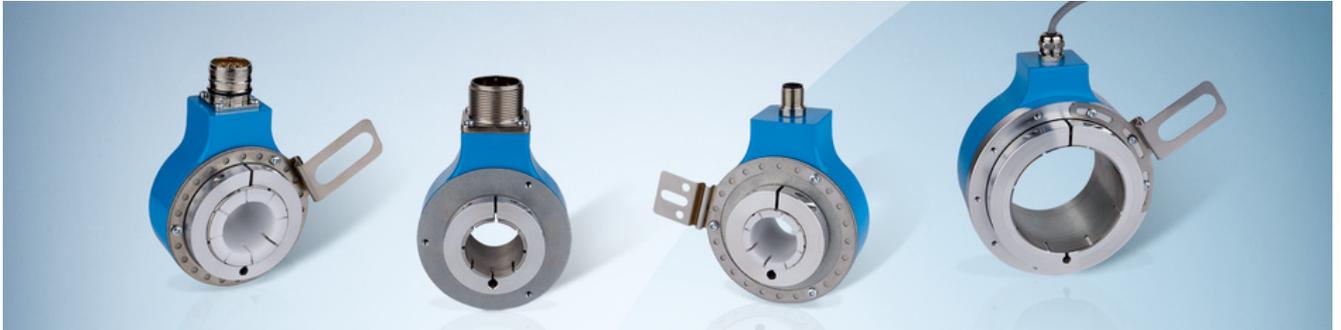# DGS80/90

Rugged encoders with hollow shaft diameters up to 65 mm, ideal for asynchronous motors

SICK
Sensor Intelligence.

Advantages
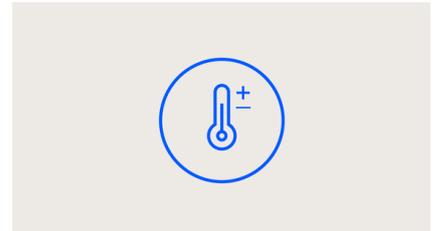

Flexible integration into countless machine designs

The DGS80 and DGS90 incremental encoders measure shaft rotations and are characterized by great compatibility and easy installation. With the wide range of collets available, the encoders can be adapted to many different shaft sizes. The hollow shaft diameters range from 16 mm to 42 mm for the DGS80 and from 42 mm to 65 mm for the DGS90. The devices also offer a wide range of connection options. In addition, the encoders can be operated with different supply voltages. Due to the universal design, DGS80 and DGS90 can be integrated into numerous existing control systems.

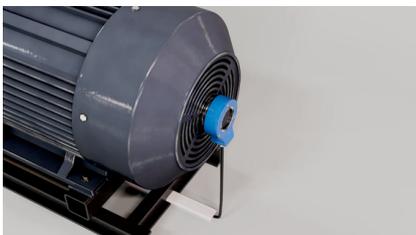IP65 rated for harsh industrial ambient conditions.

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.
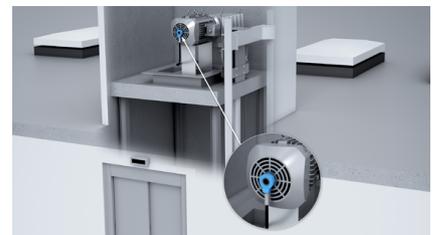
Can be used anywhere thanks to large diameter

The DGS80 and DGS90 open up new application possibilities for incremental encoders: The devices reliably measure the rotations of large motor shafts, conveyor technology applications, transmissions and other applications – up to a speed of 3,600 revolutions per minute (DGS80) and 2,000 revolutions per minute (DGS90). This is ensured by the large hollow shaft diameters of the encoders: 30 mm and 42 mm for the DGS80 and 65 mm for the DGS90. The encoders also have insulated collets, which are available as accessories to reduce the size of the encoder shaft. 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 devices is limited.

DGS80 and DGS90 enable speed feedback from rotating AC motors – and prevent bearing currents with insulated collets.

Thanks to their simple mounting on shafts, the DGS80 and DGS90 provide speed feedback and control for conveyor belt applications.

