



SEK160-HN110AK02

SEK160

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

SICK
Sensor Intelligence.

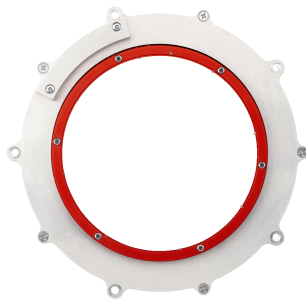


Illustration may differ

Ordering information

Type	Part no.
SEK160-HN110AK02	1038272

Other models and accessories → www.sick.com/SEK160

Detailed technical data

Performance

Number of sine/cosine periods per revolution	128
Number of the absolute ascertainable revolutions	1
Total number of steps	4,096 via RS485
Measuring step	2.5 Winkelsekunden For interpolation of the sine/cosine signals with, e. g., 12 bits
Integral non-linearity typ.	± 36 Winkelsekunden, Error limits for evaluating sine/cosine period, Typical values for nominal position ± 0.1 mm and + 20 °C
Differential non-linearity	± 21 Winkelsekunden, Non-linearity within a sine/cosine period, Typical values for nominal position ± 0.1 mm and + 20 °C
Operating speed	1,500 min ⁻¹ , up to which the absolute position can be reliably produced
Latency	100 µs

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®
Available memory area	1,792 Byte

Electrical data

Supply voltage range	7 V DC ... 12 V DC
Recommended supply voltage	8 V DC
Operating power consumption (no load)	≤ 150 mA ¹⁾

¹⁾ Without load.

Mechanical data

Shaft version	Through hollow shaft
Dimensions	See dimensional drawing
Weight	0.27 kg
Moment of inertia of the rotor	2,860 gcm ²
Operating speed	1,500 min ⁻¹

¹⁾ Relative to the installation position, as described in the assembly instructions (order nr. 8013609) and in the proposed customer fitting.

Angular acceleration	≤ 28,000 rad/s ²
Permissible shaft movement, radial, static	± 0.2 mm
Permissible shaft movement, radial, dynamic	± 0.05 mm
Permissible axial shaft movement	± 0.5 mm ¹⁾
Connection type	Male connector M12, 8-pin

¹⁾ Relative to the installation position, as described in the assembly instructions (order nr. 8013609) and in the proposed customer fitting.

Ambient data

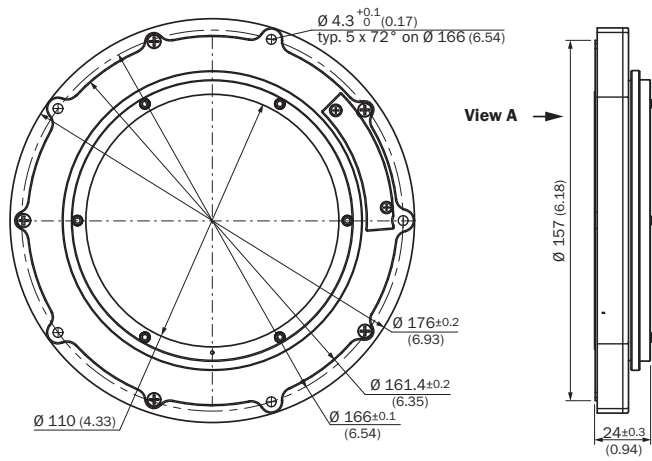
Operating temperature range	-30 °C ... +115 °C
Storage temperature range	-50 °C ... +125 °C, without package
Relative humidity/condensation	90 %, Condensation not permitted
Resistance to shocks	100 g, 6 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	30 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)
EMC	According to EN 61000-6-2 and EN 61000-6-3 ¹⁾
Enclosure rating	IP40, with mating connector inserted and closed cover (according to 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 shield. Users must perform their own tests when other shield designs are used.

