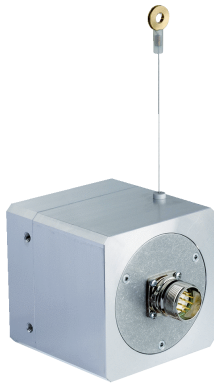


# BKS09-ATBM0220

Compact

WIRE DRAW ENCODERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
BKS09-ATBM0220	1035240

Other models and accessories → [www.sick.com/Compact](http://www.sick.com/Compact)



### Detailed technical data

#### Safety-related parameters

<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	150 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 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

#### Performance

<b>Measurement range</b>	0 m ... 2 m
<b>Encoder</b>	Absolute encoders
<b>Number of steps per revolution</b>	3,060
<b>Repeatability</b>	≤ 0.15 mm
<b>Linearity</b>	≤ ± 0.7 mm

#### Interfaces

<b>Communication interface</b>	SSI
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#### Electronics

<b>Connection type</b>	Male connector, M23, 12-pin, radial
<b>Supply voltage</b>	12 V ... 30 V

#### Mechanics

<b>Weight</b>	1.5 kg
<b>Measuring wire material</b>	Highly flexible stranded steel (PA 12 sheathed)
<b>Measuring wire diameter</b>	0.6 mm
<b>Housing material, wire draw mechanism</b>	Aluminum

<sup>1)</sup> These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

<sup>2)</sup> A cycle consists of the wire being pulled out and drawn in.

<sup>3)</sup> The service life depends on the type of load. This is influenced by environmental conditions, the installation location, the measuring range in use, the traversing speed, and acceleration.

<b>Spring return force</b>	5 N ... 6 N <sup>1)</sup>
<b>Length of wire pulled out per revolution</b>	153 mm
<b>Life of wire draw mechanism</b>	Typ. 800,000 cycles <sup>2) 3)</sup>
<b>Wire acceleration</b>	≤ 20 m/s <sup>2</sup>
<b>Operating speed</b>	3.5 m/s

<sup>1)</sup> These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

<sup>2)</sup> A cycle consists of the wire being pulled out and drawn in.

<sup>3)</sup> The service life depends on the type of load. This is influenced by environmental conditions, the installation location, the measuring range in use, the traversing speed, and acceleration.

## Ambient data

<b>EMC</b>	According to EN 61000-6-2 and EN 61000-6-3
<b>Enclosure rating</b>	IP52, Note required mounting position (IEC 60529)
<b>Operating temperature range</b>	-10 °C ... +70 °C

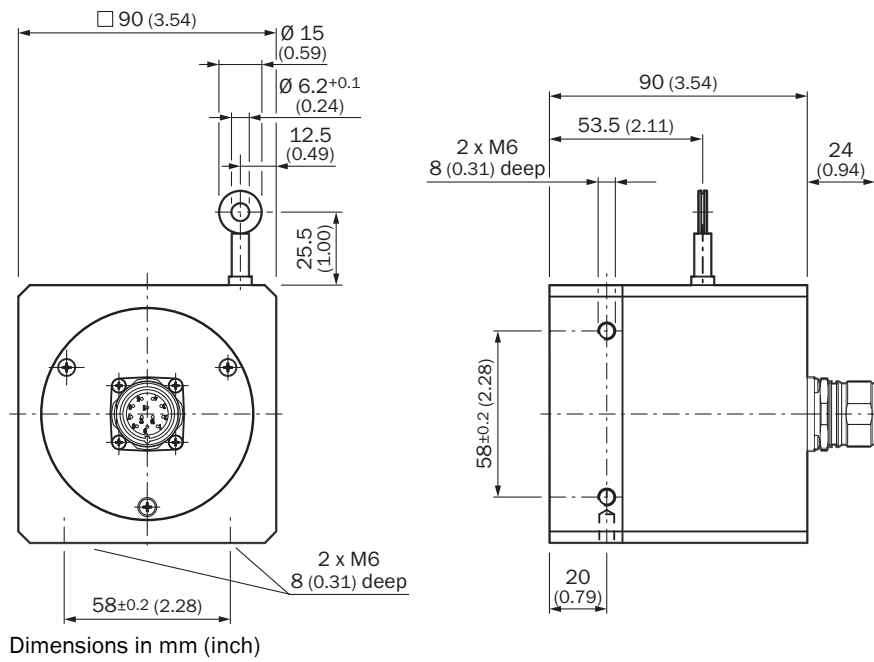
## Certificates

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

## Classifications

<b>ECLASS 5.0</b>	27270590
<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>	27270613
<b>ECLASS 11.0</b>	27270503
<b>ECLASS 12.0</b>	27270503
<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