The DGS80 and DGS90 measure speeds just as accurately as they control elevator gears and motor drive units.
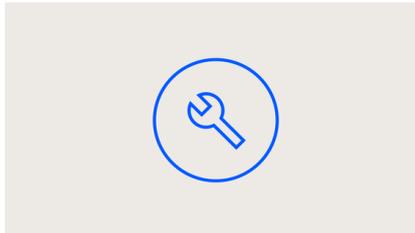
Simple and time-saving installation

The DGS80 and DGS90 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 encoders can also be quickly attached to hollow shafts. The small external diameter of only 81 mm (DGS80) and 110 mm (DGS90) enables mounting even when space is at a premium. Thanks to its wide range of supply voltages, the DGS80 and DGS90 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 encoders on motors and machines.

Ready for operation in a flash: Ith its compact design, the DGS80/DGS90 is easy to install, even when space is limited.

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

➕ **With their universal, rugged design and a hollow shaft diameter of up to 42 mm (DGS80) and 65 mm (DGS90), these encoders are ideal for speed measurements in many industrial applications.**

DGS80/90

Technical data overview

Pulses per revolution	0 ... 8,192
Mechanical design	Through hollow shaft
Shaft diameter	30 mm, Front clamp [1] 42 mm, Front clamp [1] 65 mm, Front clamp [2]
Connection type	Male connector, M23, 12-pin, radial Male connector, M12, 8-pin, radial Male connector, MS, 10-pin, radial Cable, 8-wire, radial Special version
Communication interface	Incremental
Communication Interface detail	TTL / RS-422 HTL / Push pull
Supply voltage	5 ... 30 V
Enclosure rating	IP65
Output frequency	≤ 300 kHz
Operating temperature range	−25 °C ... +85 °C

[1] Collets (shaft reducer) available as accessories to reduce shaft sizes under 30 mm / 42 mm.

[2] Collets (shaft reducer) available as accessories to reduce shaft sizes under 65 mm.

Product description

DGS80 and DGS90 are incremental encoders with large hollow shaft diameters of up to 42 mm (DGS80) and 65 mm (DGS90). The devices can be used in countless industrial automation applications. Combined with the many facilities for connecting the encoder, its supply voltage range of 5 V to 30 V makes integration into many control systems easier. The DGS80 and DGS90 are also characterized by their quick and easy installation: This is made possible by their compact design, the clamping ring for quick installation, the universal stator couplings, and the large selection of collets that simplify installation on shafts of different sizes.

At a glance

- Pulses per revolution: ≤ 8,192
- Diameter of the through hollow shafts: 30 mm or 42 mm (DGS80), 65 mm (DGS90)
- Enclosure rating: IP65
- Communication interfaces: TTL, HTL
- Connection types: M12, M23, MS (Mil-Spec) plug and cable with flying leads
- 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 high resolution range makes the encoder suitable for controlling elevator and conveyor belt speeds
- AC motor applications thanks to large selection of insulating collets
- Large hollow shaft diameters and rugged construction for applications in the timber and metal industry

Type code

Other models and accessories ➜ www.sick.com/DGS80_90

Shaft diameter

| 8 | 0 | 30 mm and 42 mm |
| 9 | 0 | 65 mm |

Type

| B | Basic |

Mechanical type

| T | Through hollow shaft |

Shaft diameter

S	30 mm [1]
Y	42 mm [1]
W	65 mm [2]

Communication interface

| H | 4.5 V ... 30 V, TTL |
| L | 4.5 V ... 30 V, HTL |

Connection type

A	Plug, M23, 12-pin, radial
C	Plug, M12, 8-pin, radial
4	Plug, MS, 10-pin, radial
K	Cable, 8-wire, radial, 1.5 m

Resolution

01024	Pulses per revolution
02048	Pulses per revolution
02500	Pulses per revolution
04096	Pulses per revolution
05000	Pulses per revolution
08192	Pulses per revolution

| D | G | S | | | B | - | T | | | | | | | | | | |

[1] Only for DGS80.
[2] Only for DGS90.

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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