

Encoder WDG 24A



- 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/wdg24a

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

Mechanical Data

Housing

- Synchro flange: Aluminium
- Cap: Aluminium

Shaft

- Ø 6 mm
- Material: 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 10⁹ revs. at 100 % rated shaft load, 8.5 x 10¹⁰ revs. at 40 % rated shaft load, 6.8 x 10¹¹ 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_d: 200 a

Mission time (T_M): 25 a

Nominal service life: 6.8 x 10¹¹ revs. at 12000 rpm and 20 % rated

(L_{10h}): shaft load

Diagnostic coverage (DC): 0 %

Electrical Data

Power supply/ 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

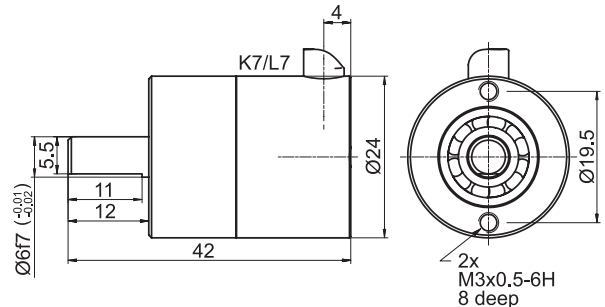
Channels: AB, ABN and inverted signals

Load: max. 30 mA / channel

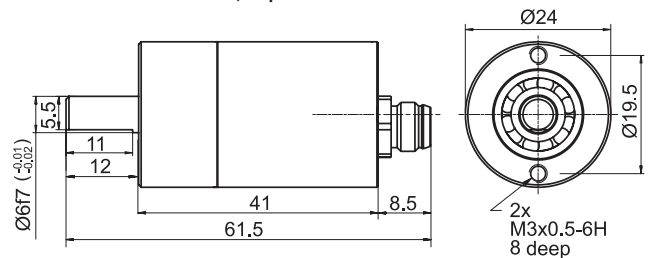
Circuit protection: circuit type M24 only

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

Matching accessories on:

www.wachendorff-automation.com/acs

Options:

Cable length:

The encoder WDG 24A 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 24A 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

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	
Cable: (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 24A 64 ABN M24 K7

Your encoder WDG 24A