ONLINE DATA SHEET
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Incremental encoders
DBS36

DBS36E-S3EK00120

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Incremental encoders
DBS36

Model Name	**> DBS36E-S3EK00120**
Part No.	**> 1061218**

Illustration may differ

At a glance

- Connection with universal cable outlet
- Versions with blind hollow shaft or face mount flange with solid shaft
- Face mount flange with 3 mounting hole patterns and servo groove
- Hollow shaft with universal stator coupling
- Compact diameter of 37 mm
- Electrical interfaces: TTL/RS-422, HTL/push pull and Open Collector NPN
- Available PPR: 100 to 2,500
- Temperature range: -20 °C ... +85 °C
- Enclosure rating: IP 65

Your benefits

- The universal cable outlet allows use in tight spaces and makes flexible cable routing possible
- Face mount flange with various mounting hole patterns provides flexibility when mounting in new or existing applications
- Face mount flange with servo groove makes mounting with servo clamps possible
- The DBS36E's universal stator coupling ensures easy device replacement without changing the application
- The high flexibility of the encoders' mechanical interface and the available accessories make it possible to use one design in many applications
- Compatibility with the DDS36E series makes it easy to replace this series in existing applications

CE

Performance

Error limits:	± 54 ° (/pulses)
Measuring step:	90 °/electronically/pulses
Initialization time:	< 3 ms
Pulses per revolution:	120

Mechanical data

Mechanical interface:	Solid shaft, Face mount flange
Shaft diameter:	6 mm x 12 mm
Mass:	150 g (with connecting cable)
Start up torque:	0.5 Ncm (20 °C)
Operating torque:	0.4 Ncm (20 °C)
Maximum operating speed:	8,000 U/min [1)]
Moment of inertia of the rotor:	0.6 gcm²

Bearing lifetime:	2 x 10^9 revolutions
Max. angular acceleration:	500,000 rad/s²
Permissible shaft loading radial/axial:	20 N (axial), 40 N (radial)
Operating speed:	6,000 /min [2]

[1] No permanent operation. Decreasing signal quality. [2] Self-warming 3.3 K per 1,000 1/min

Electrical data

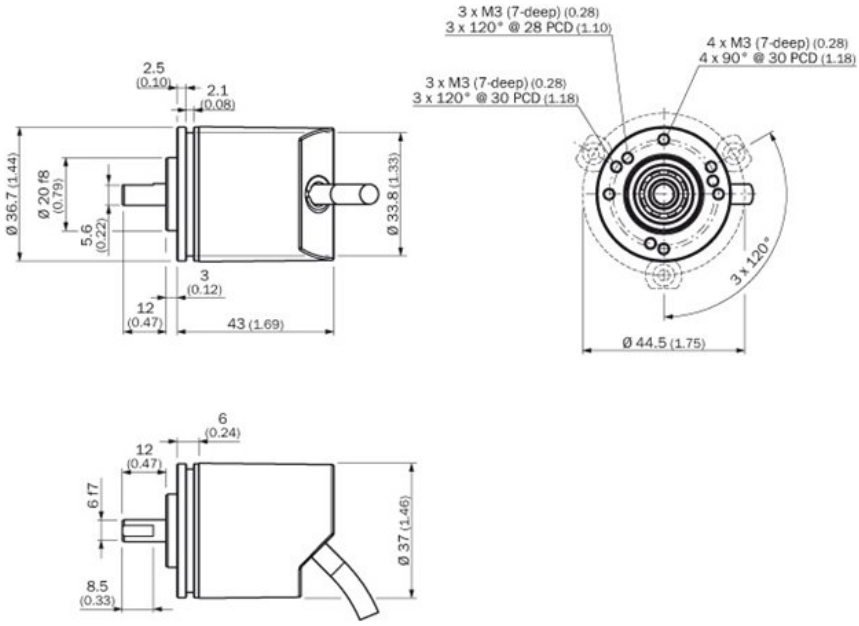
Electrical interface:	7 V ... 30 V, HTL/Push pull, Cable, 8-pin, universal, 1.5 m
Connection type:	Cable, 8-pin, universal, 1.5 m
Maximum output frequency:	300 kHz
Reference signal, number:	1
Reference signal, position:	90 °, electronically, gated with A and B
Operating voltage range:	4.5 V ... 5.5 V
Load current max.:	30 mA
Power consumption:	Without load
MTTFd: mean time to dangerous failure:	600 a (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.

