

# DGS80B-TSLZ00S02

DGS80/90

INCREMENTAL ENCODERS

**SICK**  
Sensor Intelligence.

Illustration may differ

## Ordering information

Type	part no.
DGS80B-TSLZ00S02	1133509

Other models and accessories → [www.sick.com/DGS80\\_90](http://www.sick.com/DGS80_90)

## Detailed technical data

## Features

<b>Special device</b>	✓
<b>Specialty</b>	Cable, with male connector, M23, 0.5 m Customer-specific pin assignment Customized label Second label included in packaging 24 mm collet pre-assembled on the encoder Female contact is included
<b>Standard reference device</b>	DGS80B-TSLK02048, 1118703

## Safety-related parameters

<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	518 years (EN ISO 13849-1) <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>Pulses per revolution</b>	2,048
<b>Measuring step</b>	90°, electric/pulses per revolution
<b>Measuring step deviation</b>	± 15° electrical
<b>Duty cycle</b>	≤ 0.5 ± 15 %

## Interfaces

<b>Communication interface</b>	Incremental
<b>Communication Interface detail</b>	HTL / Push pull
<b>Number of signal channels</b>	6-channel
<b>Initialization time</b>	< 50 ms
<b>Output frequency</b>	≤ 300 kHz
<b>Load current</b>	≤ 40 mA, per channel
<b>Operating current</b>	≤ 50 mA (without load)
<b>Power consumption</b>	≤ 0.85 W

## Electronics

<b>Connection type</b>	Special version
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<b>Connection type</b>	Detail
<b>Supply voltage</b>	5 ... 30 V
<b>Reference signal, position</b>	90°, electric, logically gated with A and B
<b>Reverse polarity protection</b>	✓
<b>Short-circuit protection of the outputs</b>	✓

## Mechanics

<b>Mechanical design</b>	Through hollow shaft
<b>Shaft diameter</b>	30 mmFront clamp <sup>1)</sup>
<b>Flange type / stator coupling</b>	1-sided stator coupling with slot available for order as accessory
<b>Weight</b>	650 g
<b>Shaft material</b>	Aluminum
<b>Flange material</b>	ZAMAC die cast
<b>Housing material</b>	ZAMAC die cast
<b>Material, cable</b>	PUR
<b>Shaft sealing ring material</b>	FKM70
<b>Material, cable gland</b>	Nickel-plated brass
<b>Start up torque</b>	6 Ncm (+20 °C)
<b>Operating torque</b>	5 Ncm (+20 °C)
<b>Permissible shaft loading</b>	100 N (radial) 100 N (axial)
<b>Operating speed</b>	≤ 3,600 min <sup>-1</sup>
<b>Moment of inertia of the rotor</b>	408 gcm <sup>2</sup>
<b>Bearing lifetime</b>	10 <sup>9</sup> revolutions

<sup>1)</sup> Collets (shaft reducer) available as accessories to reduce shaft sizes under 30 mm / 42 mm.

## Ambient data

<b>EMC</b>	According to EN 61000-6-2 and EN 61000-6-3
<b>Enclosure rating</b>	IP65 (IEC 60529)
<b>Permissible relative humidity</b>	98 % (Condensation not permitted)
<b>Operating temperature range</b>	-25 °C ... +85 °C
<b>Storage temperature range</b>	-25 °C ... +85 °C, without package
<b>Resistance to shocks</b>	250 g, 6 ms (EN 60068-2-27)
<b>Resistance to vibration</b>	10 g, 5 Hz ... 2,000 Hz (EN 60068-2-6)

