

## Encoder WDG 145H



- Thru-Bore encoder for direct installation on large electric motors
- Maximum mechanical and electrical safety
- Highly interference-resistant when used with frequency converters
- Meets protection class IP54
- Full connection protection with 10 VDC up to 30 VDC
- With light reserve warning

[www.wachendorff-automation.com/wdg145h](http://www.wachendorff-automation.com/wdg145h)

**Available PPR** up to 2500 PPR

### Mechanical Data

#### Housing

- Flange: Aluminium
- Cap: Aluminium
- Torque Support: Incl. 3 spring plates WDGDS10001  
 Compensation: axial: max. 2 mm  
 radial: max. 0.15 mm
- Max. operating speed: 1600 rpm
- 2. Cylinder pin (Accessories)  
 Compensation: axial: max. 1 mm  
 radial: max. 0.3 mm
- Max. operating speed: 800 rpm

#### Thru-Bore

- Material: stainless steel
- Diameter: 45, 48, 50, 55, 60, 65, 72 mm
- Permitted load on shaft end: max. 200 N radial  
 max. 100 N axial
- Starting torque: approx. 1.5 Ncm at ambient temperature
- Attachment: permanently attached clamping ring

#### Bearings

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

#### Weight:

1700 g up to 2500 g

#### Connections:

cable or connector, radial

Protection rating: IP54  
 (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>): 3 x 10<sup>12</sup> revs. at 1600 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. 70 mA  
 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 G24, H24, I24, R24 only

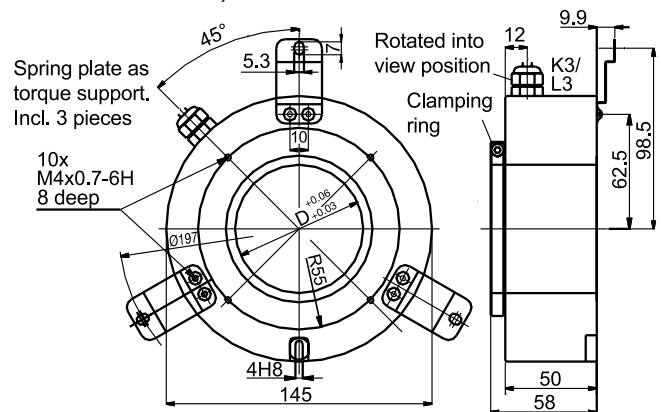
Accuracy: Phase offset: 90° ± max. 7.5 % of the pulse length  
 pulse-/pause-ratio: 50 % ± max. 7 %

### Further technical information on:

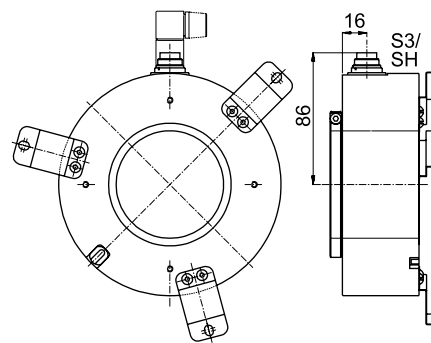
[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

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

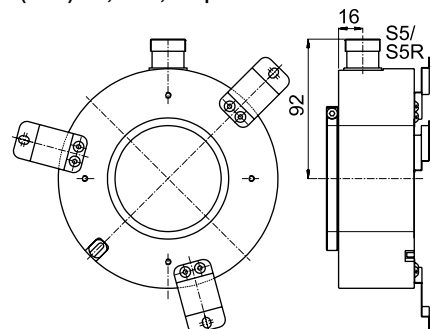
### Cable connection K3, L3 with 2 m cable



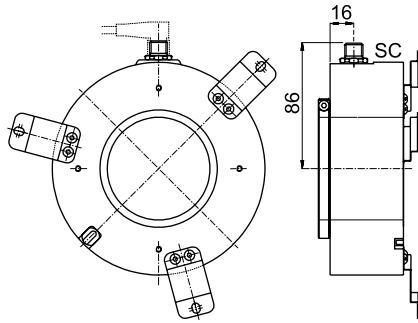
### Connector (M16x0.75) SH, 5-, 6-, 8-, 12-pin, S3, 7-pin



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



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



All dimensional specifications in mm.

**Options:**

**Cable length:**

The encoder WDG 145H 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
1024, 2500	4.75 - 5.5	TTL	•	G05
			-	H05
			•	I05
10 - 30	10 - 30	HTL	-	R05
			•	G24
			-	H24
		HTL inverted	•	I24
			-	R24

**Channels:** AB, ABN

**Pulses per revolution PPR:**  
1024, 2500  
Other PPRs on request

**Bore size:**  
45, 48, 50, 55, 60, 65, 72  
Other diameters on request

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/	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 145H	65	1024	ABN	G24	K3	
Your encoder	WDG 145H						