

Absolute encoders - bus interfaces

Blind hollow shaft ø12 mm

Optical single- or multiturn encoders 18 bit ST / 14 bit MT, CANopen®

BOSH, BOMH CANopen® - Digitalizer



BOMH CANopen® with blind hollow shaft

Features

- High-resolution encoder single- or multiturn / CANopen®
- Optical sensing method
- Resolution: singleturn 18 bit, multiturn 14 bit
- Integrated fieldbus interface
- Resolution and zero point programmable
- Blind hollow shaft ø12 mm

Technical data - electrical ratings

Voltage supply	10...30 VDC
Initializing time typ.	170 ms after power on
Interface	CANopen®
Profile conformity	CANopen® CiA DSP 301 4.01, DSP 305 V1.0, DSP 406 V3.0
Steps per revolution	≤262144 / 18 bit
Absolute accuracy	±0.025 °
Sensing method	Optical
Repeatability	±0.012 °
Code	Binary
Code sequence	CW default, programmable
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Programmable parameters	Operating modes Total resolution Scaling Rotation speed monitoring
Diagnostic functions	Position or parameter error Multiturn sensing
Approval	UL approval / E217823

BOSH

Consumption typ.	100 mA (24 VDC, w/o load)
Function	Singleturn

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Consumption typ.	150 mA (24 VDC, w/o load)
Function	Multiturn
Number of revolutions	≤16384 / 14 bit

Technical data - mechanical design

Size (flange)	ø58 mm
Protection DIN EN 60529	IP 65
Operating speed	≤6000 rpm
Operating torque typ.	0.0175 Nm
Material	Housing: aluminium
Operating temperature	-20...+85 °C
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-2000 Hz DIN EN 60068-2-27 Shock 50 g, 11 ms
Weight approx.	300 g
Connection	Connector D-SUB, 9-pin

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Shaft type	ø12 mm (through hollow shaft)
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Shaft type	ø12 mm (blind hollow shaft)
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Part number

Singleturn

BOSH 58S1N

24B	18/00		H
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Connection
H Connector axial
D-SUB

Blind hollow shaft

B2 ø12 mm, IP 42, with
clamping ring

E2 ø12 mm, IP 65, with
clamping ring

I2 ø12 mm, IP 42, with
clamping ring and spring
washer

M2 ø12 mm, IP 65, with
clamping ring and spring
washer

Resolution

18/00 18 bit singleturn

Voltage supply / signals

24B 10...30 VDC / CANopen®

Multiturn

BOMH 58S1N

24B			H
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Connection
H Connector axial
D-SUB

Blind hollow shaft

B2 ø12 mm, IP 42, with
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E2 ø12 mm, IP 65, with
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I2 ø12 mm, IP 42, with
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washer

M2 ø12 mm, IP 65, with
clamping ring and spring
washer

Resolution

13/12 13/12 bit single-/multiturn

18/14 18/14 bit single-/multiturn

Voltage supply / signals

24B 10...30 VDC / CANopen®

Accessories

Connectors and cables

10154968 Female connector D-SUB, 9-pin, CAN,
angled, with terminating resistor

Mounting accessories

10136635 Set of spring plate for encoders ø58 mm

10110616 Clamp set ø15 mm

Programming accessories

10147362 CD-ROM with GSD-/EDS-/XML files and user
manuals

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Terminal significance

+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
CAN_L	CAN bus signal (dominant Low).
CAN_H	CAN bus signal (dominant High).
CAN_GND	GND relating to CAN interface.

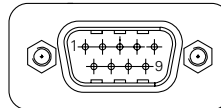
CANopen® features

Bus protocol	CANopen®
Device profile	CANopen® - CiA DSP 406, V 3.0 (Device Class 2, CAN 2.0B)
Operating modes	- Event-triggered / Time-triggered - Remotely-requested - Sync (cyclic) / Sync (acyclic)
Preset	Parameter for setting the encoder to a requested position value assigned to a defined shaft position of the system. The offset of encoder zero point and mechanical zero point is stored in the encoder.
Rotating direction	Parameter for defining the rotating direction in which there have to be ascending or descending position values. Default setting: Ascending position values when looking at the flange and rotating the shaft clockwise.
Scaling	Parameter defining the steps per turn as well as the total resolution.
Diagnosis	The encoder supports the following error warnings: - Position and parameter error - Lithium battery voltage (multiturn)
Node Monitoring	Heartbeat or Nodeguarding
Default	50 kbit/s, Node ID 1

Terminal assignment

Connector D-Sub male

Connector	Signals	Description
Pin 1	n.c.	–
Pin 2	CAN_L	Bus (dominant Low)
Pin 3	CAN_GND	CAN Ground
Pin 4	n.c.	–
Pin 5	n.c.	–
Pin 6	0 V	Supply voltage
Pin 7	CAN_H	Bus (dominant High)
Pin 8	n.c.	–
Pin 9	+Vs	Supply voltage



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Dimensions

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