

DBS36E-BBGZ00S47

DBS36 Core

INCREMENTAL ENCODERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
DBS36E-BBGZ00S47	1088569

Other models and accessories → www.sick.com/DBS36_Core



Detailed technical data

Features

Special device	✓
Specialty	Customized Resolution: 1ppr Customized PIN allocation HTL/Push pull 7 V ... 27 V A, B channels Specified operating conditions: one cycle of 1 min. every 30 min., only seldom (not every day) the motor makes a cycle of 20 min. Temperature range down to -30 °C Premounted sleeves in black and violet
Standard reference device	DBS36E-BBGJ01024, 1077388

Performance

Pulses per revolution	1,024
Measuring step	90° electric/pulses per revolution
Measuring step deviation	± 18° / pulses per revolution
Error limits	± 54° / pulses per revolution
Duty cycle	≤ 0.5 ± 5 %

Interfaces

Communication interface	Incremental
Communication Interface detail	HTL / Push pull
Number of signal channels	3 channel
Initialization time	< 3 ms
Output frequency	≤ 300 kHz
Load current	≤ 30 mA
Power consumption	≤ 0.5 W (without load)
4.5 V... 5.5 V, TTL/RS-422	
Load current	≤ 30 mA
4.5 V ... 5.5 V, Open Collector	
Load current	≤ 30 mA
TTL/RS-422	
Load current	≤ 30 mA
Power consumption	≤ 0.5 W (without load)
HTL/Push pull	
Load current	≤ 30 mA
Power consumption	≤ 0.5 W (without load)

TTL/HTL	Load current	≤ 30 mA
	Power consumption	≤ 0.5 W (without load)
Open Collector	Load current	≤ 30 mA
	Power consumption	≤ 0.5 W (without load)

Electrical data

Connection type	Cable, 5-wire, universal, 0.5 m
Supply voltage	7 ... 27 V
Reference signal, number	1
Reference signal, position	90°, electric, logically gated with A and B
Reverse polarity protection	✓
MTTFd: mean time to dangerous failure	600 years (EN ISO 13849-1) ¹⁾

¹⁾ 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.

Mechanical data

Mechanical design	Blind hollow shaft
Shaft diameter	8 mm ¹⁾
Weight	+ 150 g (with connecting cable)
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Aluminum
Material, cable	PVC
Start up torque	+ 0.5 Ncm (+20 °C)
Operating torque	0.4 Ncm (+20 °C)
Permissible shaft movement, axial static/dynamic	± 0.5 mm / ± 0.2 mm ²⁾
Permissible shaft movement, radial static/dynamic	± 0.3 mm / ± 0.1 mm ²⁾
Operating speed	6,000 min ⁻¹ ³⁾
Maximum operating speed	≤ 8,000 min ⁻¹ ⁴⁾
Moment of inertia of the rotor	0.8 gcm ²
Bearing lifetime	2 x 10 ⁹ revolutions
Angular acceleration	≤ 500,000 rad/s ²

¹⁾ Order collets for 5 mm, 6 mm and 1/4" mm separately as accessories.

²⁾ Higher values are possible using limited bearing life.

³⁾ Self warming of 4.7 K per 1000 min⁻¹ when applying note operating temperature range.

⁴⁾ No permanent operation. Decreasing signal quality.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3 (class A)
Enclosure rating	IP65

Permissible relative humidity	90 % (condensation of the optical scanning not permitted)
Operating temperature range	-30 °C ... +70 °C
Storage temperature range	-40 °C ... +100 °C, without package
Resistance to shocks	100 g, 6 ms (EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)

Classifications

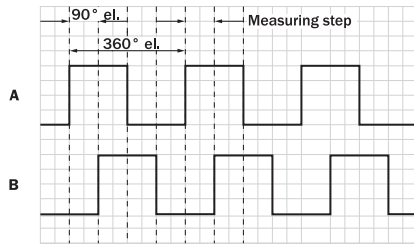
ECl@ss 5.0	27270501
ECl@ss 5.1.4	27270501
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270501
ECl@ss 8.0	27270501
ECl@ss 8.1	27270501
ECl@ss 9.0	27270501
ECl@ss 10.0	27270501
ECl@ss 11.0	27270501
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

PIN assignment

Wire color	Signal TTL/ HTL 3-channel
-	Not connected
white	A
-	Not connected
pink	B
purple	Not connected
blue	GND
Red	+Us
-	Not connected
-	Not connected
-	Not connected
-	Not connected
Shield	Shield

Signal outputs

Signal outputs



Z signals are not connected

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:

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