free • Description: HIPERFACE®, HIPERFACE®, shielded 	LTG-2708-MW	6028361
		DOL-0J08-G0M2XB6	2031086

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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.”

WORLDWIDE PRESENCE:

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