

SRM50-HTA0-K21

SRS/SRM50

MOTOR FEEDBACK SYSTEMS

SICK
Sensor Intelligence.

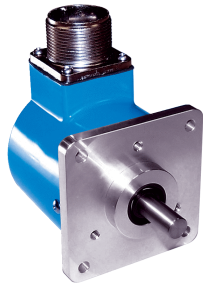


Illustration may differ



Ordering information

Type	Part no.
SRM50-HTA0-K21	7127313

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

Detailed technical data

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. $\pm 45 "$, Error limits for evaluating sine/cosine period
Differential non-linearity	$\pm 7 "$
Operating speed	$\leq 6,000 \text{ min}^{-1}$, up to which the absolute position can be reliably produced
Available memory area	128 Byte
System accuracy	$\pm 52 "$

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, MS, 10-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	$\leq 200 \text{ kHz}$
MTTF: mean time to dangerous failure	235 years (EN ISO 13849) ²⁾

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.

Mechanical data

Shaft version	Solid shaft
Flange type / stator coupling	Square flange, stator coupling
Dimensions	See dimensional drawing
Weight	≤ 0.2 kg
Moment of inertia of the rotor	28.8 gcm ²
Operating speed	≤ 12,000 min ⁻¹
Angular acceleration	≤ 500,000 rad/s ²
Operating torque	1 Ncm
Start up torque	+ 1.5 Ncm
Permissible shaft loading	40 N (radial) 20 N (axial)
Life of ball bearings	3.6 x 10 ⁹ revolutions

Ambient data

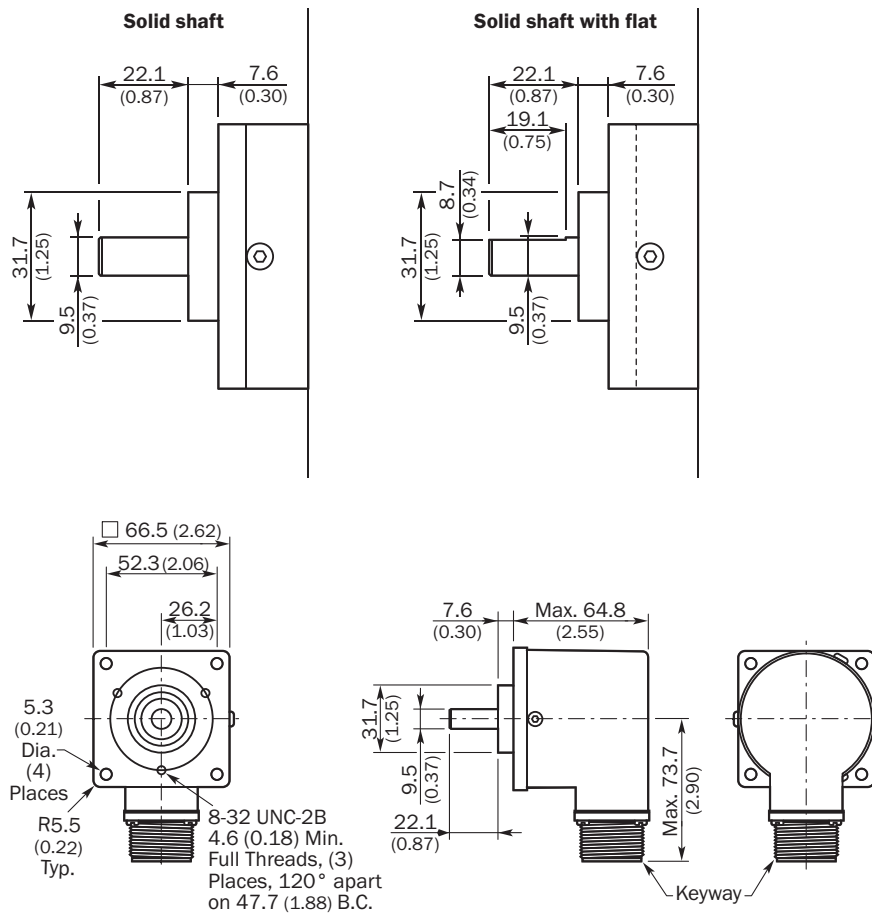
Operating temperature range	≤ +75 °C
Storage temperature range	-40 °C ... +85 °C, without package
Relative humidity/condensation	90 %, Condensation not permitted
Resistance to shocks	100 g, 10 ms, 10 ms (according to EN 60068-2-27)
Frequency range of resistance to vibrations	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)
EMC	According to EN 61000-6-2 and EN 61000-6-3 ¹⁾
Enclosure rating	IP65, 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.

