
ONLINE DATA SHEET
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# Motor feedback systems rotary HIPERFACE®
# SRS/SRM50

SRM50-HEV0-K21

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# SRS/SRM50

**Model Name** > SRM50-HEV0-K21
**Part No.** > 1037089

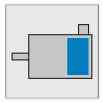


*Illustration may differ*

## At a glance

- Motor feedback systems for the top performance range
- 1,024 sine/ cosine periods per revolution
- Absolute position with a resolution of 32,768 increments per revolution and 4,096 revolutions with the multiturn system
- HIPERFACE® interface: Programming of the position value and electronic type label
- Insert shaft or tapered shaft with various torque supports
- Integrated version, mounted version or stand-alone design
- Certified according to SIL2/PL d (only valid for SRS50S/SRM50S...)
- Conforms to RoHs

## Your benefits

- Motor feedback system with HIPERFACE® interface
- High shock/vibration resistance thanks to built-in metal code disk
- Consistent motor design due to identical size of single and multiturn design
- To use of a motor feedback system certified to SIL2/PL d makes it easier to have your system certified.
- Very smooth running thanks to maximum ball bearing distance

## Performance

| | |
|---|---|
| Number of sine/cosine periods per revolution: | 1,024 |
| Number of the absolute ascertainable revolutions: | 4,096 (Multiturn) |
| Total number of steps: | 134,217,728 |
| Measuring step: | 0.3 angular seconds at interpolation of the sine/cosine signals with e.g. 12 Bit |
| Differential non-linearity: | ± 7 angular seconds (Non-linearity within a sine/cosine period) |
| Operating speed: | 6,000 /min, up to which the absolute position can be reliably produced |
| Available memory area: | 128 Byte, 128 Byte (E2PROM 512) |
| Integral non-linearity typ.: | ± 45 angular seconds (Error limits for evaluating sine/cosine period) without mechanical tension of the stator coupling |

## Mechanical data

| | |
|---|---|
| Flange type/stator coupling: | Rubber support |
| Dimensions: | See dimensional drawing |
| Moment of inertia of the rotor: | 10 gcm² |
| Maximum operating speed: | 12,000 /min |
| Maximum angular acceleration: | 200,000 rad/s² |

| | |
|---|---|
| Operating torque: | 0.2 Ncm |
| Start up torque: | 0.4 Ncm |
| Permissible shaft movement, radial, static: | ± 0.5 mm |
| Permissible shaft movement, radial, dynamic: | ± 0.1 mm |
| Permissible shaft movement, axial, static: | ± 0.75 mm |
| Permissible shaft movement, axial, dynamic: | ± 0.2 mm |
| Life of ball bearings: | 3.6 x 10^9 revolutions |
| Connection type: | Cable, 8-pin, radial, 200 mm |
| Shaft version: | Tapered shaft |
| Angular motion perpendicular to the rotational axis, static: | ± 0.005 mm/mm |
| Angular motion perpendicular to the rotational axis, dynamic: | ± 0.002 mm/mm |
| GEWICHT01: | 0.2 kg |

**Electrical data**

| | |
|---|---|
| Electrical interface: | HIPERFACE |
| Operating voltage range/supply Voltage: | 7 V DC ... 12 V DC |
| Recommended supply voltage: | 8 V DC |
| Output frequency for sine/cosine signals: | 0 kHz ... 200 kHz |
| Operating power consumption (no load): | 80 mA [1)] |

[1)] Without load

**Interfaces**

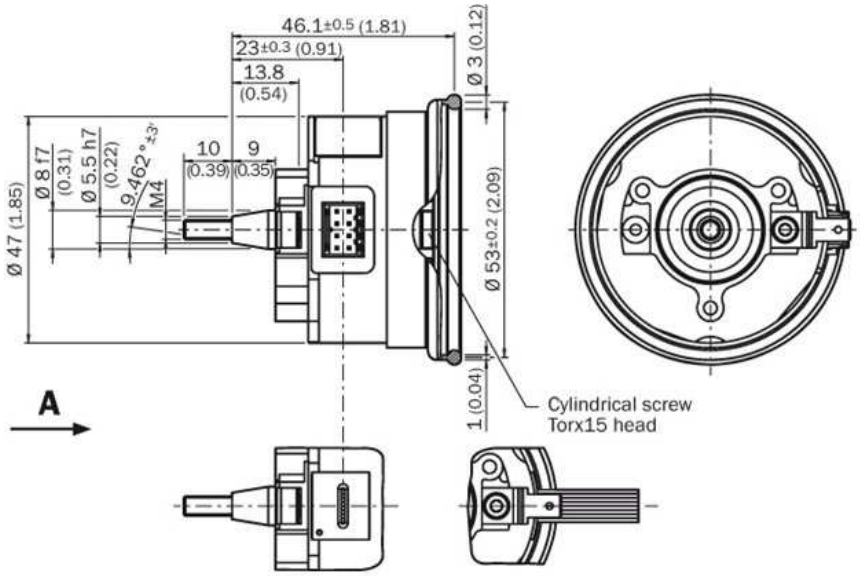
| | |
|---|---|
| Type of code for the absolute value: | Binary |
| Code sequence: | Increasing, for clockwise shaft rotation, looking in direction "A" (see dimensional drawing) |
| Interface signals: | Parameter channel RS 485: digital, Process data channel SIN, REFSIN, COS, REFCOS: analog, differential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

**Ambient data**

| | |
|---|---|
| Working temperature range: | -30 °C ... +115 °C |
| Storage temperature range: | -40 °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: | 20 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), with mating connector inserted |

[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. This is also where the GND (0 V) connection of the power supply voltage is linked to earth. Users must perform their own tests when other screen designs are used.

## Dimensional drawing



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