

## Encoder WDG 24C



- very compact construction for use in harsh conditions
- permissible bearing loads similar to our "big encoders"
- up to IP67 all around, optional IP67 all around
- Hall effect based signal generation

[www.wachendorff-automation.com/wdg24c](http://www.wachendorff-automation.com/wdg24c)

**Available PPR** 1 PPR up to 128 PPR, 256 PPR,  
512 PPR, 1024 PPR

### Mechanical Data

#### Housing

- Synchro flange: Aluminium
- Cap: Aluminium

#### Shaft

- Material: Ø 6 mm stainless steel
- Permitted load on shaft end: max. 80 N radial  
max. 50 N axial
- Starting torque: approx. 0.2 Ncm at ambient temperature

#### Bearings

- Type: 2 precision ball bearings
- Service life: 0.55 x 10<sup>9</sup> revs. at 100 % rated shaft load  
8.5 x 10<sup>10</sup> revs. at 40 % rated shaft load  
6.8 x 10<sup>11</sup> revs. at 20 % rated shaft load

- Max. operating speed: 12000 rpm
- Weight: approx. 50 g
- Connections: cable or connector outlet

Protection rating: IP65 all around  
(EN 60529)

Operating temperature: -40 °C up to +80 °C  
Storage temperature: -40 °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>): 6.8 x 10<sup>11</sup> revs. at 12000 rpm and 20 % rated shaft load
- Diagnostic coverage (DC): 0 %

### Electrical Data

- Power supply/ consumption: 4.75 VDC up to 5.5 VDC: max. 40 mA
- Open circuit current: 5 VDC up to 30 VDC: max. 40 mA
- consumption: 10 VDC up to 30 VDC: max. 40 mA

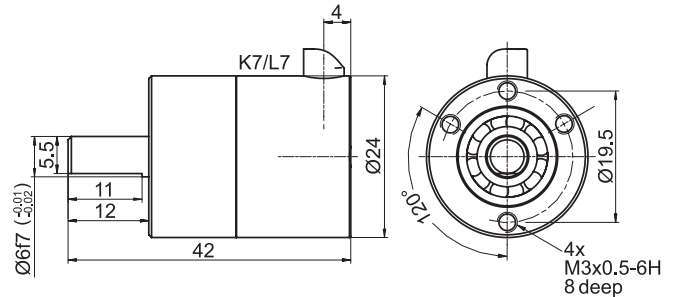
Output circuit: TTL, RS422 compatible  
HTL

Pulse frequency: TTL up to 64 PPR: max. 20 kHz  
HTL up to 1024 PPR: max. 200 kHz

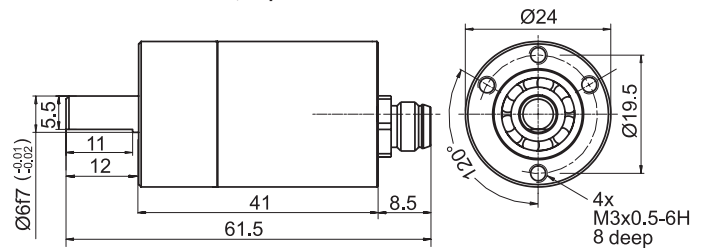
Channels: AB, ABN and inverted signals  
Load: max. 30 mA / channel  
Circuit protection: circuit type M24 only

Accuracy: Phase offset at:  
1 PPR up to 256 PPR:  
90° max. ±10° of the pulse length  
512 PPR: 90° max. ±20° of the pulse length  
1024 PPR: 90° max. ±23° of the pulse length  
pulse-/pause-ratio at:  
1 PPR up to 128 PPR: 50 % max. ±10 %  
256 PPR, 512 PPR, 1024 PPR:  
50 % max. ±20 %

### Cable connection K7, L7 with 2 m cable



### Sensor connector SK6, 6-pin



All dimensional specifications in mm.

### 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)

**Options:**

**Cable length:**

The encoder WDG 24C can also be supplied with more than 2m of cable. Please extend the standard order code with a 3 figure number, specifying the cable length in decimetres. The max. permissible cable length is 10 metres with the output circuit M05 and M24. With output circuit M30 max. 25 m.  
 Example: 3 m cable = 030

**Shafts sealed to IP67:**

The encoder WDG 24C can be supplied in a full IP67 version. When ordering please add the suffix code - AAO.

Max. RPM	Permitted Shaft-Loading		Starting-torque
	axial	radial	
3.500 rpm	30 N	45 N	approx. 1.2 Ncm

Amended specifications for shaft sealed to IP67.

**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
max. 64	4.75 - 5.5	TTL, RS422 comp., inverted	-	M05
max. 1024	5 - 30	HTL inverted	-	M30
max. 64	10 - 30	HTL inverted	-	M24

**Channels:** AB, ABN

**Pulses per revolution PPR:**  
 Output circuit M24 and M05: 16, 32, 64  
 Output circuit M30: 1 up to 128, 256, 512, 1024

Electrical connections:			ABN mögl.
Order key	Outgoing	Description	
<b>Cable:</b> (Length 2 m standard)			
K7	radial	shield not connected	•
L7	radial	shield connected to encoder housing	•
SK6	axial	connector 6-pin	-

**Options:**  
 Empty = Without option  
 AAO = IP67 all around  
 In decimetres = Cable length

**Order No.:**

Example      WDG 24C      64      ABN      M24      K7     

Your encoder    WDG 24C