



Online Data sheet

Encoder WDG N 58E

www.wachendorff-automation.com/wdgn58e

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 WDG 58E configurable via Smartphone (NFC)



Illustration similar



Wachendorff Apps WDG N

- Due to high quality electronics any number of pulses up to 16384 configurable via NFC
- HTL/TTL configurable via NFC
- Protection class IP67, at shaft input IP65
- High output frequency up to 1 MHz
- Reverse polarity protection and short-circuit protection at 4.75 VDC to 32 VDC

www.wachendorff-automation.com/wdgn58e

Configurable via NFC

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR

Mechanical Data	
Housing	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	Stainless steel, NFC cover: Thermoplastic polyamide
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. 1.6 Ncm at ambient temperature
Fixing	permanently attached clamping ring

Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 6.35 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm

Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 8 mm
Advice	with adapter sleeve

Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 9.525 mm
Advice	with adapter sleeve

Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 10 mm
Advice	with adapter sleeve

Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 12 mm
Shaft length	L: 12 mm

Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 14 mm
Shaft length	L: 12 mm

Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 15 mm
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 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 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	1200 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 32 VDC: typ. 80 mA
Operating principle	magnetic
Output circuit	HTL HTL, inv. TTL TTL, RS422 compatible, inv.
Pulse frequency	HTL up to 16384 ppr: max. 600 kHz TTL up to 16384 ppr: max. 1 MHz
Channels	BAS: ABN + inverted signals ADV: CH1, CH2, CH3, CH4; + inverted signals
Load	max. 40 mA / channel
Circuit protection	inverse-polarity and short-circuit protection

Accuracy

Phase offset	90° ± max. 8.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %

Configurable via NFC:

BASIC: (BAS)

Channels:	ABN and inverted
HTL / TTL	freely selectable
Pulses / revolution:	1 ppr up to 16384 ppr freely selectable

Advanced (ADV):

Channels:	4 channels configurable + inv. signals (ABN possible)
HTL / TTL:	freely selectable
Pulses / revolution:	1 ppr up to 16384 ppr freely selectable
Number of pulses for each channel:	individually selectable

Set zero pulse:	yes
Pulse width and position:	Width and position adjustable

Environmental data

Noise immunity:

ESD (DIN EN 61000-4-2):	8 kV
EMC: (DIN EN 61000-4-3):	10 V/m
Burst (DIN EN 61000-4-4):	2 kV
High frequency fields (DIN EN 61000-4-6):	10 V
Surge (DIN EN 61000-4-5):	2 kV
Radio interference:	According DIN EN 55011

NFC:

EMC:	According ETSI EN 301 489
RED:	According ETSI EN 300 330

Electrical safety:

	DIN EN 61010-1 (VDE 0411-1) / IEC 61010-1 / UL 61010-1 / CSA C22.0 No 61010-1-12
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Vibration: (DIN EN 60068-2-6)	300 m/s ² (10 Hz up to 2000 Hz)
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Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
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Duty information

Customs tariff number:	90318020
Country of origin:	Germany

General Data

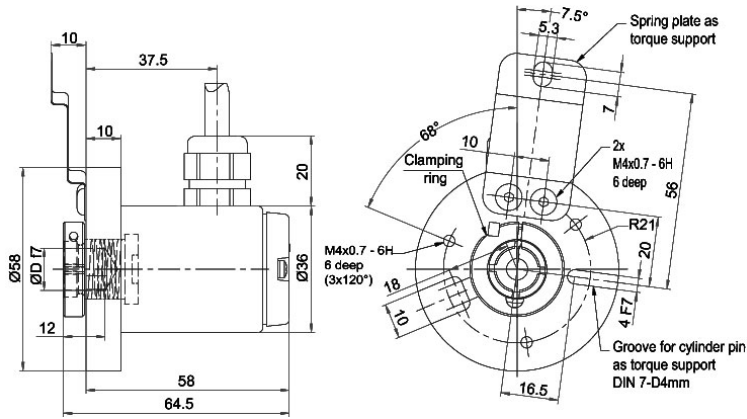
Weight	approx. 200 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C
Storage temperature	Connector: -40 °C up to +100 °C, cable: -30 °C up to +80 °C

More Information

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

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

Cable connection L3 radial with 2 m cable (BAS)



Description

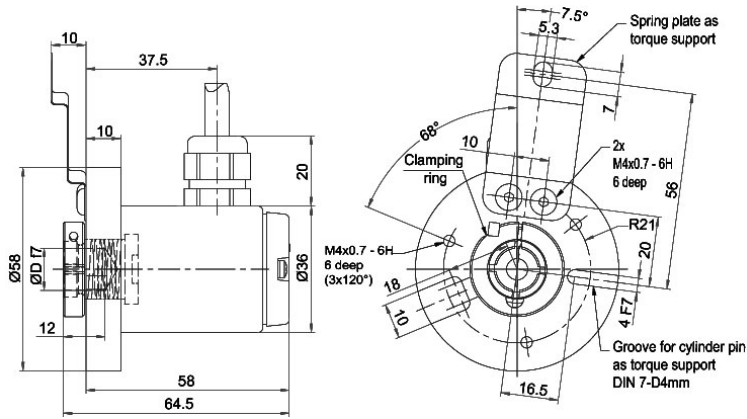
L3 radial, shield connected to encoder housing

ABN inv. poss.

