

## Encoder WDG 50B



- Economic encoder with mechanical carrying of loading
- Protection to IP67, shaft sealed to IP65
- Optional: -40 °C up to +80 °C

[www.wachendorff-automation.com/wdg50b](http://www.wachendorff-automation.com/wdg50b)

**Available PPR** up to 2500 PPR

### Mechanical Data

#### Housing

- Clamping flange: Aluminium
- Cap: Aluminium, powder coated
- Cam mounting: pitch 61 mm

#### Shaft

- Material: Ø 8 mm stainless steel
- Permitted load on shaft end: max. 120 N radial, max. 70 N axial
- Starting torque: approx. 0.3 Ncm at ambient temperature

#### Bearings

- Type: 2 precision ball bearings
- Service life: 2 x 10<sup>8</sup> revs. at 100 % rated shaft load, 3 x 10<sup>9</sup> revs. at 40 % rated shaft load, 2 x 10<sup>10</sup> revs. at 20 % rated shaft load

Max. operating speed: 12000 rpm

Weight: approx. 160 g

Connections: cable or connector

Protection rating: IP67, shaft sealed to IP65 (EN 60529)

Operating temperature: -20 °C up to +80 °C

Storage temperature: -30 °C up to +80 °C

### Machinery Directive: basic data safety integrity level

MTTF<sub>d</sub>: 200 a

Mission time (T<sub>M</sub>): 25 a

Nominale service life (L<sub>10h</sub>): 2 x 10<sup>10</sup> revs. at 12000 rpm and 20 % rated shaft load

Diagnostic coverage (DC): 0 %

### Electrical Data

Power supply/ 4.75 VDC up to 5.5 VDC: max. 70 mA

Open circuit current consumption: 10 VDC up to 30 VDC: max. 70 mA

Output circuit: TTL, RS422 compatible HTL

Pulse frequency: TTL up to 2500 PPR: max. 200 kHz  
HTL up to 2500 PPR: max. 200 kHz

Channels: AB, ABN and inverted signals

Load: max. 40 mA/channel

Circuit protection: circuit type H24 and R24 only

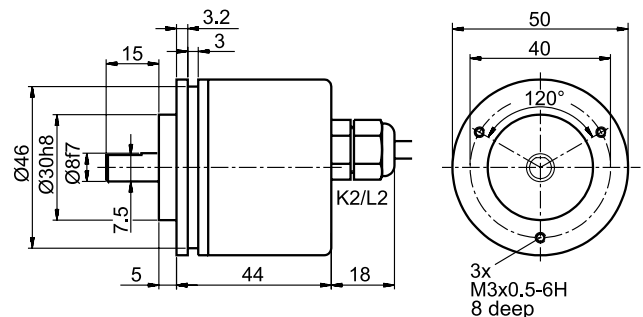
Accuracy: Phase offset: 90° ± max. 7.5 % of the pulse length  
pulse-/pause-ratio: 50 % ± max. 7 %

### Further technical information on:

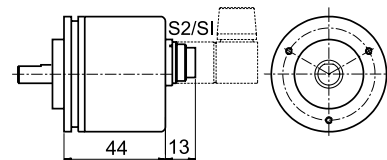
[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

Matching accessories on: [www.wachendorff-automation.com/acs](http://www.wachendorff-automation.com/acs)

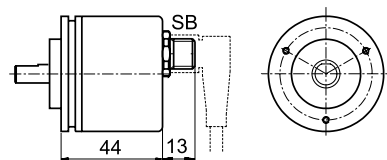
### Cable connection K2, L2 with 2 m cable



### Connector (M16x0.75) SI, 5-, 6-, 8-, 12-pin and S2, 7-pin



### Sensor-connector (M12x1) SB, 4-, 5-, 8-, 12-pin



All dimensional specifications in mm.

**Options:**

**Low-temperature:**

The encoder WDG 50B with the output switch 10 VDC up to 30 VDC is also available with the extended temperature range -40 °C up to +80 °C (measured at the flange). When ordering please add the suffix code - ACA.

**Low-friction bearings:**



The encoder WDG 50B is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to ≤ 0.1 Ncm and the protection class at the shaft input to IP50. When ordering please add the suffix code - AAC.

**Cable length:**

The encoder WDG 50B can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see „General Technical Data“: [www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)  
Please extend the standard order code with a three figure number, specifying the cable length in decimetres..  
Example: 3 m cable = 030

**Ordering information:**

Please see our general technical data at: [www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

Output circuit:				
Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order Key
up to 2500	4.75 - 5.5	 TTL	-	H05
		TTL, RS422 comp., inverted	-	R05
	10 - 30	 HTL	-	H24
		HTL inverted	-	R24

**Channels:** AB, ABN (up to 2048 PPR)

**Pulses per revolution PPR:**  
4, 9, 10, 15, 20, 25, 28, 30, 36, 40, 50, 60, 90, 100, 120, 125, 128, 150, 160, 180, 200, 235, 250, 300, 314, 318, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500, 1800, 2000, 2048, 2500.  
Other PPRs on request

Electrical connections:			
Order key	Outgoing	Description	ABN inv.
<b>Cable:</b> (Length 2 m standard)			
K2	axial	shield not connected	●
L2		shield connected to encoder housing	●
<b>Connector:</b>			
SI5	axial	5-pin, connector	-
SI6	axial	6-pin, connector	-
SI8	axial	8-pin, connector	●
SI12	axial	12-pin, connector	●
S2	axial	7-pin, connector	-
SB4	axial	4-pin, M12-sensor-connector	-
SB5	axial	5-pin, M12-sensor-connector	-
SB8	axial	8-pin, M12-sensor-connector	●
SB12	axial	12-pin, M12-sensor-connector	●

Options:	
Empty	= Without option
ACA	= Low-temperature -40 °C up to +80 °C
AAC	= Low-friction bearings
In decimetres	= Cable length

**Order No.:**

Example	<input type="text" value="WDG 50B"/>	<input type="text" value="2500"/>	<input type="text" value="ABN"/>	<input type="text" value="H24"/>	<input type="text" value="K2"/>	<input type="text" value=""/>
Your encoder	<input type="text" value="WDG 50B"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>