



## DGS80

Rugged incremental encoder with large hollow shaft diameters

**SICK**  
Sensor Intelligence.

## Advantages

### Can be used anywhere thanks to large diameter

The DGS80 opens up new application options for incremental encoders: It reliably measures the rotation of large motor shafts up to a speed of 3,600 revolutions per minute. This is ensured by the large hollow shaft diameters of the encoder – 30 mm and 42 mm – and its individually adjustable, insulated collets. A cumbersome connection to a smaller encoder shaft is no longer necessary. This means that many applications can be implemented with this encoder, even if space for installing the device is limited.



The DGS80 enables speed feedback from rotating AC motors – and prevents bearing currents with insulated collets



Measuring the speed of conveyor belts and web guide rollers ensures precise control of production processes

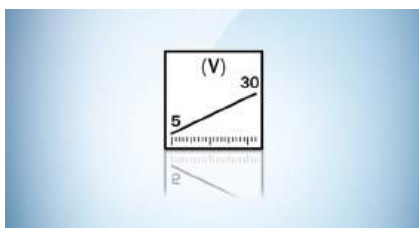


The encoder captures accurate data for elevator speed control on the hollow shaft of the AC motor



### Flexible integration into countless machine designs

The encoder is characterized by excellent compatibility: The DGS80 can be adapted to many different sizes of shaft and measures their rotations up to a speed of 3,600 revolutions per minute. It also features a wide range of connection options. The encoder can also be operated with very different supply voltages. Thanks to its universal design, the DGS80 can be integrated into almost any existing controller system.



Thanks to the wide range of supply voltages from 5 V to 30 V, the encoder is compatible with almost all controller systems



Can be easily integrated into numerous machines and plants via various connection types such as M12, M23 or MS male connector or cable



The temperature range of the encoder extends from –25 °C to +85 °C and covers many industrial applications

### Simple and time-saving installation

The DGS80 can be installed in just a few steps, regardless of the machine design. The slotted stator couplings ensure easy mounting of the encoder with high mounting flexibility at the same time. With a clamp ring, the DGS80 can also be quickly attached to hollow shafts. Its small external diameter of only 82 mm enables mounting even when space is at a premium.

Thanks to its wide range of supply voltages, the DGS80 can be installed in almost any existing controller system without an upstream voltage regulator.



Slotted stator couplings and collets in various sizes offer great flexibility for mounting the DGS80 on motors and machines



The clamp ring enables time- and space-saving installation of the encoder directly on hollow shafts



Ready for operation in a flash: The DGS80 is easy to install, even when space is limited



**With its universal, rugged design and hollow shaft diameter of up to 42 mm, the DGS80 is ideal for AC motor feedback applications and use in mechanical engineering.**



### Technical data overview

<b>Pulses per revolution</b>	0 ... 8,192
<b>Mechanical design</b>	Through hollow shaft
<b>Shaft diameter</b>	30 mm <sup>1)</sup> 42 mm <sup>1)</sup>
<b>Connection type</b>	Male connector, M23, 12-pin, radial Male connector, M12, 8-pin, radial Male connector, MS, 10-pin, radial Cable, 8-wire, radial
<b>Communication interface</b>	Incremental
<b>Communication Interface detail</b>	TTL / RS-422 HTL / Push pull
<b>Supply voltage</b>	5 ... 30 V
<b>Enclosure rating</b>	IP65
<b>Output frequency</b>	≤ 300 kHz
<b>Operating temperature range</b>	-25 °C ... +85 °C

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

### Product description

The DGS80 is an incremental encoder with large hollow shaft diameters up to 42 mm. It can be used in countless industrial automation applications. Combined with the many connection options of the DGS80, its supply voltage range of 5 V to 30 V facilitates integration into most control systems. The incremental encoder is characterized by quick and easy installation: This is made possible by its compact design, the clamping ring for speedy mounting, the universal stator couplings and the large selection of collets that simplify mounting on shafts of different size.

