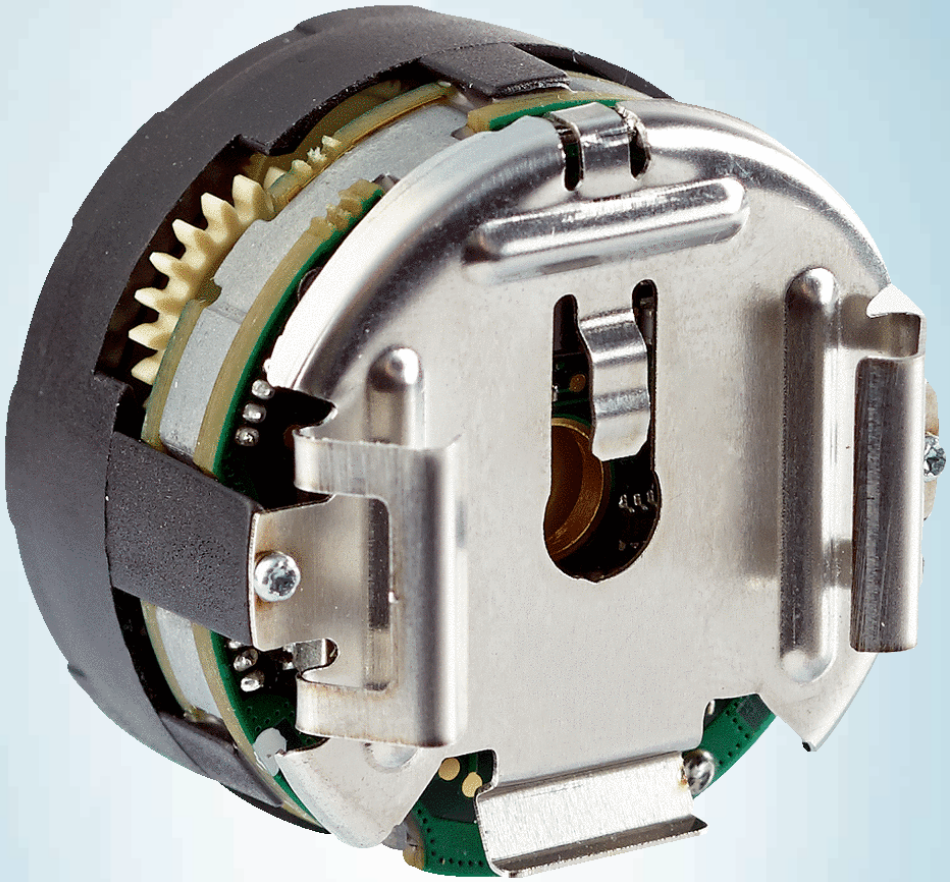
Product data sheet



SEL34-HFB0K02

SEK/SEL

MOTOR FEEDBACK SYSTEMS

SICK
Sensor Intelligence.

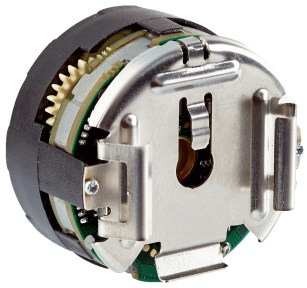


Illustration may differ

Ordering information

Type	Part no.
SEL34-HFB0K02	1053403

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]

[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	4,096
Maximum number of steps per revolution	2,097,152 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 ″, Error limits for evaluating 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	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	≤ 50 mA

Mechanical data

Shaft version	Tapered shaft
Weight	≤ 0.04 kg
Moment of inertia of the rotor	1 gcm²
Operating speed	12,000 min⁻¹, 12,000 U/min
Angular acceleration	≤ 500,000 rad/s²
Permissible radial shaft movement	± 0.15 mm
Permissible axial shaft movement	± 0.3 mm

