

## Encoder WDG 58H



- Rugged industrial standard encoder
- Up to 25000 PPR by use of high grad electronics
- Thru-Bore
- High protection class IP65, with oil seal
- Maximum mechanical and electrical safety
- High noise immunity
- Full connection protection with 10 VDC up to 30 VDC
- With light reserve warning
- Optional: -40 °C up to +80 °C

[www.wachendorff-automation.com/wdg58h](http://www.wachendorff-automation.com/wdg58h)

**Available PPR** up to 25000 PPR

### Mechanical Data

#### Housing

- Flange: Aluminium
- Cap: Aluminium, powder coated
- Torque Support:
  1. Spring plate Incl. 1 spring plate WDGDS10001  
Compensation: axial: max. 1.5 mm, radial: max. 0.1 mm  
Max. operating speed: 6000 rpm  
up to max. protection rating +60 °C (Accessories)
  2. Cylinder pin Compensation: axial: max. 1 mm, radial: max. 0.3 mm  
Max. operating speed: 3000 rpm

#### Thru-Bore

- Material: stainless steel
- Diameter: 8, 10, 12, 1/2" (12.7 mm) or 14 mm, H7
- Permitted load on shaft end: max. 80 N radial  
max. 60 N axial
- Starting torque: approx. 2.2 Ncm at ambient temperature
- Attachment: permanently attached clamping ring

#### Bearings

- Type: 2 precision ball bearings
- Service life: 1 x 10<sup>9</sup> revs. at 100 % rated shaft load  
1 x 10<sup>10</sup> revs. at 40 % rated shaft load  
1 x 10<sup>11</sup> revs. at 20 % rated shaft load

#### Weight:

approx. 220 g

#### 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>11</sup> revs. at 6000 rpm and 20 % rated shaft load
- Diagnostic coverage (DC): 0 %

### Electrical Data

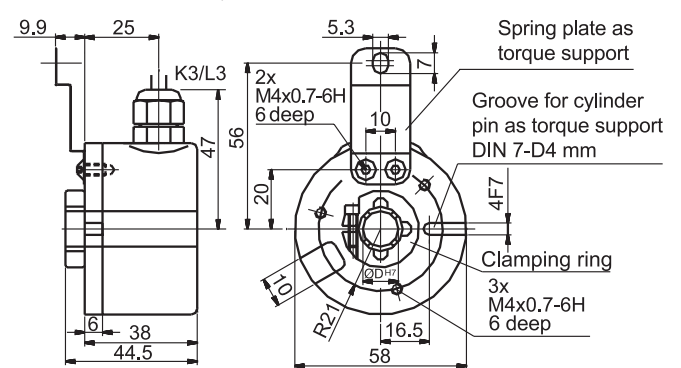
- Power supply/ Open circuit current consumption: 4.75 VDC up to 5.5 VDC: max. 100 mA  
5 VDC up to 30 VDC: max. 70 mA  
10 VDC up to 30 VDC: max. 100 mA
- Output circuit: TTL, RS422 compatible, HTL, 1 Vss Sin/Cos
- Pulse frequency: TTL ≤ 5000 PPR: max. 200 kHz  
HTL ≤ 5000 PPR: max. 200 kHz  
TTL > 5000 PPR: max. 2 MHz  
HTL > 5000 PPR: max. 600 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 F24, G24, H24, I24, P24, R24 only
- Accuracy: Phase offset: 90° ± max. 7.5 % of the pulse length  
pulse-/pause-ratio: 50 % ± max. 7 %

### Further technical information on:

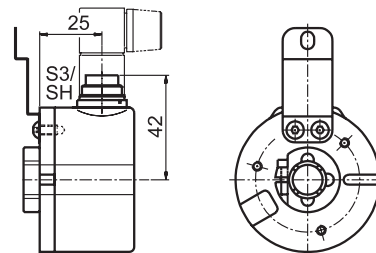
[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

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

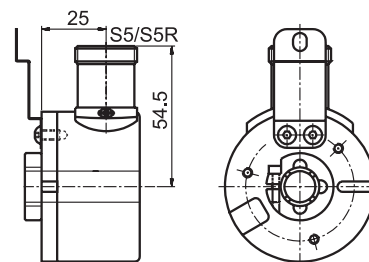
### Cable connection K3, L3 with 2 m cable



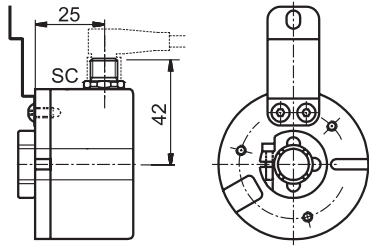
### Connector (M16x0.75) SH, 5-, 6-, 8-, 12-pin, S3, 7-pin



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



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



All dimensional specifications in mm.

Options:

Low-temperature:

The encoder WDG 58H with the output circuit types F24, G24, H24, I24, P24, R24, F05, G05, H05, I05, P05, R05, 245, 524 and 645 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 58H 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	5 - 30	HTL	-	H30
		HTL inverted	-	R30
up to 5000	4,75 - 5,5	TTL	•	G05
		TTL, RS422 comp., inverted	•	I05
		TTL, RS422 comp., inverted	-	R05
	10 - 30	HTL	•	G24
		HTL inverted	•	I24
		TTL, RS422 comp., inverted	•	524
10000 up to 25000	4,75 - 5,5	TTL	-	F05
		TTL, RS422 comp., inv.	-	P05
	10 - 30	HTL	-	F24
		TTL, RS422 comp., inv.	-	645
1024 2048	4,75 - 5,5	1 Vss Sin/Cos	-	SIN

Channels: AB, ABN (SIN: AB)

**Pulses per revolution PPR:**  
 4, 6, 10, 32, 36, 50, 60, 64, 100, 120, 125, 127, 150, 180, 200, 216, 240, 250, 254, 256, 300, 314, 360, 400, 500, 512, 600, 625, 720, 750, 768, 800, 810, 900, 1000, 1024, 1200, 1250, 1270, 1440, 1500, 1800, 2000, 2048, 2400, 2500, 3000, 3600, 4000, 4096, 5000, 10000, 12500, 20000, 25000.  
 1 Vss Sin/Cos 1024 PPR and 2048 PPR only  
 Other PPRs on request

**Bore size:** 8, 10, 12, 3Z = 1/2" (12.7 mm), 14  
 Other diameters on request

Electrical connections:			
Order key	Outgoing	Description	ABN inv.
Cable: (Length 2 m standard)			
K3	radial	shield not connected	•
L3	radial	shield connected to encoder housing	•
Connector:			
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	•
SC12	radial	12-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 58H	14	1024	ABN	G24	K3	
Your encoder	WDG 58H						