## Recommended accessories

Other models and accessories → [www.sick.com/Compact](http://www.sick.com/Compact)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, Incremental</li> <li><b>Connection type head A:</b> Flying leads</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, Incremental</li> <li><b>Items supplied:</b> By the meter</li> <li><b>Cable:</b> 11-wire, PUR</li> </ul>	LTG-2411-MW	6027530
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, Incremental</li> <li><b>Connection type head A:</b> Flying leads</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, Incremental</li> <li><b>Items supplied:</b> By the meter</li> <li><b>Cable:</b> 12-wire, PUR, halogen-free</li> </ul>	LTG-2512-MW	6027531
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, TTL, HTL, Incremental</li> <li><b>Connection type head A:</b> Flying leads</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, TTL, HTL, Incremental</li> <li><b>Items supplied:</b> By the meter</li> <li><b>Cable:</b> 12-wire, UV and saltwater-resistant, PUR, halogen-free</li> </ul>	LTG-2612-MW	6028516
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, RS-422, TTL, HTL</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, RS-422, TTL, HTL</li> <li><b>Cable:</b> 1.5 m, 12-wire, PUR, halogen-free</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G1M5MA1	2029200
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, RS-422, TTL, HTL</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, RS-422, TTL, HTL</li> <li><b>Cable:</b> 3 m, 12-wire, PUR, halogen-free</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G03MMA1	2029201
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, RS-422, TTL, HTL</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, RS-422, TTL, HTL</li> <li><b>Cable:</b> 5 m, 12-wire, PUR, halogen-free</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G05MMA1	2029202
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, RS-422, TTL, HTL</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, RS-422, TTL, HTL</li> <li><b>Cable:</b> 10 m, 12-wire, PUR, halogen-free</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G10MMA1	2029203
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, RS-422</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, RS-422</li> <li><b>Cable:</b> 20 m, 12-wire, PUR, halogen-free</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G20MMA1	2029204
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded, RS-422</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, RS-422</li> <li><b>Cable:</b> 30 m, 12-wire, PUR, halogen-free</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G30MMA1	2029205
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI</li> <li><b>Cable:</b> 2 m, 11-wire, PUR</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G02MLA5	2030680
	<ul style="list-style-type: none"> <li><b>Description:</b> SSI, shielded</li> <li><b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI</li> </ul>	DOL-2312-G07MLA5	2030683

	Brief description	Type	part no.
	<ul style="list-style-type: none"> <li>• <b>Cable:</b> 7 m, 11-wire, PUR</li> <li>• <b>Application:</b> Zones with oils and lubricants</li> </ul>		
	<ul style="list-style-type: none"> <li>• <b>Description:</b> SSI, shielded</li> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> SSI</li> <li>• <b>Cable:</b> 10 m, 11-wire, PUR</li> <li>• <b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G10MLA5	2030686
	<ul style="list-style-type: none"> <li>• <b>Description:</b> SSI, shielded</li> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> SSI</li> <li>• <b>Cable:</b> 15 m, 11-wire, PUR</li> <li>• <b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G15MLA5	2030690
	<ul style="list-style-type: none"> <li>• <b>Description:</b> SSI, shielded</li> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> SSI</li> <li>• <b>Cable:</b> 20 m, 11-wire, PUR</li> <li>• <b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G20MLA5	2030693
	<ul style="list-style-type: none"> <li>• <b>Description:</b> SSI, shielded</li> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> SSI</li> <li>• <b>Cable:</b> 25 m, 11-wire, PUR</li> <li>• <b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G25MLA5	2030697
	<ul style="list-style-type: none"> <li>• <b>Description:</b> SSI, shielded</li> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> SSI</li> <li>• <b>Cable:</b> 30 m, 11-wire, PUR</li> <li>• <b>Application:</b> Zones with oils and lubricants</li> </ul>	DOL-2312-G30MLA5	2030700
	<ul style="list-style-type: none"> <li>• <b>Description:</b> SSI, shielded, RS-422, TTL, HTL</li> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> SSI, RS-422, TTL, HTL</li> <li>• <b>Cable:</b> 5 m, 12-wire, PUR, halogen-free</li> </ul>	DOL-2312-G05MHA1	2059786

## 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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