



SEL52-HNA0-K02

SEK/SEL52

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
SEL52-HNA0-K02	1037373

Other models and accessories → www.sick.com/SEK_SEL52

Detailed technical data

Performance

Number of sine/cosine periods per revolution	16
Number of the absolute ascertainable revolutions	4,096
Maximum number of steps per revolution	512 via RS485
Total number of steps	2,097,152
Measuring step	20 Winkelsekunden For interpolation of the sine/cosine signals with, e. g., 12 bits
Integral non-linearity typ.	± 288 Winkelsekunden, Error limits for evaluating sine/cosine period, Typical values for nominal position ± 0.1 mm and + 20 °C
Differential non-linearity	± 72 Winkelsekunden, Non-linearity within a sine/cosine period, Typical values for nominal position ± 0.1 mm and + 20 °C
Operating speed	6,000 min ⁻¹ , up to which the absolute position can be reliably produced

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)	< 50 mA ¹⁾

¹⁾ Without load.

Mechanical data

Shaft version	Blind hollow shaft, through hollow shaft
Dimensions	See dimensional drawing
Weight	0.07 kg
Moment of inertia of the rotor	7 gcm ²
Operating speed	10,000 min ⁻¹ , 12,000 U/min

Angular acceleration	≤ 500,000 rad/s ²
Permissible radial shaft movement	± 0.15 mm
Permissible axial shaft movement	± 0.5 mm
Connection type	Male connector M12, 8-pin, axial

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, 10 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	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	IP20, built-on version, with mating connector inserted and closed cover 2048234 (according to IEC 60529) IP20, built-on version, with mating connector inserted and opened cover 2048232 (according to IEC 60529)

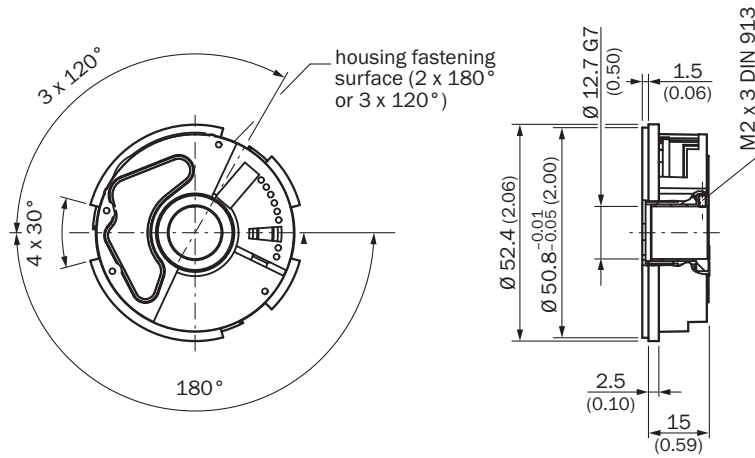
¹⁾ The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen and with the cover (order number 2048234) in use. If other screening concepts are used, users must perform their own tests.

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))

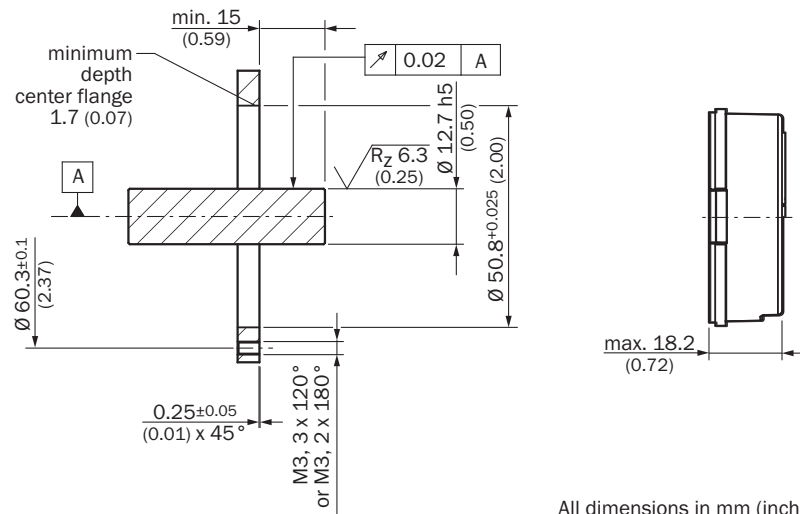
General tolerances according to DIN ISO 2768-mk



Hollow shaft

Proposed fitting

General tolerances according to DIN ISO 2768-mk

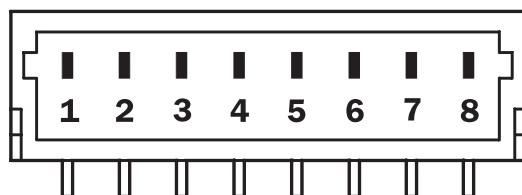


All dimensions in mm (inch)

Hollow shaft

PIN assignment

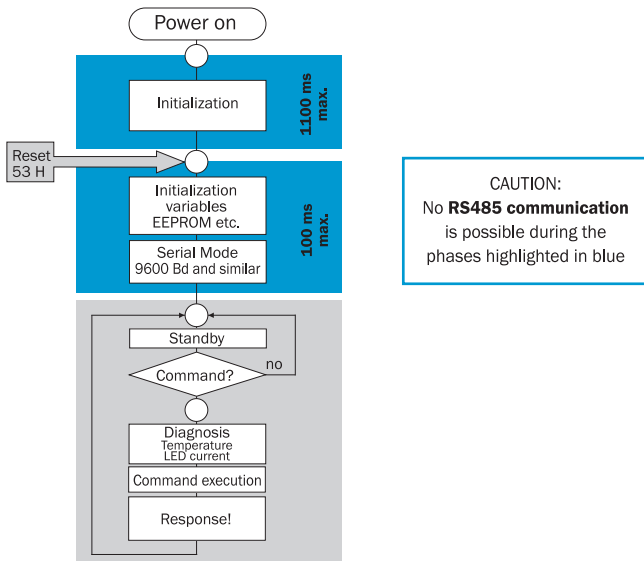
View of the plug-in face



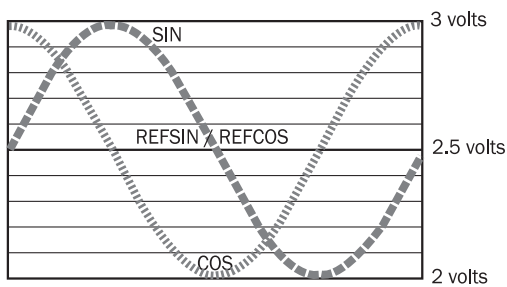
PIN	Signal	Colour of wires (cable outlet)	Explanation
1	U _s	Red	Supply voltage
2	+ SIN	White	Process data channel
3	REFSIN	Brown	Process data channel
4	+ COS	Pink	Process data channel
5	REFCOS	Black	Process data channel
6	GND	Blue	Ground connection
7	Data +	Gray or yellow	Parameter channel RS 485
8	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° : 16



Recommended accessories

Other models and accessories → www.sick.com/SEK_SEL52

	Brief description	Type	Part no.
Device protection (mechanical)			
	Open cover for SEK/SEL52 with hollow shaft	BEF-GA-SEY52TS1	2048232
Other mounting accessories			
	Assembly tool SEK52/SEL52	BEF-MW-SEY52	2048235
	Servo clamps, small, for servo flange (clamping claws, mounting eccentric), 3 pcs, without mounting hardware, without mounting hardware	BEF-WK-RESOL	2039082
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, 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