



Online Data sheet

Encoder WDGI 50V

www.wachendorff-automation.com/wdgi50v

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 50V



Illustration similar



- Extremely rugged and economical encoder with short measurements
- Easy screw mounting
- Protection to IP67 all around
- Optional: -40 °C up to +85 °C [-40 °F up to +185 °F]

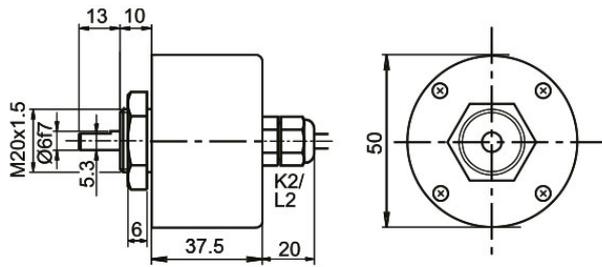
www.wachendorff-automation.com/wdgi50v

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR
Mechanical Data	
Flange	screw flange
Starting torque nut	max. 10 Nm
Flange material	stainless steel, V2A
Housing material	stainless steel, V2A
Flange diameter	Ø 50 mm [Ø 1.969"]
Shaft(s)	
Shaft material	stainless steel, V2A
Starting torque	approx. 1.2 Ncm [1.699 in-ozf] at ambient temperature
Shaft	Ø 6 mm [Ø 0.236"]
Shaft length	L: 13 mm [0.512"]
Max. Permissible shaft loading radial	30 N [3.059 kp]
Max. Permissible shaft loading axial	45 N [4.589 kp]
Bearings	
Bearings type	2 precision ball bearings
Nominal service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	6000 rpm
Machinery Directive: basic data safety integrity level	
MTTF _d	2200 a
Mission time (TM)	25 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %
Electrical Data	
Power supply/Current consumption	4.75 VDC up to 30 VDC: typ. 40 mA
Operating principle	magnetic
Output circuit	HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)
Pulse frequency	HTL up to 16384 ppr: max. 600 kHz TTL up to 16384 ppr: max. 1 MHz
Channels	ABN and inverted signals

Load	max. 40 mA / channel
Circuit protection	no
Accuracy	
Phase offset	90° ± max. 7.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Electrical Safety:	according DIN VDE 0160
Duty information	
Customs tariff number:	90318020
Country of origin:	Germany
General Data	
Weight	approx. 470 g [16.578 oz]
Connections	cable or connector outlet
Protection rating (EN 60529)	IP67 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). Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F, Option ACA: -40 °F up to +185 °F
Storage temperature	Connector: -40 °C up to +85 °C, Cable: -30 °C up to +80 °C (Option ACA: -40 °C up to +85 °C) Connector: -40 °F up to +185 °F, cable: -22 °F up to +176 °F, (Option ACA: -40 °F up to +185 °F)

More Information	
General technical data and safety instructions http://www.wachendorff-automation.com/gtd	
Options http://www.wachendorff-automation.com/acc	

Cable connection L2 with 2 m cable



Alle Abmessungen in mm / All dimensions in mm

Description

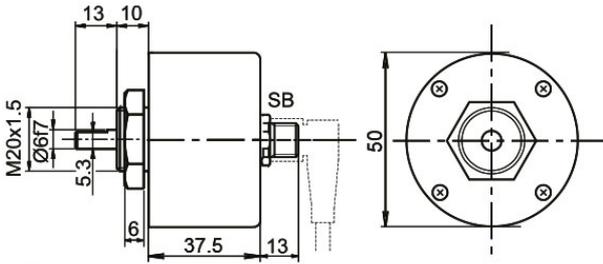
ABN inv. poss.

L2 axial, shield connected to encoder housing

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Assignments		
	L2	L2
Circuit	N35	M35
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
-	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

Sensor-connector (M12x1) SB, 5-, 8-pin

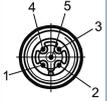
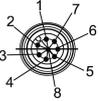


Alle Abmessungen in mm / All dimensions in mm

Description

ABN inv. poss.

- SB5** axial, 5-pin, Connector connected to encoder housing -
- SB8** axial, 8-pin, Connector connected to encoder housing •

Assignments		
	SB5	SB8
	5-pin	8-pin
		
Circuit	N35	M35
GND	3	1
(+) Vcc	1	2
A	4	3
B	2	4
N	5	5
-	-	-
A inv.	-	6
B inv.	-	7
N inv.	-	8
n. c.	-	-
Shield	-	-

Options**Low temperature**

The encoder WDG1 50V with the output circuit types N35, M35 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****Cable length**

The encoder WDG1 50V can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see <https://www.wachendorff-automation.com/download-gtd-incremental-encoders/>

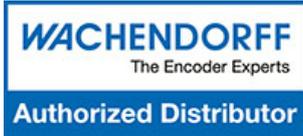
Please extend the standard order code with a three figure number, specifying the cable length in decimetres.

Example: 5 m cable = 050

Order key**XXX = Decimeter**

Example Order No.	Type				Your encoder
WDGI 50V	WDGI 50V				WDGI 50V
	Shaft				
06	06				
	Pulses per revolution PPR:				
1-16384	1-16384				1-16384
	Channels:				
ABN	ABN				ABN
	Output circuit				
N35	Resolution PPR	Power supply VDC	Output circuit	-	Order key
	1-16384	4.75 - 30	HTL (TTL at 5 VDC)	-	N35
		4.75 - 30	HTL, inv. (TTL/RS422 comp. at 5 VDC)	-	M35
	Electrical connections				
L2	Description			ABN inv. poss.	Order key
	Cable: length (2 m standard, WDG 58T: 1 m)				
	axial, shield connected to encoder housing			•	L2
	Connector: (shield connected to encoder housing)				
	sensor-connector, M12x1, 5-pin, axial			-	SB5
	sensor-connector, M12x1, 8-pin, axial			•	SB8
	Options				
	Description			Order key	
	Low temperature			ACA	
	Cable length			Cable length	
	Without option			Empty	

Example Order No.=	WDGI 50V	06	1-16384	ABN	N35	L2		WDGI 50V		1-16384	ABN			Your encoder
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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/>

WACHENDORFF

Wachendorff Automation GmbH & Co. KG
Industriestrasse 7 • 65366 Geisenheim
Germany

Phone: +49 67 22 / 99 65 25
E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de

