

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

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 10¹⁰ revs. at 100 % rated shaft load
 1 x 10¹¹ revs. at 40 % rated shaft load
 1 x 10¹² 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_d: 200 a
- Mission time (T_M): 25 a
- Nominal service life (L_{10h}): 1 x 10¹² revs. at 3500 rpm and 20 % rated shaft load
- Diagnostic coverage (DC): 0 %

Electrical Data

Power supply/ 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

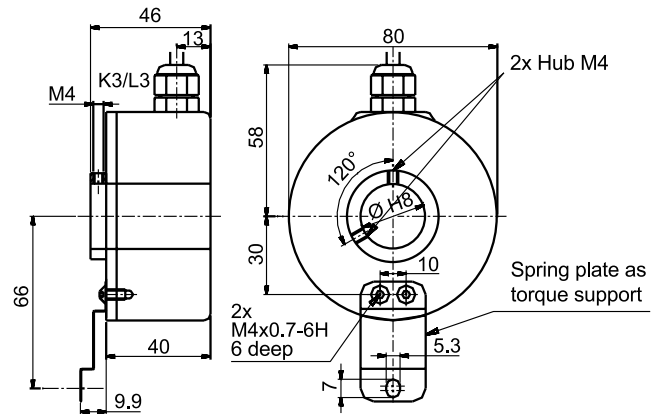
Accuracy: Phase offset: 90° ± max. 7.5 % of the pulse length
 pulse-/pause-ratio: 50 % ± max. 7 %

Further technical information on:

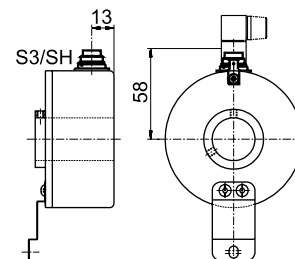
www.wachendorff-automation.com/gtd

Matching accessories on: www.wachendorff-automation.com/acs

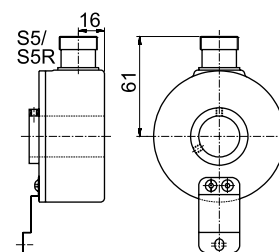
Cable connection K3, L3 with 2 m cable



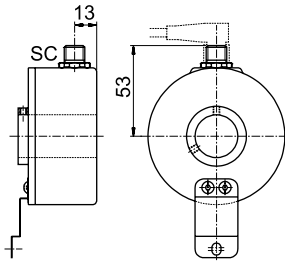
Connector (M16x0.75) SH, 5-, 6-, 8-, 12-pin, S3, 7-pin



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, I24, G05, I05 and 245 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

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

| 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 | |
| | | TTL, RS422 comp., inverted | - | H05 | |
| | | | - | R05 | |
| | 10 - 30 | HTL | - | • | G24 |
| | | | - | - | H24 |
| | | | HTL inverted | • | I24 |
| 1024 | 4,75 - 5,5 | - | - | R24 | |
| | | TTL, RS422 comp., inv. | • | 245 | |
| | | 1 Vss Sin/Cos | • | SIN | |

Channels: AB, ABN

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

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

| Electrical connections: | | | ABN inv. |
|-------------------------------------|----------|-------------------------------------|----------|
| Order key | Outgoing | Description | |
| Cable: (Length 2 m standard) | | | |
| K3 | radial | shield not connected | • |
| L3 | | 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/ | radial | 12-pin, connector | • |
| S5R | | (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 | | | | | | |