



# Online Data Sheet

## Encoder WDG 40A

[www.wachendorff-automation.com/wdg40a](http://www.wachendorff-automation.com/wdg40a)

### Wachendorff Automation

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- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

# Encoder WDG 40A



- Robust and economical encoder with small dimensions
- Protection to IP67, shaft sealed to IP65
- Optional:  
Protection to IP67 all around  
-40 °C up to +80 °C

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## Resolution

Max. pulses per revolution PPR	1024 ppr
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## Mechanical Data

### Housing

Flange	Servo flange
Flange material	aluminum
Housing cap	aluminum, powder coated
Housing	Ø 40 mm
Cam mounting	pitch 51 mm

### Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 0.2 Ncm at ambient temperature

Shaft	Ø 6 mm
Shaft length	L: 11.5 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

### Bearings

Bearings type	2 precision ball bearings
Nominal 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
Max. operating speed	12000 rpm

## Machinery Directive: basic data safety integrity level

MTTF <sub>d</sub>	200 a
Mission time (TM)	25 a
Nominal service life (L10h)	1 x 10 <sup>11</sup> revs. at 20 % rated shaft load and 12000 rpm
Diagnostic coverage (DC)	0 %

## Electrical Data

Power supply VDC	4.75 - 5.5 VDC
Current consumption	typ. 70 mA
Signal shape	square-wave
Output circuit	TTL
Channels	AB, ABN
Output	push-pull

Load	max. 40 mA / channel
Signal level mA	at 20 mA
Signal level H>	H > 2.5 VDC
Signal level L<	L < 0.5 VDC
Output frequency	max. 200 kHz
Circuit protection	no
Light reserve warning	no

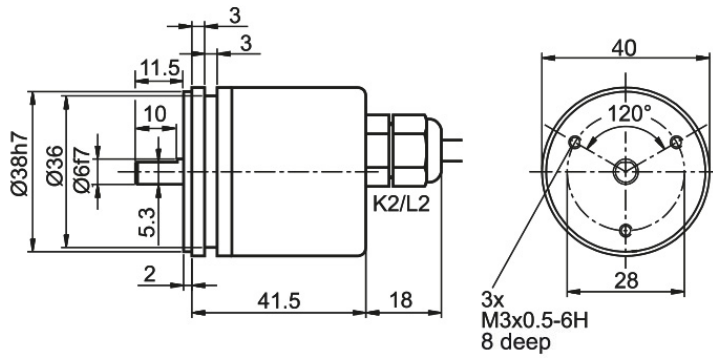
## General Data

Weight	approx. 100 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; (IP40 for K1)
Operating temperature	-20 °C up to +80 °C
Storage temperature	-30 °C up to +80 °C

## More Information

General technical data and safety instructions  
<http://www.wachendorff-automation.com/gtg>

Options  
<http://www.wachendorff-automation.com/acc>

**Cable connection K2, L2 with 2 m cable**

**Description**

ABN inv. poss.

**K2** axial, shield not connected

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Assignments	
	<b>K2</b>
<b>Circuit</b>	H05
<b>GND</b>	WH
<b>(+) Vcc</b>	BN
<b>A</b>	GN
<b>B</b>	YE
<b>N</b>	GY
<b>Light reserve warning</b>	-
<b>A inv.</b>	-
<b>B inv.</b>	-
<b>N inv.</b>	-
<b>Shield</b>	flex

## Options

### Low-friction bearings

The encoder WDG 40A is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.1 Ncm and the protection class at the shaft input to IP50.

### Order key

**AAC**

### IP67 all around

The encoder WDG 40A can be supplied in a full IP67 version.

### Order key

**AAO**

Max. RPM: 3500 rpm

Permitted Shaft-Loading, axial: 30 N

Permitted Shaft-Loading, radial: 45 N

Max. PPR: 1500 ppr

Starting-torque: approx. 1.2 Ncm at ambient temperature

### Cable length

The encoder WDG 40A can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see [www.wachendorff-automation.com/atd](http://www.wachendorff-automation.com/atd)

Please extend the standard order code with a three figure number, specifying the cable length in decimetres.

Example: 5 m cable = 050

### Order key

**XXX = Decimeter**

Example Order No.	Type					Your encoder
WDG 40A	WDG 40A					WDG 40A
<b>Pulses per revolution PPR:</b>						
1024	1024					1024
<b>Channels:</b>						
ABN	ABN					ABN
<b>Output circuit</b>						
H05	<b>Resolution PPR</b>	<b>Power supply VDC</b>	<b>Output circuit</b>	<b>Light reserve warning</b>	<b>Order key</b>	H05
	up to 2500	4.75 - 5.5	TTL	-	H05	
<b>Electrical connections</b>						
K2	<b>Description</b>			<b>ABN inv. poss.</b>	<b>Order key</b>	K2
	Cable: length (2 m standard, WDG 58T: 1 m) axial, shield not connected			•	K2	
<b>Options</b>						
	<b>Description</b>			<b>Order key</b>		
	Low-friction bearings			AAC		
	IP67			AAO		
	Cable length			Cable length		
Without option			Empty			

<b>Example Order No.=</b>	WDG 40A	1024	ABN	H05	K2		WDG 40A	1024	ABN	H05	K2		<b>Your encoder</b>
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For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.  
<https://www.wachendorff-automation.com/>



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