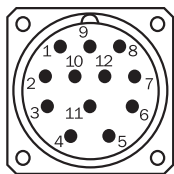
Classifications

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))



PIN assignment

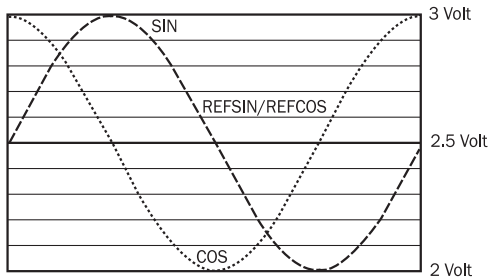


PIN	Signal	Wire colors (cable connection)	Explanation
1	REFCOS	Black	Process data channel
2	Data +	Gray or yellow	Parameter channel RS 485
3	N.C.	-	N.C.
4	N.C.	-	N.C.
5	SIN	White	Process data channel
6	REFSIN	Brown	Process data channel
7	Data -	Green or purple	Parameter channel RS 485
8	COS	Pink	Process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

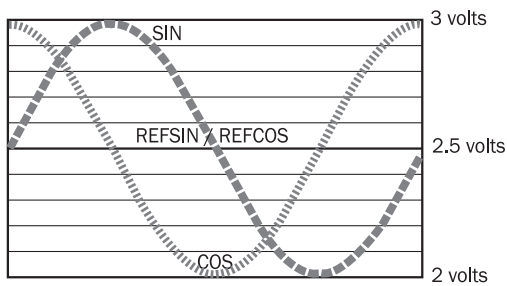
PIN	Signal	Wire colors (cable connection)	Explanation
11	N.C.	-	N.C.
12	U _S	Red	Supply voltage: 7 V ... 12 V

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



Recommended accessories

Programming and configuration tools

Spare parts

Plug connectors and cables

Field-attachable connectors

Others

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

Brief description	Type	Part no.
<ul style="list-style-type: none"> Accessory group: Programming and configuration tools Description: SVip® LAN programming tool for all motor feedback systems Items supplied: 1x programming tool PGT-11-S LAN, 1x power supply unit 100-240 V AC / 12 V DC, primary adapter (Europe, UK, USA/Japan, Australia), Ethernet cable 3 m 	PGT-11-S LAN	1057324
Brief description	Type	Part no.
<ul style="list-style-type: none"> Accessory group: Spare parts Description: 50 screws for CFS50, SRS50 and SRM50 	BEF-MK-S02	2074582

Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Description: Unshielded 	DOS-MS10-G	7102129
Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Connection type head B: Flying leads • Cable: 3 m, 8-wire • Description: Shielded 	DOL-MS10-G03MMA3	7102161
Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Connection type head B: Flying leads • Cable: 5 m, 8-wire • Description: Shielded 	DOL-MS10-G05MMA3	7102162
Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Connection type head B: Flying leads • Cable: 1.5 m, 8-wire • Description: Shielded 	DOL-MS10-G1M5MA3	7102160
Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Connection type head B: Flying leads • Cable: 10 m, 8-wire • Description: Shielded 	DOL-MS10-G10MMA3	7102163
Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Connection type head B: Flying leads • Cable: 20 m, 8-wire • Description: Shielded 	DOL-MS10-G20MMA3	7102164
Brief description	Type	Part no.
<ul style="list-style-type: none"> • Connection type head A: Female connector, MS/10, 10-pin, straight • Connection type head B: Flying leads • Cable: 30 m, 8-wire • Description: Shielded 	DOL-MS10-G30MMA3	7102165

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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