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Assignments	
	L3
Circuit	BAS
GND	WH
(+) Vcc	BN
A	GN
B	YE
N	GY
A inv.	RD
B inv.	BK
N inv.	VT
Shield	flex

Cable connection L3 radial with 2 m cabel (ADV)



Description

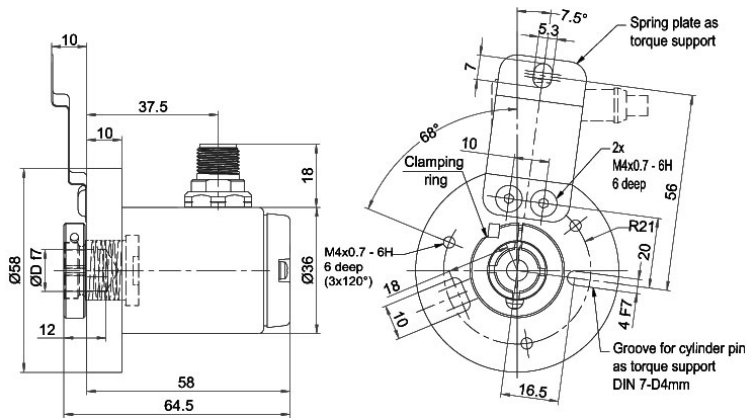
ABN inv. poss.

L3 radial, shield connected to encoder housing

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Assignments	
	L3
Circuit	ADV
GND	WH
(+) Vcc	BN
CH1	GN
CH2	YE
CH3	GY
CH4	GYPK
SET	PK
CH1 inv.	RD
CH2 inv.	BK
CH3 inv.	VT
CH4 inv.	RDBU
Shield	flex

Sensor-connector (M12x1) SC radial, 8-pin (BAS)



Description

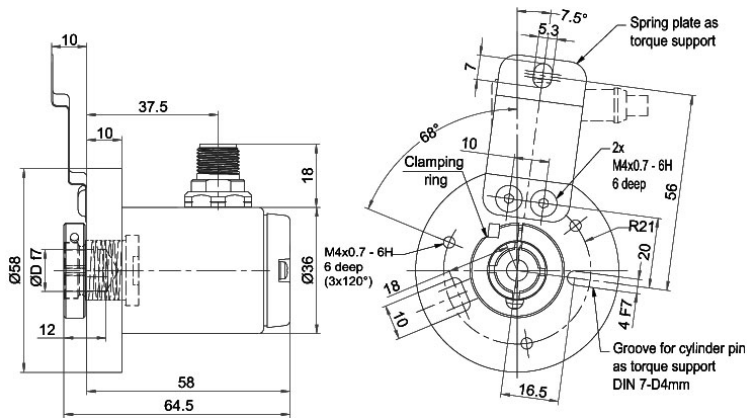
ABN inv. poss.

SC8 radial, 8-pin, Connector connected to encoder housing

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Assignments	
	SC8
	8-pin
Circuit	BAS
GND	1
(+) Vcc	2
A	3
B	4
N	5
A inv.	6
B inv.	7
N inv.	8

Sensor-connector (M12x1) SC radial, 12-pin (ADV)



Description

ABN inv. poss.

SC12 radial, 12-pin, Connector connected to encoder housing

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Assignments	
	SC12
	12-pin
Circuit	ADV
GND	3
(+) Vcc	1
CH1	4
CH2	6
CH3	8
CH4	11
SET	5
CH1 inv.	9
CH2 inv.	7
CH3 inv.	10
CH4 inv.	12
n. c.	2

Options**Cable length****Order key**

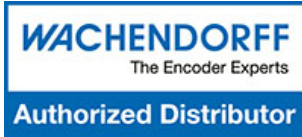
The encoder WDG 58E can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see www.wachendorff-automation.com/atd

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

Example: 5 m cable = 050

Example Order No.	Type					Your encoder
WDGN 58E	WDGN 58E					WDGN 58E
	Bore size					
14	06; 2Z; 07; 08; 4Z; 10; 12; 14; 15					
	Pulses per revolution PPR:					
1-16384 configurable	1-16384 configurable					1-16384 configurable
	Channels:					
ABN	ABN, ABN+CH4					
	Output circuit					
BAS	Resolution PPR	Power supply VDC	Output circuit	-	Order key	
	configurable	4.75 - 32	configurable HTL, TTL (A,B,N + inv.)	-	BAS	
	1-16384	4.75 - 32	configurable HTL, TTL; 4 channels+inv.	-	ADV	
	Electrical connections					
L3	Description			ABN inv. poss.	Order key	
	Cable: length (2 m standard, WDG 58T: 1 m)					
	radial, shield connected to encoder housing			•	L3	
	Connector: (shield connected to encoder housing)					
	sensor-connector, M12x1, 8-pin, radial			•	SC8	
sensor-connector, M12x1, 12-pin, radial			•	SC12		
	Options					
	Description			Order key		
	Cable length			Cable length		
	Without option			Empty		

Example Order No.=	WDGN 58E	14	1-16384 configurable	ABN	BAS	L3		WDGN 58E		1-16384 configurable					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/contact-sales-en/>

WACHENDORFF

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