SRS50-HZA0-S21

SRS/SRM50

SICK
Sensor Intelligence.

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

SRS50-HZA0-S21 | SRS/SRM50

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

Illustration may differ

Ordering information

Type	Part no.
SRS50-HZA0-S21	1037395

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

CE

Detailed technical data

Features

Special device	✓
Specialty	Customized hollow shaft (see dimensional drawing) Fixing screw M5 x 45 (Torx), screwed into EFx50 on delivery Programming of the position value (zero point marking: resolver support)
Standard reference device	SRS50-HAA0-K22, 1037060

Performance

Sine/cosine periods per revolution	1,024
Number of the absolute ascertainable revolutions	1
Total number of steps	32,768
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®

Electrical data

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

[1] Without load.

[2] This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 60 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

MTTF: mean time to dangerous failure	235 years (EN ISO 13849) [2]

[1] Without load.

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Mechanical data

Shaft version	Hollow shaft
Flange type / stator coupling	Rubber support
Dimensions	See dimensional drawing
Weight	≤ 0.2 kg
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 ± 0.8 mm axial
Permissible movement dynamic	± 0.15 mm radial ± 0.2 mm axial
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

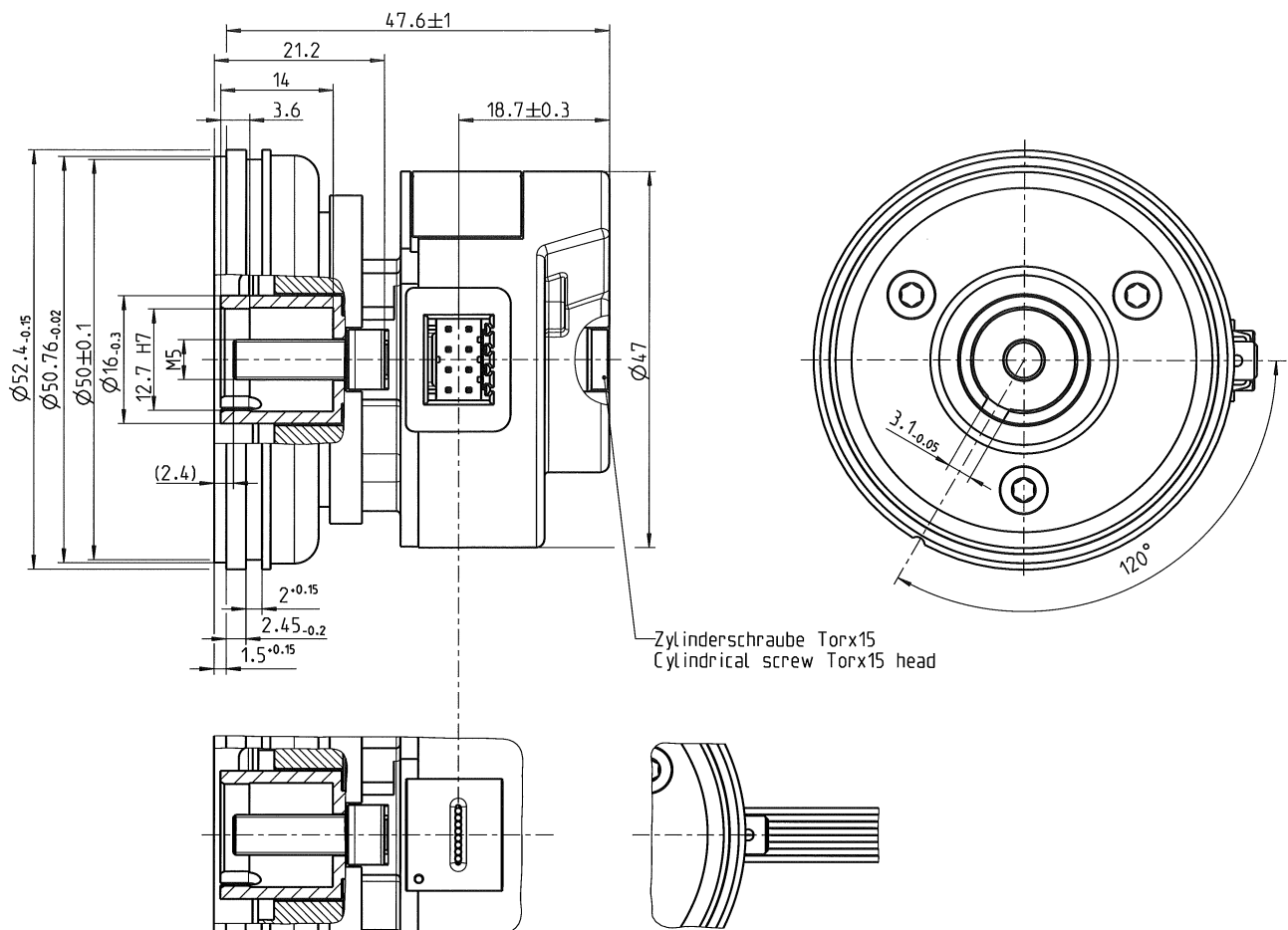|	
Operating temperature range	–30 °C ... +115 °C
Storage temperature range	–40 °C ... +125 °C, without package
Relative humidity/condensation	90 %, Condensation not permitted
Resistance to shocks	100 g, 10 ms, 10 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)
EMC	According to EN 61000-6-2 and EN 61000-6-3 [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.
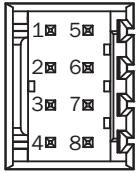
Classifications

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))

Zylinderschraube Torx15
Cylindrical screw Torx15 head

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Product data sheet | 2024-03-21 10:36:49
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PIN assignment

PIN	Signal	Wire colors (cable connection)	Explanation
1	U_S	Red	Supply voltage
2	GND	Blue	Ground connection
3	REFSIN	Brown	Process data channel
4	REFCOS	Black	Process data channel
5	Data +	Gray or yellow	Parameter channel RS 485
6	Data -	Green or purple	Parameter channel RS 485
7	+ SIN	White	Process data channel
8	+ COS	Pink	Process data channel

Diagrams

Signal specification of the process channel
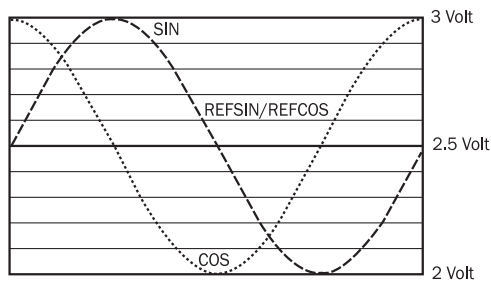
Signal diagram for clockwise rotation of the shaft looking in direction "A" (see dimensional drawing)1 period = 360 ° : 1024
Signal diagram for clockwise rotation of the shaft looking in direction "A" (see dimensional drawing)1 period = 360 ° : 1024
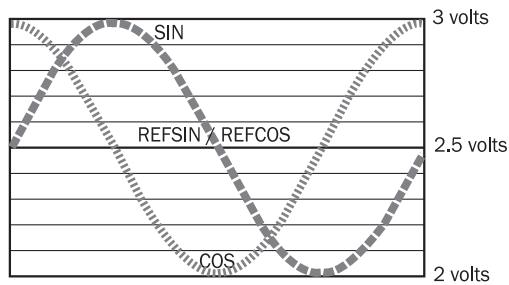
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