



DGS35-1KK01024

DGS3x

INCREMENTAL ENCODERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
DGS35-1KK01024	1049552

Other models and accessories → www.sick.com/DGS3x

Detailed technical data

Performance

Pulses per revolution	1,024
Measuring step	90° electric/pulses per revolution
Measuring step deviation	± 45° / pulses per revolution
Error limits	± 45° / pulses per revolution

Interfaces

Communication interface	Incremental
Communication Interface detail	TTL / RS-422
Output frequency	300 kHz
Load current	40 mA
Operating current	120 mA (without load)
4.5 V... 5.5 V, TTL/RS-422	
Load current	40 mA
Operating current	120 mA (without load)
4.5 V ... 5.5 V, Open Collector	
Load current	40 mA
Operating current	120 mA (without load)
TTL/RS-422	
Load current	40 mA
HTL/Push pull	
Load current	40 mA
TTL/HTL	
Load current	40 mA
Open Collector	
Load current	40 mA

Electrical data

Connection type	Cable, 11-wire, radial, 1.5 m
Supply voltage	4.5 ... 5.5 V
Reference signal, number	1

Reference signal, position	180°, electronically, gated with B negative
Reverse polarity protection	✓

Mechanical data

Mechanical design	Through hollow shaft
Shaft diameter	30 mm ¹⁾
Flange type / stator coupling	T1 stator coupling
Weight	1.1 kg ²⁾
Shaft material	Brass
Flange material	Aluminum
Housing material	Aluminum
Start up torque	9 Ncm (+20 °C)
Operating torque	7 Ncm (+20 °C)
Permissible shaft movement, axial static/dynamic	0.5 mm / 0.5 mm
Permissible shaft movement, radial static/dynamic	0.5 mm / 0.1 mm
Operating speed	3,000 min ⁻¹
Moment of inertia of the rotor	490 gcm ²
Bearing lifetime	4.5 x 10 ⁹ revolutions
Angular acceleration	≤ 100,000 rad/s ²

¹⁾ Separately order collets for 24 mm and 25 mm as accessories.

²⁾ Based on devices with male connector.

Ambient data

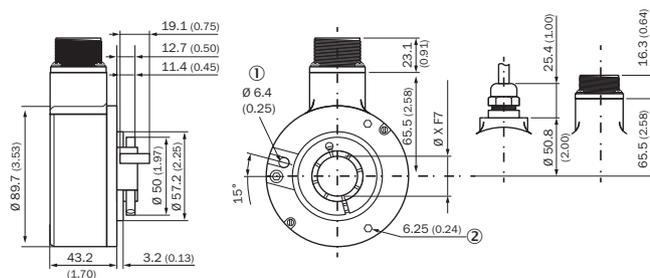
EMC	EN 61000-6-2, EN 61000-6-3
Enclosure rating	IP66, housing side, cable connection
Permissible relative humidity	95 % (condensation of the optical scanning not permitted)
Operating temperature range	-20 °C ... +70 °C
Storage temperature range	-30 °C ... +85 °C, without package
Resistance to shocks	50 g, 11 ms
Resistance to vibration	20 g, 5 Hz ... 2,000 Hz

Classifications

ECl@ss 5.0	27270501
ECl@ss 5.1.4	27270501
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270501
ECl@ss 8.0	27270501
ECl@ss 8.1	27270501
ECl@ss 9.0	27270501
ECl@ss 10.0	27270501
ECl@ss 11.0	27270501

ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

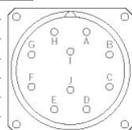
Dimensional drawing (Dimensions in mm (inch))



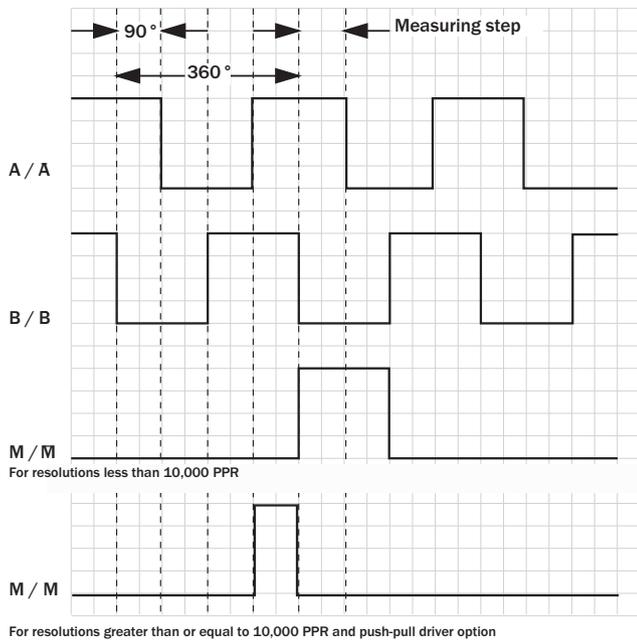
- ① Dowel pin
- ② Depth

PIN assignment

Function	10 pin	Cable
A	A	White
B	B	Pink
M	C	Lilac
A not	H	Brown
B not	I	Black
M not	J	Yellow
+Vs	D	Red
Common	F	Blue
Case ground	G	N/A
Shield	N/A	N/A



Diagrams



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