

SRM50-HFV0-K22

SRS/SRM50

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE®

SICK
Sensor Intelligence.

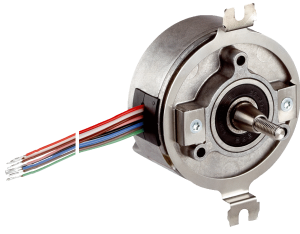


Illustration may differ



Ordering information

Type	Part no.
SRM50-HFV0-K22	1037074

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, without mechanical tension of the stator coupling
Differential non-linearity	$\pm 7 "$, Non-linearity within a sine/cosine period
Operating speed	$\leq 6,000 \text{ min}^{-1}$, up to which the absolute position can be reliably produced
Available memory area	1,792 Byte

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	Cable, 8-wire, radial, 0.2 m
Supply voltage	7 V DC ... 12 V DC
Recommended supply voltage	8 V DC
Power consumption	80 mA ¹⁾
Output frequency for sine/cosine signals	$\leq 200 \text{ kHz}$

¹⁾ Without load.

Mechanical data

Shaft version	Tapered shaft
Flange type / stator coupling	Spring mounting plate, Spring mounting plate
Dimensions	See dimensional drawing
Weight	$\leq 0.2 \text{ kg}$
Moment of inertia of the rotor	10 gcm ²
Operating speed	$\leq 12,000 \text{ min}^{-1}$

Angular acceleration	≤ 200,000 rad/s ²
Operating torque	0.2 Ncm
Start up torque	+ 0.4 Ncm
Permissible radial shaft movement	± 0.6 mm
Permissible axial shaft movement	± 0.95 mm
Permissible movement of the drive element, static	± 0.3 mm radial ± 0.75 mm axial
Permissible movement of the drive element, dynamic	± 0.1 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 x 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 (according to EN 60068-2-6)
EMC	According to EN 61000-6-2 and EN 61000-6-3 ¹⁾
Enclosure rating	IP40, with mating connector inserted (according to IEC 60529)

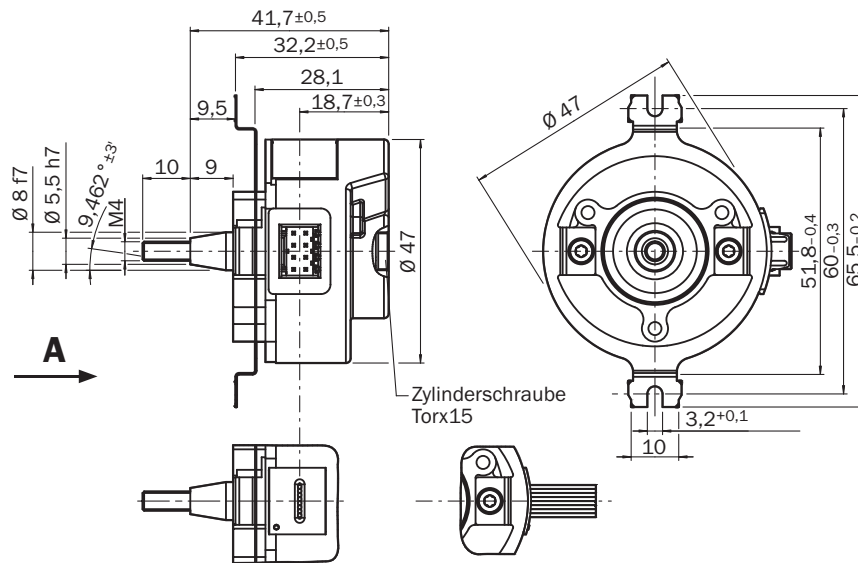
¹⁾ The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen. The GND-(0 V) connection of the supply voltage is also grounded here. If other shielding concepts are used, users must perform their own tests.

Classifications

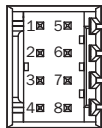
ECl@ss 5.0	27270590
ECl@ss 5.1.4	27270590
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270590
ECl@ss 8.0	27270590
ECl@ss 8.1	27270590
ECl@ss 9.0	27270590
ECl@ss 10.0	27273805
ECl@ss 11.0	27273901
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

General tolerances according to DIN ISO 2768-mk



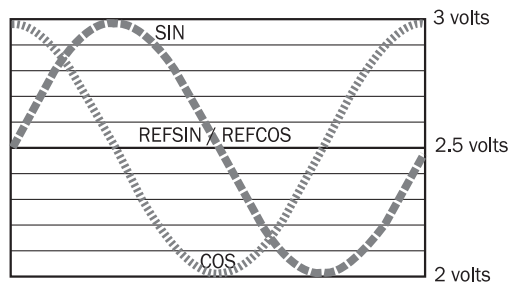
PIN assignment



PIN	Signal	Farbe der Adern	Erklärung
1	U_s	rot	7 ... 12 V Versorgungsspannung
2	GND	blau	Masseanschluss
3	REFSIN	braun	Prozessdatenkanal
4	REFCOS	schwarz	Prozessdatenkanal
5	Daten +	grau oder gelb	RS-485-Parameterkanal
6	Daten -	grün oder violett	RS-485-Parameterkanal
7	+ SIN	weiß	Prozessdatenkanal
8	+ COS	rosa	Prozessdatenkanal


Diagrams

Signal diagram for clockwise rotation of the shaft looking in direction "A" (see dimensional drawing) 1 period = $360^\circ : 1024$



Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: cable Head B: Flying leads Cable: HIPERFACE®, HIPERFACE®, PUR, halogen-free, shielded	LTG-2708-MW	6028361
Programming and configuration tools			
	SVip® LAN programming tool for all motor feedback systems	PGT-11-S LAN	1057324
	SVip® WLAN programming tool for all motor feedback systems	PGT-11-S WLAN	1067474

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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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