ONLINE DATA SHEET
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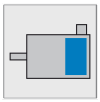
Motor feedback systems rotary HIPERFACE®

SEL37-HFA0-K02

SICK
Sensor Intelligence.

Motor feedback systems rotary HIPERFACE®

Model Name	**> SEL37-HFA0-K02**
Part No.	**> 1037377**



At a glance

- Motor feedback systems for the basic performance range
- 16 sine/cosine periods per revolution
- Absolute position with a resolution of 512 increments per revolution and 4,096 revolutions with the multiturn system
- Programming of the position value
- Electronic type label
- HIPERFACE® interface
- Installed version with tapered shaft and axial or radial connector outlet
- 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 SEK/SEL37 motor feedback systems are excellently suited for use under rough environmental conditions
- The capacitive principle of measurement with holistic scanning allows for high axial and radial tolerances
- The consistent mechanical components in SKS/SKM36 allow for a high degree of flexibility with various encoder systems

Performance

Number of sine/cosine periods per revolution:	16
Number of the absolute ascertainable revolutions:	4,096 (Multiturn)
Total number of steps:	2,097,152
Measuring step:	20 angular seconds (at interpolation of the sine/cosine signals with e.g. 12 Bit)
Integral non-linearity typ.:	± 288 angular seconds (Error limits for evaluating sine/cosine period) typical values at nominal position ± 0,1 mm and + 20 °C
Differential non-linearity:	± 144 angular seconds (Non-linearity within a sine/cosine period) typical values at nominal position ± 0,1 mm and + 20 °C
Operating speed:	6,000 /min, up to which the absolute position can be reliably produced
Available memory area:	1,792 Byte (EEPROM 2048) [1)]
Maximum number of steps per revolution:	512 Via RS485

[1)] If applying the electronic type label, in connection with numeric controllers, attention should be paid to Patent EP 425 912 B 2, application of the elektronic type label in connection with speed regulation ist exempt.

Mechanical data

Dimensions:	See dimensional drawing
Mass:	0.05 kg
Moment of inertia of the rotor:	1 gcm²
Maximum operating speed:	12,000 /min
Maximum angular acceleration:	500,000 rad/s²
Connection type:	Connector, 8-pin, axial
Permissible axial shaft movement:	± 0.3 mm
Shaft version:	Tapered shaft
Permissible radial shaft movement:	± 0.15 mm

Electrical data

Electrical interface:	HIPERFACE
Operating voltage range/supply Voltage:	7 V DC ... 12 V DC
Recommended supply voltage:	8 V DC
Operating current:	< 50 mA [1)]

[1)] Without load

Interfaces

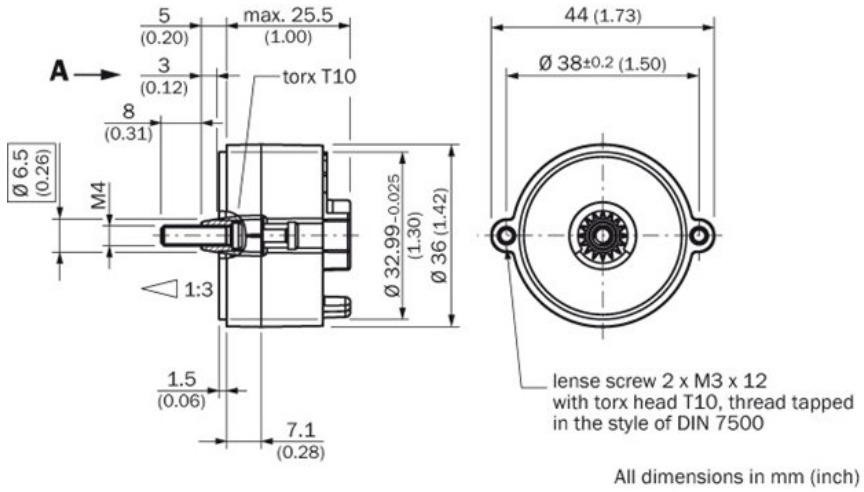
Type of code for the absolute value:	Binary
Code sequence:	Increasing, for clockwise shaft rotation, looking in direction "A" (see dimensional drawing)
Interface signals:	Process data channel SIN, REFSIN, COS, REFCOS: analog, differential parameter channel RS 485: digital

Ambient data

Working 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 (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 40, according to IEC 60529, built-on version, with mating connector inserted and closed cover

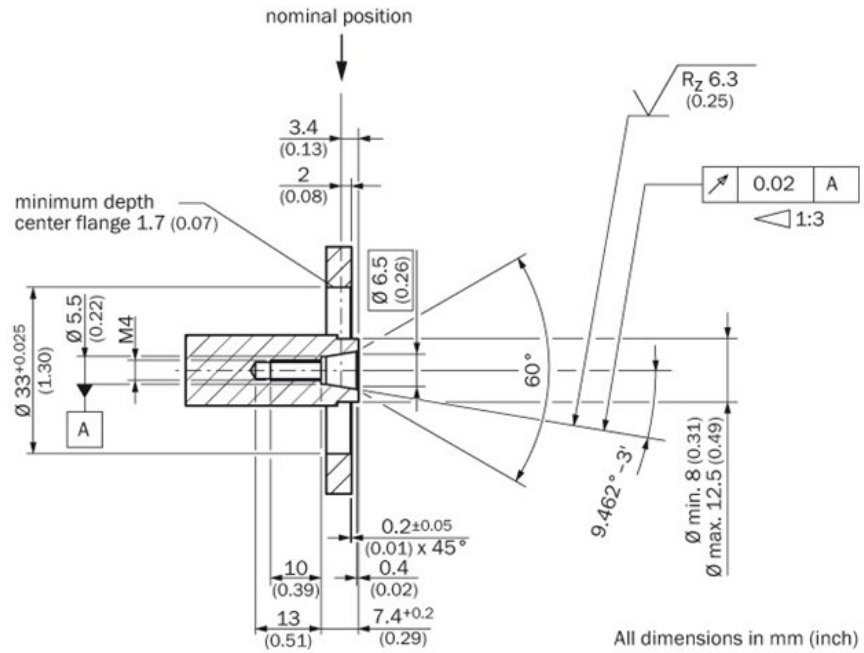
[1)] The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen. Users must perform their own tests when other screen designs are used.

Dimensional drawing



All dimensions in mm (inch)

Proposed fitting



All dimensions in mm (inch)

· USmod 4c int40

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