



Motor feedback systems rotary HIPERFACE® SRS/SRM50

SRM50S-HEA0-K22



Model Name > SRM50S-HEA0-K22
Part No. > 1051810



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



Safety-related parameters

Safety integrity level:	SIL2 (IEC 61508), SILCL2 (IEC 62061)
Category:	3 (EN ISO 13849)
Performance level:	PL d EN ISO 13849 ¹⁾
TM (mission time):	20 a (EN ISO 13849)
Maximum demand rate:	Continuous (analog signals)
PFHD: probability of dangerous failure per hour:	1.0 * 1E-08 ²⁾
MTTFd: mean time to dangerous failure:	1,073 a (EN ISO 13849)

¹⁾ For more detailed information on the exact configuration of your machine/unit, please consult your relevant SICK branch office. ²⁾ The values displayed apply to a diagnostic degree of coverage of 90%, which must be achieved by the external drive system

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:	1,792 Byte, 1,792 Byte (E2PROM 2048)
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 gcm ²
Maximum operating speed:	12,000 /min
Maximum angular acceleration:	200,000 rad/s ²
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:	Connector, 8-pin
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

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