



# ELS35-0CA0A024A

ELS/ELM35

**MOTOR FEEDBACK SYSTEMS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
ELS35-OCA0A024A	1133558

Other models and accessories → [www.sick.com/ELS\\_ELM35](http://www.sick.com/ELS_ELM35)

### Detailed technical data

#### Features

<b>Items supplied</b>	M3 mounting screws for stator coupling not included with delivery. ELM35-OCA0A024A motor feedback system (1133559). Packaging unit 40 pcs.
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#### Safety-related parameters

<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	340 years (EN ISO 13849) <sup>1)</sup>
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<sup>1)</sup> 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.

#### Performance

<b>Position</b>	
Resolution per revolution	24 bit
System accuracy	± 120 ", Typical, mounting tolerances acc. to mounting instruction <sup>1)</sup>
Signal noise (σ)	10 " <sup>2)</sup>
Number of the absolute ascertainable revolutions	1
Available memory area	2,048 Byte

<sup>1)</sup> In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.

<sup>2)</sup> Repeatability standard deviation in accordance with DIN 1319-1:1995.

#### Interfaces

<b>Code sequence</b>	Increasing, when turning the shaft For clockwise rotation, looking in direction "A" (see dimensional drawing)
<b>Communication interface</b>	BiSS C

#### Electronics

<b>Connection type</b>	Male connector, 6-pin <sup>1)</sup>
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<sup>1)</sup> 4-wire: Communication interface RS-485 (BiSS C BP3), 2-wire: Power interface.

<sup>2)</sup> (±10 %) BiSS C.

<b>Recommended supply voltage</b>	5 V <sup>2)</sup>
<b>Current consumption</b>	Max. 150 mA

<sup>1)</sup> 4-wire: Communication interface RS-485 (BiSS C BP3), 2-wire: Power interface.

<sup>2)</sup> (±10 %) BiSS C.

## Mechanics

<b>Shaft version</b>	Blind hollow shaft
<b>Shaft diameter</b>	6 mm
<b>Weight</b>	≤ 0.1 kg
<b>Operating speed</b>	6,000 min <sup>-1</sup> , Continuous 7,500 min <sup>-1</sup> , short-term
<b>Angular acceleration</b>	- 100,000 rad/s <sup>2</sup>
<b>Permissible movement static</b>	± 0.5 mm axial <sup>1)</sup> ± 0.1 mm radial
<b>Permissible movement dynamic</b>	± 0.05 mm radial

<sup>1)</sup> Temperature expansion, mechanical attachment.

## Ambient data

<b>Operating temperature range</b>	-20 °C ... +105 °C
<b>Storage temperature range</b>	-20 °C ... +105 °C, without package
<b>Relative humidity/condensation</b>	90 %, Condensation not permitted
<b>Resistance to shocks</b>	100 g, 6 ms (EN 60068-2-27)
<b>Frequency range of resistance to vibrations</b>	20 g, 5 Hz ... 2,000 Hz (EN 60068-2-6)
<b>EMC</b>	According to EN 61000-6-2: 2016, EN 61000-6-4: 2006, IEC 6100-6-7: 2014 <sup>1)</sup>
<b>Enclosure rating</b>	IP20 (IEC 60529-1)

<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. 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.

## Certificates

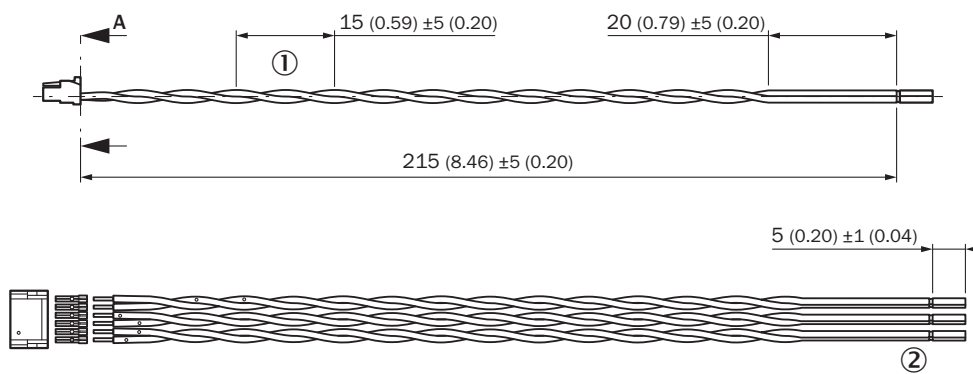
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