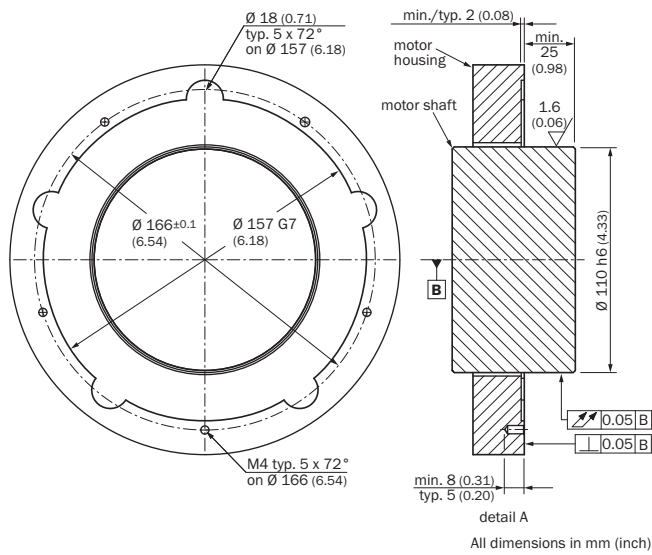
Classifications

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
ETIM 5.0	EC001486
ETIM 6.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

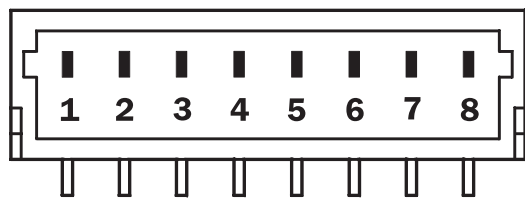


Proposed fitting



PIN assignment

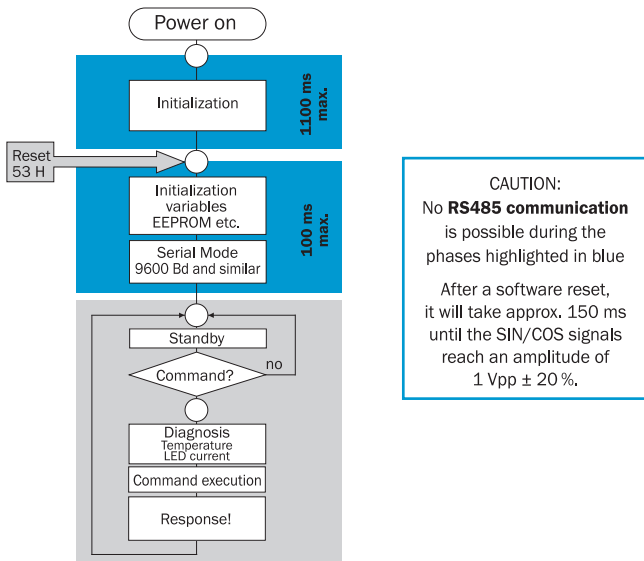
View of the plug-in face



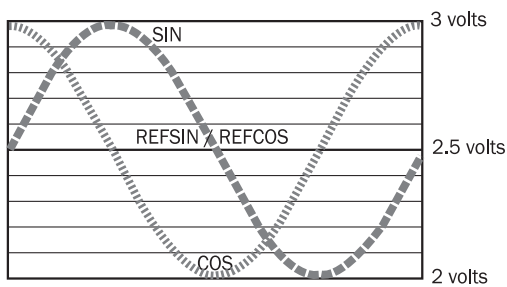
PIN	Signal	Colour of wires (cable outlet)	Explanation
1	U _s	Red	Supply voltage
2	+ SIN	White	Process data channel
3	REFSIN	Brown	Process data channel
4	+ COS	Pink	Process data channel
5	REFCOS	Black	Process data channel
6	GND	Blue	Ground connection
7	Data +	Gray or yellow	Parameter channel RS 485
8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

The GND (0 V) connection of the supply voltage has no connection to the housing

Diagram










Signal diagram for clockwise shaft rotation, looking in direction "A" (see dimensional drawing) 1 period = 360° : 64/128/256



Recommended accessories

Other models and accessories → www.sick.com/SEK160

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: cable Head B: cable Cable: HIPERFACE®, HIPERFACE®, drag chain use, PUR, halogen-free, shielded	LTG-2708-MW	6028361
	Head A: female connector, JST, 8-pin, straight Head B: cable Cable: HIPERFACE®, unshielded, 0.2 m	DOL-0J08-G0M2XB6	2031086
	Head A: female connector, JST, 8-pin, straight Head B: cable Cable: HIPERFACE®, shielded, 0.5 m	DOL-0J08-G0M5XB6	2056250
	Head A: female connector, M23, 12-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJB2	2071328
	Head A: female connector, JST, 8-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJB6	2071327
	Head A: female connector, M12, 8-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJC1	2071329
	Head A: female connector, terminal box, 8-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJC6	2071330

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