SRM50S-HFZ0-S22

SRS/SRM50-S

SAFE MOTOR FEEDBACK SYSTEMS

SICK
Sensor Intelligence.
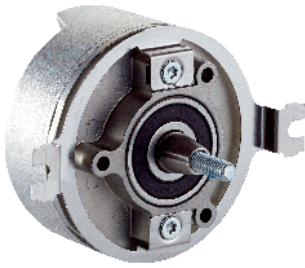
SRM50S-HFZ0-S22 | SRS/SRM50-S

SAFE MOTOR FEEDBACK SYSTEMS

Ordering information

Type	Part no.
SRM50S-HFZ0-S22	1067031

Mounting screws for stator coupling or servo clamps not included with delivery.

Other models and accessories ➜ www.sick.com/SRS_SRM50-S

Illustration may differ

CE

Detailed technical data

Features

Special device	✔
Specialty	Strands (2073917) not included Protection circuit with firmware V40 Delivery in collective packaging, one operating instructions per package included in scope of delivery
Standard reference device	SRM50S-HFV0-K22, 1051796
Items supplied	Mounting screws for stator coupling or servo clamps not included with delivery.

Safety-related parameters

Safety integrity level	SIL 2 (IEC 61508), SILCL2 (IEC 62061)
Category	3 (EN ISO 13849)
Maximum demand rate	Continuous (analog signals)
Performance level	PL d (EN ISO 13849) [1]
PFH (mean probability of a dangerous failure per hour)	$15 * 10^{-9}$ [2]
T_M (mission time)	20 years (EN ISO 13849)
$MTTF_D$ (mean time to dangerous failure)	900 years (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

Sine/cosine periods per revolution	1,024
Number of the absolute ascertainable revolutions	4,096
Total number of steps	134,217,728
Measuring step	0.3 ″ For interpolation of the sine/cosine signals with, e. g., 12 bits
Integral non-linearity	Typ. ± 45 ″, Error limits for evaluating sine/cosine period, without mechanical tension of the stator coupling
Differential non-linearity	± 7 ″, Non-linearity within a sine/cosine period
Operating speed	≤ 6,000 min⁻¹, up to which the absolute position can be reliably produced
Available memory area	1,792 Byte
System accuracy	± 52 ″

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®

Electronics

Connection type	Male connector, JST, 8-pin, radial
Supply voltage	7 V DC ... 12 V DC
Recommended supply voltage	8 V DC
Current consumption	80 mA [1]
Output frequency for sine/cosine signals	≤ 200 kHz

[1] Without load.

Mechanics

Shaft version	Tapered shaft
Flange type / stator coupling	Spring mounting plate, Spring mounting plate
Dimensions	See dimensional drawing
Weight	≤ 0.2 kg
Moment of inertia of the rotor	10 gcm²
Operating speed	≤ 12,000 min⁻¹
Angular acceleration	≤ 200,000 rad/s²
Operating torque	0.2 Ncm
Start up torque	+ 0.4 Ncm
Permissible movement static	± 0.2 mm radial - 0.6 mm axial + 1.4 mm axial
Permissible movement dynamic	± 0.05 mm radial
Angular motion perpendicular to the rotational axis, static	± 0.005 mm/mm
Angular motion perpendicular to the rotational axis, dynamic	± 0.0025 mm/mm
Life of ball bearings	3.6×10^9 revolutions

Ambient data

|	
Operating 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, 10 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)
EMC	According to EN 61000-6-2, EN 61000-6-3 and IEC 61326-3-1 [1]
Enclosure rating	IP40, with mating connector inserted (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. The GND-(0 V) connection of the supply voltage is also grounded here. If other shielding concepts are used, users must perform their own tests.

Classifications

ECLASS 5.0	27270590
ECLASS 5.1.4	27270590
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270590
ECLASS 8.0	27270590
ECLASS 8.1	27270590
ECLASS 9.0	27270590
ECLASS 10.0	27273805
ECLASS 11.0	27273901
ECLASS 12.0	27273901
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

Spring mounting plate, tapered shaft
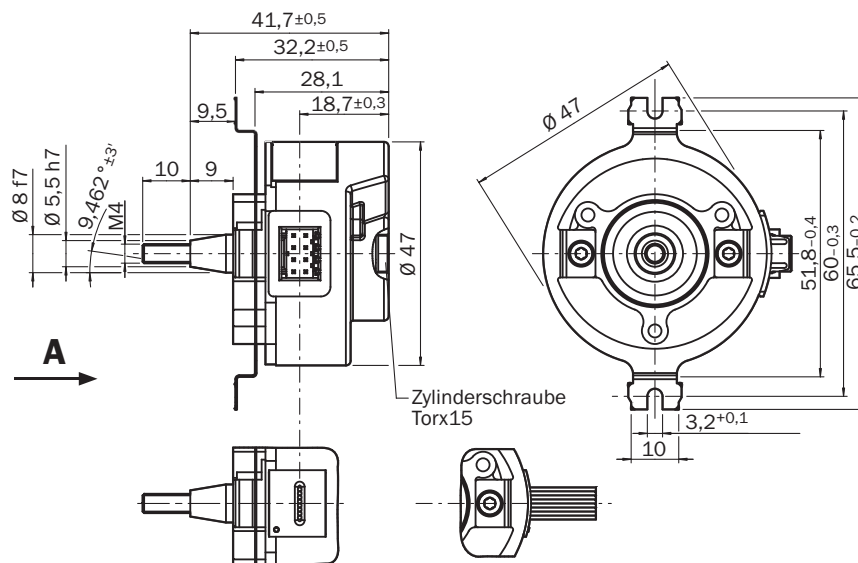
General tolerances according to ISO 2768-mk

PIN assignment

Connector strip 8-pole	Signal	Explanation
1	Us	7 ... 12 V supply voltage
2	SIN+	Process data channel
3	REFSIN	Process data channel
4	COS+	Process data channel
5	REFCOS	Process data channel
6	GND	Ground connection
7	DATA+	RS-485 Parameter channel
8	DATA-	RS-485 Parameter channel

1 [00000000] 8

Recommended accessories

Other models and accessories ➜ www.sick.com/SRS_SRM50-S

	Brief description	Type	Part no.
Others			
	• **Connection type head A:** Flying leads • **Connection type head B:** Flying leads • **Signal type:** HIPERFACE®, HIPERFACE® • **Items supplied:** By the meter • **Cable:** 8-wire, PUR, halogen-free • **Description:** HIPERFACE®, HIPERFACE®, shielded	LTG-2708-MW	6028361
		PGT-11-S LAN	1057324

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."

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