


ONLINE DATA SHEET
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# Motor feedback systems rotary HIPERFACE®

SEL37-HFA0-K02

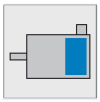


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# Motor feedback systems rotary HIPERFACE®

**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

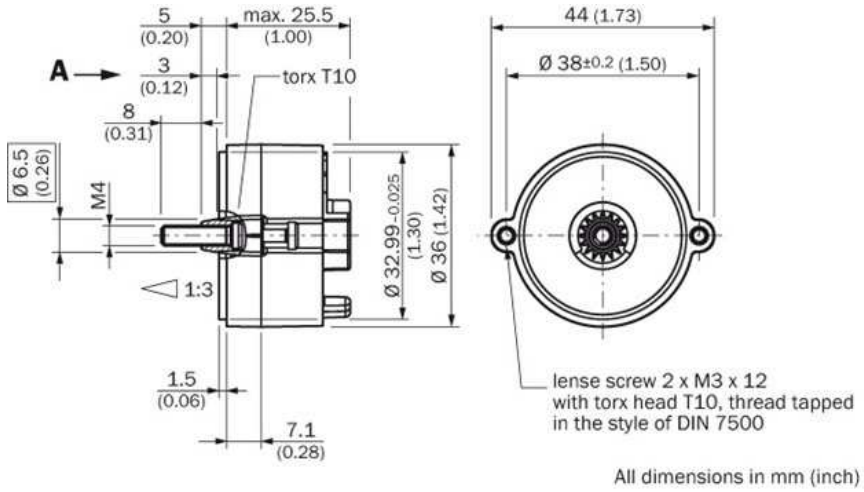
| | |
|---|---|
| Type of code for the absolute value: | Binary |
| Code sequence: | Increasing, for clockwise shaft rotation, looking in direction "A" (see dimensional drawing) |
| Interface signals: | Process data channel SIN, REFSIN, COS, REFCOS: analog, differential parameter channel RS 485: digital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

## 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 |

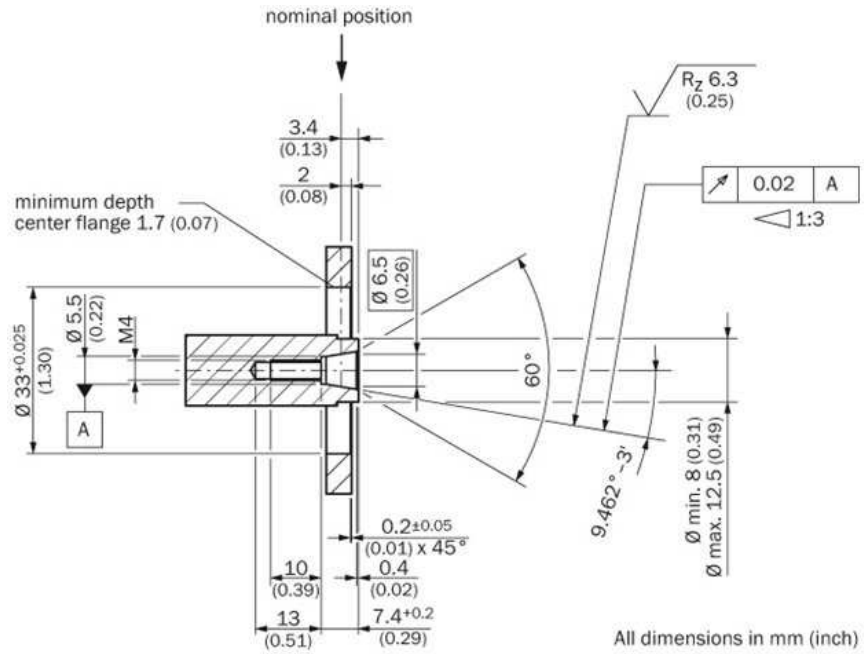
[1)] The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen. Users must perform their own tests when other screen designs are used.

## Dimensional drawing




All dimensions in mm (inch)

## Proposed fitting




All dimensions in mm (inch)

A4 4c int43

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