### At a glance

- Pulse per revolution: Up to 8,192
- Housing diameter: 81 mm, diameter of through hollow shaft: 30 mm or 42 mm
- Enclosure rating: IP65
- Communication interfaces: TTL, HTL
- Connection types: M12, M23 and MS male connector and cable
- Collets available as accessories for adjusting to shafts of different size

### Your benefits

- Large hollow shaft diameters and a wide range of collets eliminate the need for special couplings and allow for quick and easy integration into numerous applications
- Easy integration into control systems thanks to large supply voltage range
- Reduction of installation time thanks to the easy-to-mount clamping ring and the stator couplings
- Compact, space-saving design facilitates installation in tight installation spaces

### Fields of application

- The large resolution range means the encoder is well-suited for many different industrial applications such as printing, scanning and elevator speed control. Industrial applications such as speed measurement of AC motors, printing, scanning
- Large hollow shaft diameters and rugged construction for applications in the timber and metal industry
- AC motor applications thanks to large selection of insulating collets

## Ordering information

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

Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
–	–	Incremental / HTL / Push pull	–	–	–	DGS80-S01 Sales kit	1133814
						DGS80-S02 Sales kit	1133823
Through hollow shaft	30 mm <sup>1)</sup>	Incremental / HTL / Push pull	5 V ... 30 V	Cable, 8-wire, radial, 1.5 m	1,024	DGS80B-TSLK01024	1118702
					2,048	DGS80B-TSLK02048	1118703
					2,500	DGS80B-TSLK02500	1118704
					4,096	DGS80B-TSLK04096	1118705
					5,000	DGS80B-TSLK05000	1118706
					8,192	DGS80B-TSLK08192	1118707
Through hollow shaft	30 mm <sup>1)</sup>	Incremental / HTL / Push pull	5 V ... 30 V	Male connector, M12, 8-pin, radial	1,024	DGS80B-TSLC01024	1118708
					2,048	DGS80B-TSLC02048	1118709
					2,500	DGS80B-TSLC02500	1118710
					4,096	DGS80B-TSLC04096	1118711
					5,000	DGS80B-TSLC05000	1118712
					8,192	DGS80B-TSLC08192	1118713
				Male connector, M23, 12-pin, radial	1,024	DGS80B-TSLA01024	1118696
					2,048	DGS80B-TSLA02048	1118697
					2,500	DGS80B-TSLA02500	1118698
					4,096	DGS80B-TSLA04096	1118699

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

Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
	30 mm <sup>1)</sup>	Incremental / HTL / Push pull	5 V ... 30 V	Male connector, MS, 10-pin, radial	5,000	DGS80B-TSLA05000	1118700
					8,192	DGS80B-TSLA08192	1118701
					1,024	DGS80B-TSL401024	1118690
					2,048	DGS80B-TSL402048	1118691
					2,500	DGS80B-TSL402500	1118692
					4,096	DGS80B-TSL404096	1118693
					5,000	DGS80B-TSL405000	1118694
					8,192	DGS80B-TSL408192	1118695
		Incremental / TTL / RS-422	5 V ... 30 V	Cable, 8-wire, radial, 1.5 m	1,024	DGS80B-TSHK01024	1118678
					2,048	DGS80B-TSHK02048	1118679
					2,500	DGS80B-TSHK02500	1118680
					4,096	DGS80B-TSHK04096	1118681
					5,000	DGS80B-TSHK05000	1118682
					8,192	DGS80B-TSHK08192	1118683
				Male connector, M12, 8-pin, radial	1,024	DGS80B-TSHC01024	1118684
					2,048	DGS80B-TSHC02048	1118685
					2,500	DGS80B-TSHC02500	1118686
					4,096	DGS80B-TSHC04096	1118687
					5,000	DGS80B-TSHC05000	1118688
					8,192	DGS80B-TSHC08192	1118689
Through hollow shaft	30 mm <sup>1)</sup>	Incremental / TTL / RS-422	5 V ... 30 V	Male connector, M23, 12-pin, radial	1,024	DGS80B-TSHA01024	1118672
					2,048	DGS80B-TSHA02048	1118673
					2,500	DGS80B-TSHA02500	1118674
					4,096	DGS80B-TSHA04096	1118675
					5,000	DGS80B-TSHA05000	1118676
					8,192	DGS80B-TSHA08192	1118677
				Male connector, MS, 10-pin, radial	1,024	DGS80B-TSH401024	1118666
					2,048	DGS80B-TSH402048	1118667
					2,500	DGS80B-TSH402500	1118668
					4,096	DGS80B-TSH404096	1118669