## Classifications

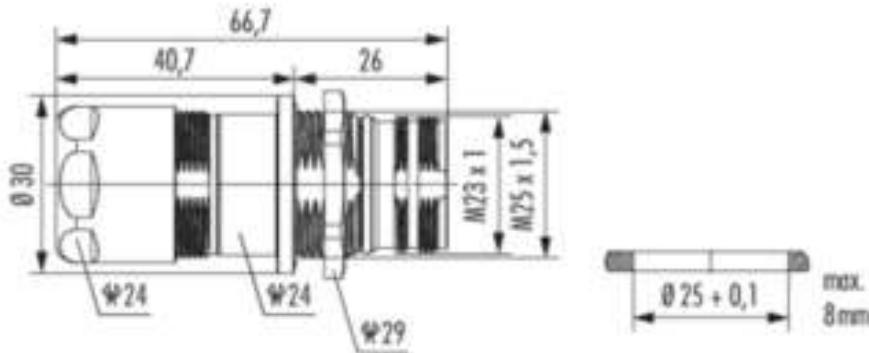
<b>ECLASS 5.0</b>	27270501
<b>ECLASS 5.1.4</b>	27270501
<b>ECLASS 6.0</b>	27270590
<b>ECLASS 6.2</b>	27270590
<b>ECLASS 7.0</b>	27270501
<b>ECLASS 8.0</b>	27270501
<b>ECLASS 8.1</b>	27270501
<b>ECLASS 9.0</b>	27270501

<b>ECLASS 10.0</b>	27270501
<b>ECLASS 11.0</b>	27270501
<b>ECLASS 12.0</b>	27270501
<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

## Certificates

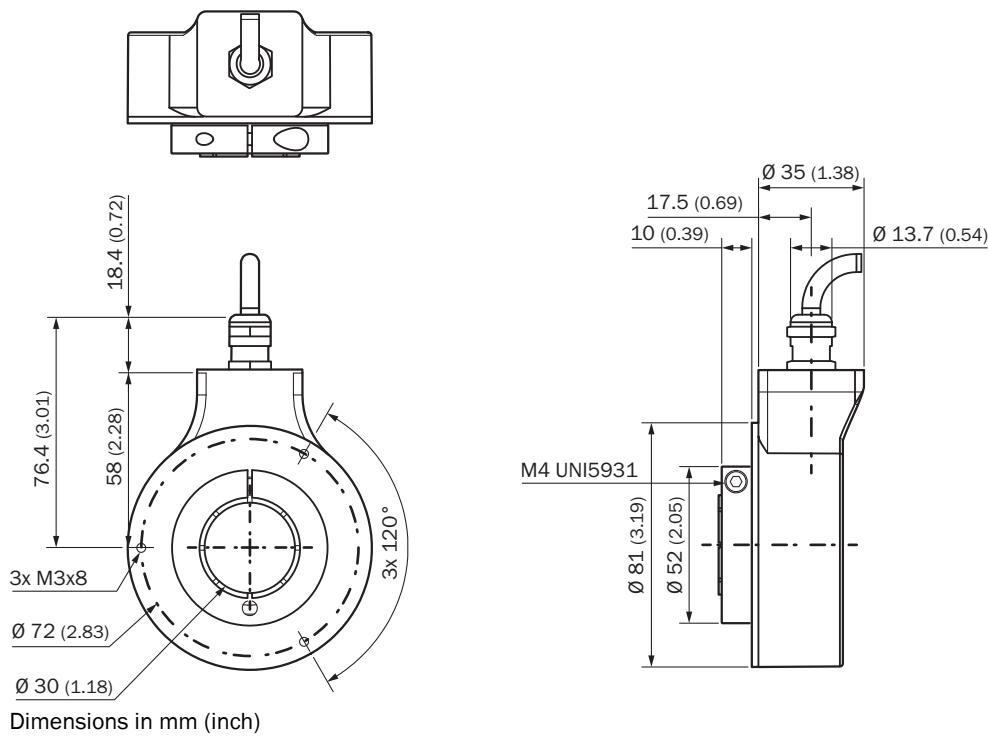
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cRUs certificate</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

## Dimensional drawing



Dimensions in mm (inch)

## Dimensional drawing Bore hole size 30 mm, cable



## PIN assignment

-	+	A	B	Z	A-	B-	Z-	Shield
10	12	05	08	03	06	01	04	09
white	brown	violet	yellow	black	pink	blue	red	

## 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)