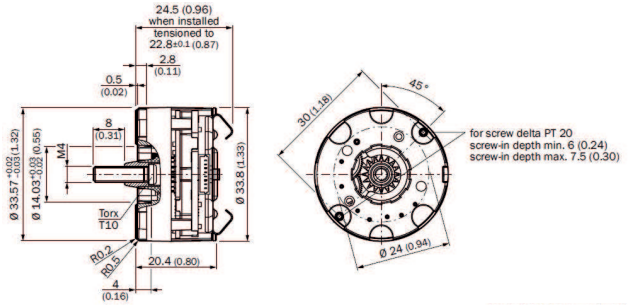
Ambient data

Operating temperature range	–20 °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 (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
Enclosure rating	IP20, built-on version, with mating connector inserted and closed cover (IEC 60529)

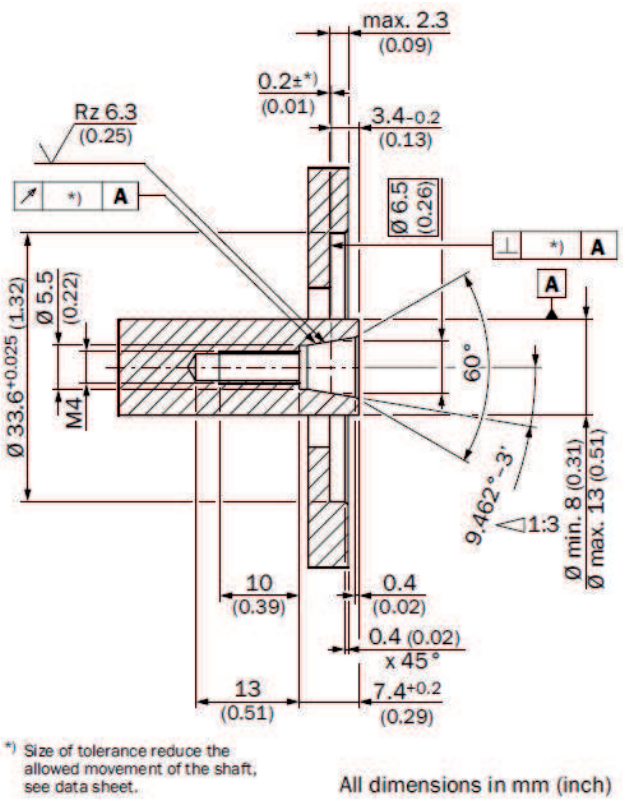
Classifications

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))



Attachment specifications

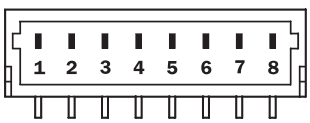


*) Size of tolerance reduce the allowed movement of the shaft, see data sheet.

All dimensions in mm (inch)

PIN assignment

View of the plug-in face

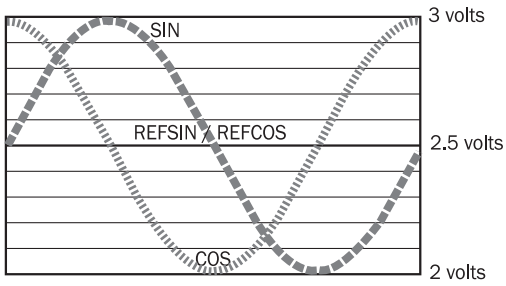


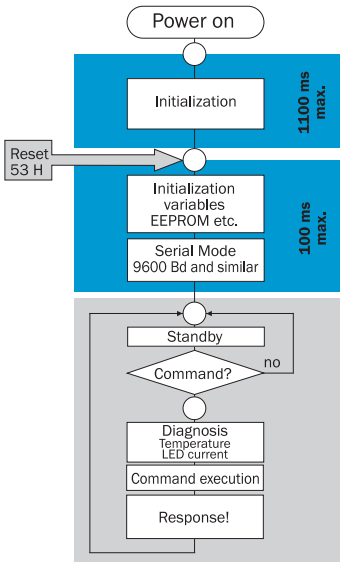
PIN	Signal	Wire colors (cable connection)	Explanation
1	U_S	Red	Supply voltage

PIN	Signal	Wire colors (cable connection)	Explanation
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





CAUTION:
No **RS485 communication** is possible during the phases highlighted in blue

Recommended accessories

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

Brief description	Type	Part no.
Other mounting accessories		
Test gauge for SEK/SEL34, SEK/SEL37, and EES/EEM37	BEF-MW-PL	2084768
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

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com