



Motor feedback systems rotary HIPERFACE® SKS/SKM36

SKM36S-HVA0-K02



Model Name > SKM36S-HVA0-K02
Part No. > 1036559



Illustration may differ

At a glance

- Motor feedback systems for the standard performance range
- 128 sine/cosine periods per revolution
- Absolute position with a resolution of 4,096 increments per revolution and 4,096 revolutions with the multiturn system
- Programming of the position value and electronic type label
- HIPERFACE® interface
- Integrated version and stand-alone design
- Certified according to SIL2/PL d (only valid for SKS36S/SKM36S-H...)
- Conforms to RoHs

Your benefits

- The small dimension allows manufacturers of low-power and minimal-power motors to considerably reduce the size of their motors
- The stand-alone version is ideally suited as a master and path encoders
- The SKS/SKM36 motor feedback systems have strongly penetrated the drive technology market
- The consistent mechanical components in SEK/SEL37 allow for a high degree of flexibility with various encoder systems



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)
PFHD: probability of dangerous failure per hour:	1.3 * 1E-08 ²⁾
MTTFd: mean time to dangerous failure:	100 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:	128
Number of the absolute ascertainable revolutions:	4,096 (Multiturn)
Total number of steps:	16,777,216
Measuring step:	2.5 angular seconds (at interpolation of the sine/cosine signals with e.g. 12 Bit)
Error limits for the digital absolute value:	± 320 angular seconds (via RS485)

Integral non-linearity typ.:	± 120 angular seconds (Error limits for evaluating sine/cosine period)
Differential non-linearity:	(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 (EEPROM 2048)

Mechanical data

Shaft diameter:	6 mm
Flange type/stator coupling:	Servo-/face mount flange
Dimensions:	See dimensional drawing
Mass:	0.14 kg
Moment of inertia of the rotor:	6 gcm ²
Maximum angular acceleration:	500,000 rad/s ²
Operating torque:	0.6 Ncm
Start up torque:	0.9 Ncm
Life of ball bearings:	2.0 x 10 ⁹ revolutions
Connection type:	Connector M12, 8-pin, radial
Shaft version:	Solid shaft
Permissible Load capacity of shaft:	10 N (radial) 5 N (axial)

Electrical data

Electrical interface:	HIPERFACE
Operating voltage range/supply Voltage:	7 V DC ... 12 V DC
Recommended supply voltage:	8 V DC
Operating current:	60 mA
Output frequency for sine/cosine signals:	0 kHz ... 65 kHz

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:	Process data channel SIN, REFSIN, COS, REFCOS: analog, differential parameter channel RS 485: digital

Ambient data

Working temperature range:	-20 °C ... 100 °C
Storage temperature range:	-40 °C ... 125 °C, without package
Relative humidity/Condensation:	90 %, Condensation not permitted
Resistance to shocks:	100 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration:	50 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)
EMC:	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating:	IP 65, according to IEC 60529, with mating connector inserted

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions in millimeters (mm) and inches (in). The drawing includes a cross-section view (A-A) and a side view.

Dimensions (mm / in):

- Overall width: 45 (1.77)
- Overall height: 14 (0.55)
- Top flange width: 8 (0.31)
- Top flange thickness: 1 x M12
- Top flange hole diameter: $\varnothing 0.05$ B
- Top flange hole position from left edge: 9.5 (0.37)
- Top flange hole position from right edge: 8 (0.31)
- Top flange hole diameter: $\varnothing 6$ (0.24)
- Top flange hole position from left edge: 5.7 ± 0.1 (0.22)
- Top flange hole position from right edge: 10 ± 0.3 (0.39)
- Top flange hole diameter: $\varnothing 25$ (0.98)
- Top flange hole position from left edge: 35 ± 0.2 (1.38)
- Top flange hole position from right edge: 7.8 (0.31)
- Top flange hole diameter: $\varnothing 40$ (1.57)
- Top flange hole position from left edge: 6 (0.24)
- Top flange hole position from right edge: 2.5 (0.10)
- Top flange hole diameter: $\varnothing 35$ (1.38)
- Top flange hole position from left edge: 5.7 ± 0.1 (0.22)
- Top flange hole position from right edge: 2.5 ± 0.2 (0.10)
- Top flange hole diameter: $\varnothing 25$ (0.98)
- Top flange hole position from left edge: 35 ± 0.2 (1.38)
- Top flange hole position from right edge: 7.8 (0.31)
- Top flange hole diameter: $\varnothing 40$ (1.57)
- Top flange hole position from left edge: 6 (0.24)
- Top flange hole position from right edge: 2.5 (0.10)
- Top flange hole diameter: $\varnothing 35$ (1.38)
- Top flange hole position from left edge: 5.7 ± 0.1 (0.22)
- Top flange hole position from right edge: 2.5 ± 0.2 (0.10)

Surface Finish Requirements:

- Top flange hole: $\sqrt{0.02}$ A
- Top flange hole: $\sqrt{0.08}$ A
- Top flange hole: $\sqrt{0.08}$ A
- Top flange hole: $\sqrt{0.08}$ B



Australia

Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com