



# Online Data Sheet

## Encoder WDGI 58H

[www.wachendorff-automation.com/wdgi58h](http://www.wachendorff-automation.com/wdgi58h)

### Wachendorff Automation

#### ... systems and encoders

- 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 WDGI 58H



- Rugged industrial standard encoder
- Housing cap die cast aluminum, with particularly eco-friendly powder coating
- Up to 25000 PPR by use of high grad electronics
- Thru-Bore
- High protection class IP65, with oil seal
- Maximum mechanical and electrical safety
- High noise immunity
- Full connection protection with 10 VDC up to 30 VDC
- High output frequency 600 kHz/2 MHz
- Optional: -40 °C up to +85 °C, Pressure equalising membrane

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## Resolution

Max. pulses per revolution PPR	4096 ppr
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## Mechanical Data

### Housing

Flange	hollow shaft (through-bored)
Flange material	aluminum
Housing cap	die cast aluminum, powder coated
Torque supports	incl. 1 torque support WDGDS10001
- 1. Spring plate compensation	axial: ±0.8 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +60 °C
- 2. Cylinder pin 4 mm	needs accessories WDGDS10005
- Compensation	axial: ±0.5 mm, radial: ±1.5 mm, Max. operating speed: 3000 rpm
Housing	Ø 58 mm

### Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 2.2 Ncm at ambient temperature
Fixing	permanently attached clamping ring
Shaft	Ø 12 mm
Shaft length	L: 44.5 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	60 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	6000 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 6000 rpm
Diagnostic coverage (DC)	0 %

## Electrical Data

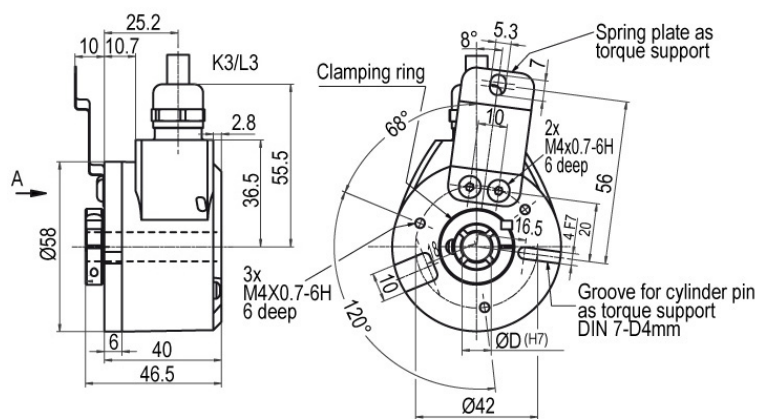
Power supply VDC	10 - 30 VDC
Current consumption	typ. 70 mA
Signal shape	square-wave
Output circuit	HTL inverted
Channels	AB, ABN, and inverted signals
Output	push-pull
Load	max. 40 mA / channel
Signal level mA	at 20 mA
Signal level H>	H > V <sub>cc</sub> - 2.5 VDC
Signal level L<	L < 2.5 VDC
Output frequency	max. 200 kHz
Circuit protection	yes
Light reserve warning	yes

## General Data

Weight	approx. 220 g
Connections	cable or connector, radial
Protection rating (EN 60529)	IP65 all around
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C, (Option ACA: -40 °C up to +85 °C) 1 Vpp: -10 °C up to +70 °C
Storage temperature	Connector: -30 °C up to +85 °C, cable: -30 °C up to +80 °C, option ACA: -40 °C up to +85 °C

## More Information

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

**WDGI 58H: Cable connection K3, L3, radial, with 2 m cable**

**Description**
**ABN inv. poss.**
**K3** radial, shield not connected

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Assignments	
	<b>K3</b>
<b>Circuit</b>	I24
<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>	PK
<b>A inv.</b>	RD
<b>B inv.</b>	BK, (BU at ACA)
<b>N inv.</b>	VT
<b>Shield</b>	flex

## Options

### Low temperature

The encoder WDG1 58H with the output circuit types F24, G24, H24, I24, P24, R24, F05, G05, H05, I05, P05, R05, 245, 524, 645 is also available with the extended temperature range -40 °C up to +85 °C [-40 °F up to +185 °F] (measured at the flange).

### Order key

**ACA**

### Pressure equalising membrane

The WDG1 58H shaft encoder is also optionally available with a pressure equalising membrane. This prevents water from penetrating into the encoder housing in the case of high air humidity.

The IP67 protection level, temperature range and salt spray resistance are maintained. Resistant to chemicals and solvents in accordance with DIN EN ISO 2812-1.

### Order key

**ACR**

### Cable length

The encoder WDG1 58H 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
WDGI 58H		WDGI 58H				WDGI 58H
		Bore size				
12		12				12
		Pulses per revolution PPR:				
4096		4096				4096
		Channels:				
ABN		ABN				ABN
		Output circuit				
I24	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key	I24
	up to 5000	10 - 30	HTL inverted	•	I24	
		Electrical connections				
K3	Description			ABN inv. poss.	Order key	K3
	Cable: length (2 m standard, WDG 58T: 1 m) radial, shield not connected			•	K3	
		Options				
		Description			Order key	
		Low temperature			ACA	
		Pressure equalising membrane			ACR	
		Cable length			Cable length	
		Without option			Empty	

<b>Example Order No.=</b>	WDGI 58H	12	4096	ABN	I24	K3		WDGI 58H	12	4096	ABN	I24	K3		<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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