## Classifications

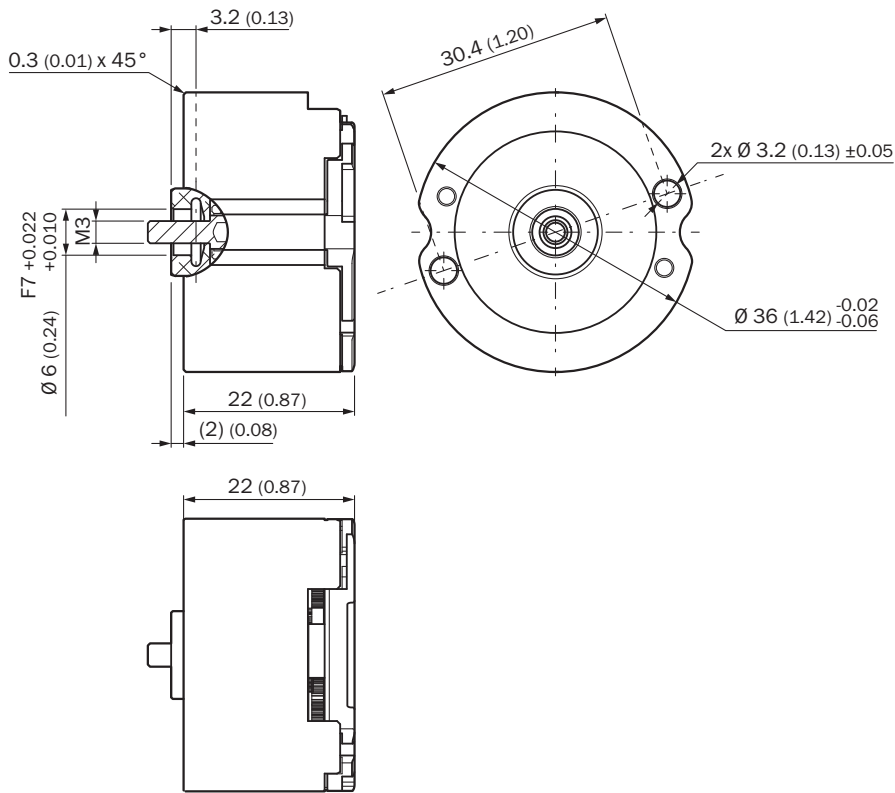
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<b>ECLASS 5.1.4</b>	27270590
<b>ECLASS 6.0</b>	27270590
<b>ECLASS 6.2</b>	27270590
<b>ECLASS 7.0</b>	27270590
<b>ECLASS 8.0</b>	27270590
<b>ECLASS 8.1</b>	27270590

<b>ECLASS 9.0</b>	27270590
<b>ECLASS 10.0</b>	27273805
<b>ECLASS 11.0</b>	27273901
<b>ECLASS 12.0</b>	27273901
<b>ETIM 5.0</b>	EC001486
<b>ETIM 6.0</b>	EC001486
<b>ETIM 7.0</b>	EC001486
<b>ETIM 8.0</b>	EC001486
<b>UNSPSC 16.0901</b>	41112113

### Dimensional drawing Connecting cable

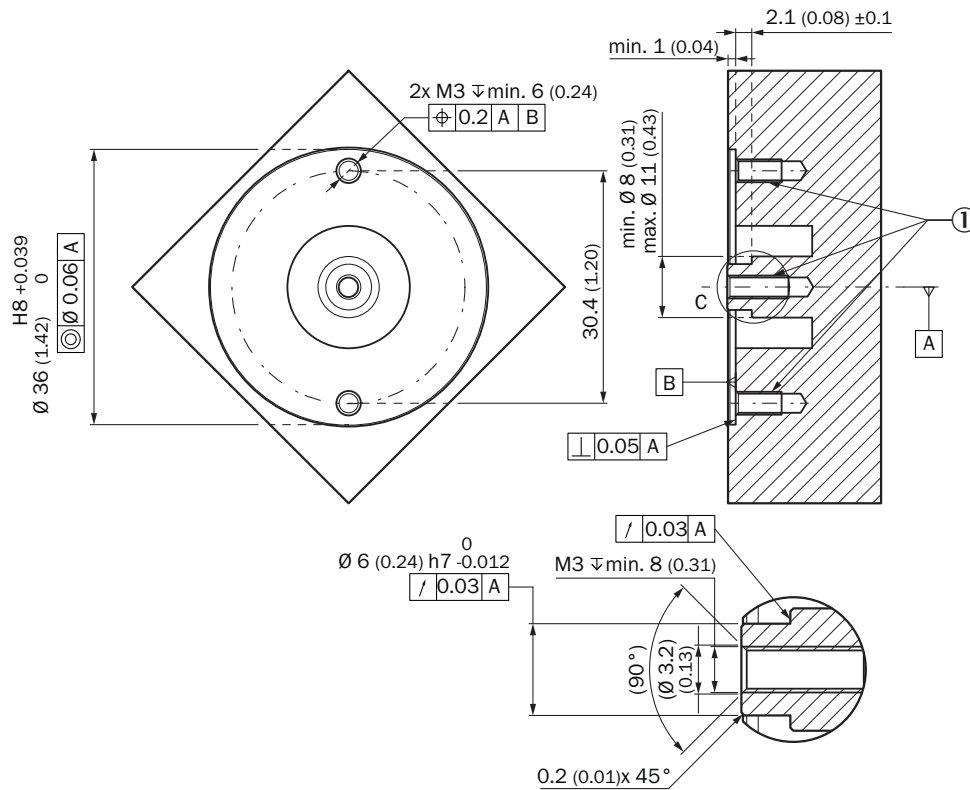


# Dimensional drawing Blind hollow shaft



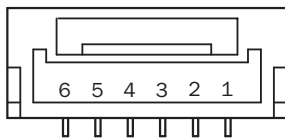
Dimensions in mm (inch)

### Attachment specifications



① 3 x M3 drill holes, screw with hex key size, s = 2.5 mm

### PIN assignment



PIN	Signal	Explanation	
1	$U_S$	Supply voltage range for the encoder (is between +4.5 V DC and +5.5 V DC)	Pair
2	GND	Ground connection of the sensor	
3	Tx- / SL-	Slave data output, minus	Pair
4	Tx+ / SL+	Slave data output, plus	
5	Rx- / MA-	Master clock input, minus	Pair
6	Rx+ / MA+	Master clock input, plus	

## 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.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)