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

Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
	42 mm <sup>1)</sup>	Incremental / HTL / Push pull	5 V ... 30 V	Cable, 8-wire, radial, 1.5 m	5,000	DGS80B-TSH405000	1118670
					8,192	DGS80B-TSH408192	1118671
					1,024	DGS80B-TYLK01024	1118750
					2,048	DGS80B-TYLK02048	1118751
					2,500	DGS80B-TYLK02500	1118752
					4,096	DGS80B-TYLK04096	1118753
					5,000	DGS80B-TYLK05000	1118754
					8,192	DGS80B-TYLK08192	1118755
				Male connector, M12, 8-pin, radial	1,024	DGS80B-TYLC01024	1118756
					2,048	DGS80B-TYLC02048	1118757
					2,500	DGS80B-TYLC02500	1118758
					4,096	DGS80B-TYLC04096	1118759
					5,000	DGS80B-TYLC05000	1118760
					8,192	DGS80B-TYLC08192	1118761
				Male connector, M23, 12-pin, radial	1,024	DGS80B-TYLA01024	1118744
					2,048	DGS80B-TYLA02048	1118745
					2,500	DGS80B-TYLA02500	1118746
					4,096	DGS80B-TYLA04096	1118747
					5,000	DGS80B-TYLA05000	1118748
					8,192	DGS80B-TYLA08192	1118749
Through hollow shaft	42 mm <sup>1)</sup>	Incremental / HTL / Push pull	5 V ... 30 V	Male connector, MS, 10-pin, radial	1,024	DGS80B-TYL401024	1118738
					2,048	DGS80B-TYL402048	1118739
					2,500	DGS80B-TYL402500	1118740
					4,096	DGS80B-TYL404096	1118741
					5,000	DGS80B-TYL405000	1118742
					8,192	DGS80B-TYL408192	1118743
		Incremental / TTL / RS-422	5 V ... 30 V	Cable, 8-wire, radial, 1.5 m	1,024	DGS80B-TYHK01024	1118726
					2,048	DGS80B-TYHK02048	1118727
					2,500	DGS80B-TYHK02500	1118728
					4,096	DGS80B-TYHK04096	1118729

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

Mechanical design	Shaft diameter	Communication interface	Supply voltage	Connection type	Pulses per revolution	Type	Part no.
					5,000	DGS80B-TYHK05000	1118730
					8,192	DGS80B-TYHK08192	1118731
				Male connector, M12, 8-pin, radial	1,024	DGS80B-TYHC01024	1118732
					2,048	DGS80B-TYHC02048	1118733
					2,500	DGS80B-TYHC02500	1118734
					4,096	DGS80B-TYHC04096	1118735
					5,000	DGS80B-TYHC05000	1118736
					8,192	DGS80B-TYHC08192	1118737
				Male connector, M23, 12-pin, radial	1,024	DGS80B-TYHA01024	1118720
					2,048	DGS80B-TYHA02048	1118721
					2,500	DGS80B-TYHA02500	1118722
					4,096	DGS80B-TYHA04096	1118723
					5,000	DGS80B-TYHA05000	1118724
					8,192	DGS80B-TYHA08192	1118725
				Male connector, MS, 10-pin, radial	1,024	DGS80B-TYH401024	1118714
					2,048	DGS80B-TYH402048	1118715
					2,500	DGS80B-TYH402500	1118716
					4,096	DGS80B-TYH404096	1118717
					5,000	DGS80B-TYH405000	1118718
					8,192	DGS80B-TYH408192	1118719

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



## 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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