Ambient data

EMC:	(according to EN 61000-6-2 and EN 61000-6-4 (class A))
Working temperature range:	-20 °C ... 85 °C
Storage temperature range:	-40 °C ... 100 °C, without package
Resistance to shocks:	100 g (EN 60068-2-27)
Resistance to vibration:	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)
Enclosure rating:	IP 65
Permissible relative humidity:	90 % (condensation of the optical scanning not permitted)

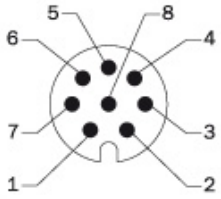
Dimensional drawing



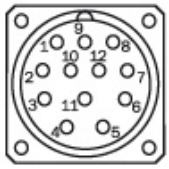
PIN assignment

8-core cable

View of M12 device connector on cable

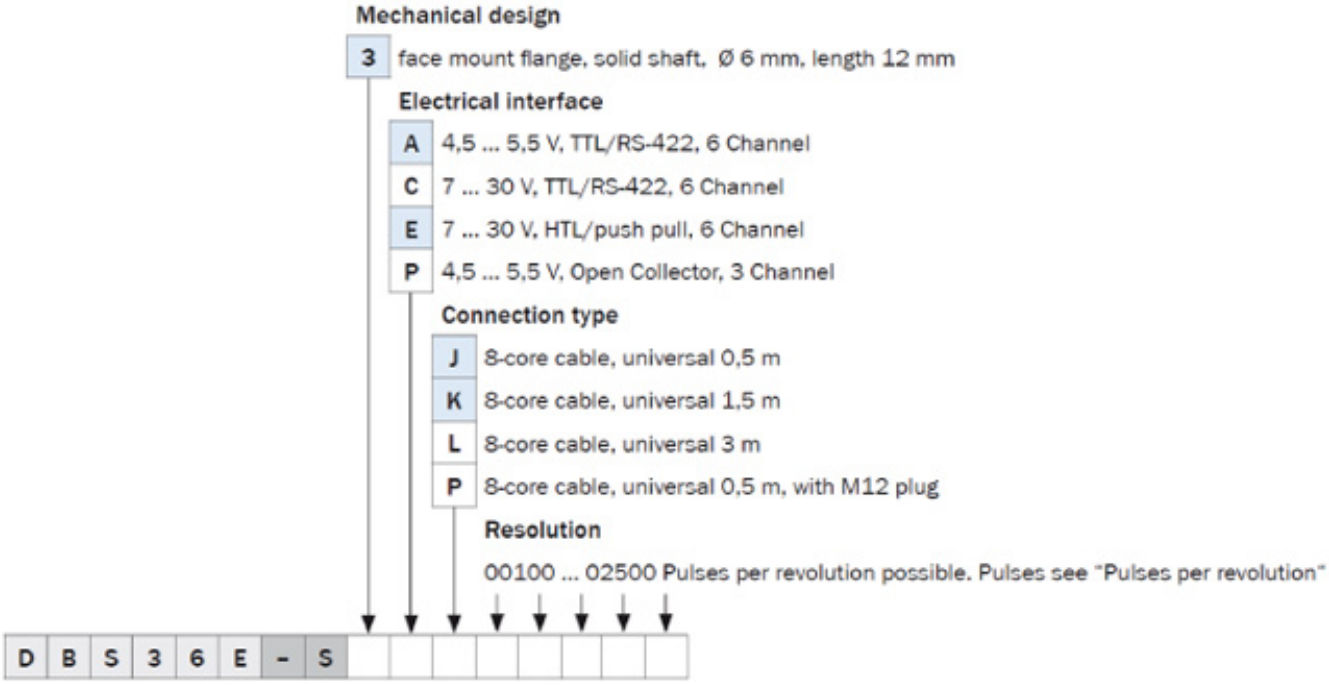


View of M12 device connector on cable



Colour of wires	Pin 12-pole in M12	Pin 12-pole in M23	Signal OC	Signal TTL; HTL	Explanation
Brown	1	6	Not connected	A-	Signal line
White	2	5	A	A	Signal line
Black	3	1	Not connected	B-	Signal line
Pink	4	8	B	B	Signal line
Yellow	5	4	Not connected	Z-	Signal line
Lilac	6	3	Z	Z	Signal line
Blue	7	10	GND	GND	Ground connection of the Encoder
Red	8	12	+Us	+Us	Supply voltage
-	-	9	Not connected	Not connected	Not connected
-	-	2	Not connected	Not connected	Not connected
-	-	11	Not connected	Not connected	Not connected
-	-	7	Not connected	Not connected	Not connected
Screen	Screen	Screen	Screen	Screen	Screen (Screen connected to Encoder housing.

Type code



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