



Motor feedback systems rotary incremental with  
commutation  
CKS36

CKS36-AFB40003



**Model Name** > [CKS36-AFB40003](#)  
**Part No.** > [1035162](#)



*Illustration may differ*

**At a glance**

- Output driver for incremental and commutation signals as per EIA 422
- Resolution of up to 2,048 lines per revolution
- Commutation signals up to 32 pole pairs
- Individual programming of the line count, pole pair number and zero pulse width
- High resistance to shock and vibration
- System compensates for eccentricity errors due to holistic scanning
- Allows for high angular speeds

**Your benefits**

- The CKS36's small dimensions allows manufacturers to considerably reduce the size of their motors
- Programmable version for a reduced product variety
- High level of compatibility thanks to standard interface

**Performance**

Number of the absolute ascertainable revolutions:	1 (Singleturn)
Number of lines per revolution:	1,024
Measuring step:	90 ° /number of lines
Commutation signals:	3 pole pairs (according to EIA 422)
Zero pulse width:	90 °
Reference signal, number:	1
Reference signal, position:	90 ° or 180 ° configurable, electronically, gated with A and B
Error limits:	± 0.09 °
Measuring step deviation:	± 0.035 °
Operating speed:	12,000 /min, working speed up to which the output signals are correct

**Mechanical data**

Shaft version:	Tapered shaft
Flange type/stator coupling:	Spring mounting plate
Dimensions:	See dimensional drawing
Mass:	0.065 kg
Moment of inertia of the rotor:	4.5 gcm <sup>2</sup>
Maximum operating speed:	120,000 /min <sup>1)</sup>
Maximum angular acceleration:	500,000 rad/s <sup>2</sup>
Operating torque:	0.2 Ncm
Start up torque:	0.3 Ncm
Permissible shaft movement, radial, static:	± 0.1 mm
Permissible shaft movement, radial, dynamic:	± 0.05 mm

Permissible shaft movement, axial, static:	± 0.2 mm
Permissible shaft movement, axial, dynamic:	± 0.1 mm
Life of ball bearings:	3.6 x 10 <sup>9</sup> revolutions
Connection type:	Connector, 14-pin, axial

<sup>1)</sup> Self warming of 1.1 K per 1000 revolutions/min when applying note working temperature range

### Electrical data

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Electrical interface:	TTL/RS422
Operating voltage range/supply Voltage:	4.5 V DC ... 5.5 V DC
Maximum output frequency:	400 kHz
Operating power consumption (no load):	< 60 mA <sup>1)</sup>

<sup>1)</sup> Without load

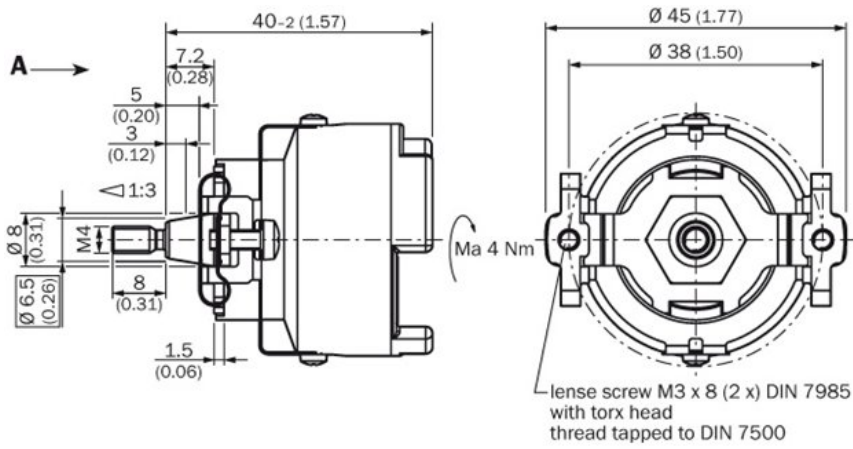
### Ambient data

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Working temperature range:	-20 °C ... 110 °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) <sup>1)</sup>
Enclosure rating:	IP 50 (according to IEC 60529), with mating connector inserted and closed cover

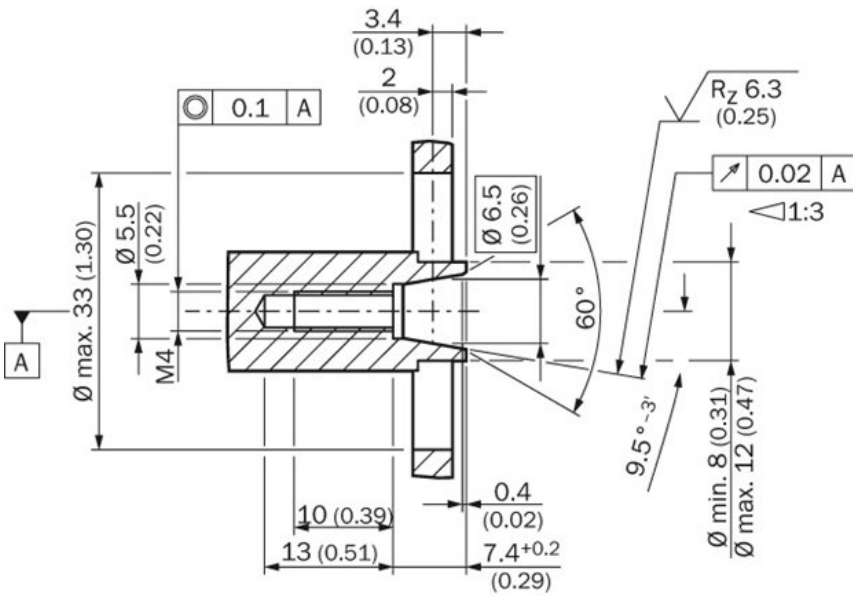
<sup>1)</sup> The EMC according to the standards quoted is achieved when the motor feedback system is mounted in an electrically conductive housing, which is connected to the central earthing point of the motor controller via a cable screen. This is also where the GND (0 V) connection of the power supply voltage is linked to earth. Users must perform their own tests when other screen designs are used.

**Dimensional drawing**



All dimensions in mm (inch)

**Proposed fitting**



All dimensions in mm (inch)

**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](http://www.sick.com)