

## Encoder WDG 80H



- Rugged and economical encoder
- High protection class IP65
- Thru-Bore 10 mm up to 25 mm
- Full connection protection with 10 VDC up to 30 VDC
- With light reserve warning
- Easy mounting
- Optional: -40 °C up to +80 °C

[www.wachendorff-automation.com/wdg80h](http://www.wachendorff-automation.com/wdg80h)

Available PPR up to 3840 PPR

### Mechanical Data

#### Housing

- Flange: Aluminium
- Cap: Aluminium, powder coated
- Torque Support: Incl. 1 spring plate WDGDS10001  
 Compensation: axial: max. 2 mm, radial: max. 0.15 mm  
 Max. operating speed: 3500 rpm

#### Thru-Bore

- Material: stainless steel
- Diameter: 10, 12, 15, 18, 20, 25 mm
- Attachment: 2 x M4, DIN 913
- Starting torque: 2.5 Nm
- Permitted load on shaft end: max. 200 N radial  
 max. 100 N axial
- Starting torque: approx. 6 Ncm at ambient temperature

#### Bearings

- Type: 2 precision ball bearings
- Service life: 3 x 10<sup>10</sup> revs. at 100 % rated shaft load  
 1 x 10<sup>11</sup> revs. at 40 % rated shaft load  
 1 x 10<sup>12</sup> revs. at 20 % rated shaft load

#### Weight:

approx. 600 g

#### Connections:

cable or connector, radial

Protection rating: IP65  
 (EN 60529)

Operating temperature: -20 °C up to +80 °C, 1 Vss: -10 °C up to +70 °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
- Nominal service life (L<sub>10h</sub>): 1 x 10<sup>12</sup> revs. at 3500 rpm and 20 % rated shaft load
- Diagnostic coverage (DC): 0 %

### Electrical Data

- Power supply/ Open circuit current consumption: 4.75 VDC up to 5.5 VDC: max. 100 mA  
 5 VDC up to 30 VDC: max. 70 mA  
 10 VDC up to 30 VDC: max. 70 mA

Output circuit: TTL, RS422 compatible  
 HTL  
 1 Vss Sin/Cos

- Pulse frequency: TTL up to 3840 PPR: max. 200 kHz  
 HTL up to 3840 PPR: max. 200 kHz  
 1 Vss Sin/Cos: max. 100 kHz

Channels: AB, ABN and inverted signals

Load: max. 40 mA/channel,  
 @ 1 Vss Sin/Cos: 120 Ohm termination

Circuit protection: circuit type G24, H24, I24, R24 only

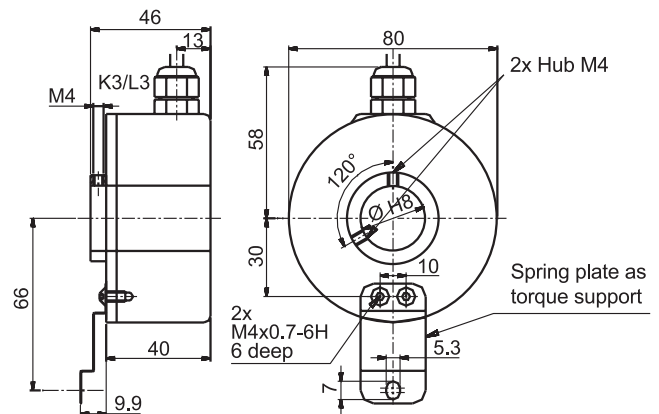
- Accuracy: Phase offset: 90° ± max. 7.5 % of the pulse length  
 pulse-/pause-ratio: 50 % ± max. 7 %

### Further technical information on:

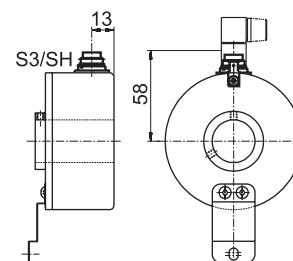
[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

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

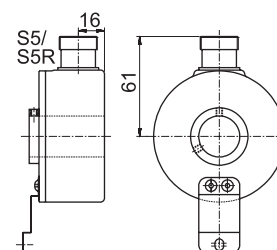
### Cable connection K3, L3 with 2 m cable



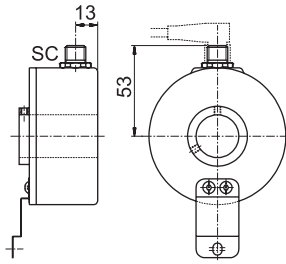
### Connector (M16x0.75) SH, 5-, 6-, 8-, 12-pin, S3, 7-pin



### Connector (M23) S5, S5R, 12-pin



**Sensor-connector (M12x1) SC, 4-, 5-, 8-pin**



All dimensional specifications in mm.

**Options:**

**Low-temperature:**

The encoder WDG 80H with the output circuit types G24, H24, I24, R24, G05, H05, I05, R05, 245 and 524 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.

**Cable length:**

The encoder WDG 80H 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 1024	5 - 30	HTL	-	H30	
		HTL inverted	-	R30	
up to 3840	4,75 - 5,5	TTL	•	G05	
			-	H05	
		TTL, RS422 comp., inverted	-	R05	
	10 - 30	HTL		•	G24
				-	H24
			HTL inverted	•	I24
			-	R24	
		TTL, RS422 comp., inv.	•	524	
			-	245	
1024	4,75 - 5,5	1 Vss Sin/Cos	•	SIF	
			-	SIN	

**Channels:** AB, ABN

**Pulses per revolution PPR:**  
 50, 100, 250, 500, 720, 1000, 1024, 1920, 2048, 2500, 3840  
 1 Vss Sin/Cos 1024 PPR only  
 Other PPRs on request

**Bore size:** 10, 12, 14, 15, 18, 20, 25

Electrical connections:			
Order key	Outgoing	Description	ABN inv.
<b>Cable:</b> (Length 2 m standard)			
K3	radial	shield not connected	•
L3		shield connected to encoder housing	•
<b>Connector:</b>			
SH5	radial	5-pin, connector	-
SH6	radial	6-pin, connector	-
SH8	radial	8-pin, connector	•
SH12	radial	12-pin, connector	•
S3	radial	7-pin, connector	-
S5/ S5R	radial	12-pin, connector (R = clockwise pin count)	•
SC4	radial	4-pin, M12-sensor-connector	-
SC5	radial	5-pin, M12-sensor-connector	-
SC8	radial	8-pin, M12-sensor-connector	•

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

**Order No.:**

Example	WDG 80H	25	1024	ABN	G24	K3	
Your encoder	WDG 80H						