



Online Data Sheet

Encoder WDGP 58E

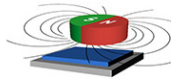
www.wachendorff-automation.com/wdgp58e

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 WDGP 58E (magnetic)



- Due to high quality electronics any number of pulses up to 16384
- 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/wdgp58e

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
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	\varnothing 58 mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature
Fixing	permanently attached clamping ring

Shaft	\varnothing 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	\varnothing 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	\varnothing 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	\varnothing 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	\varnothing 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	\varnothing 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
Nominale 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
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm

Diagnostic coverage (DC)	0 %
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Electrical Data

Power supply/Current consumption	4,75 VDC up to 32 VDC: typ. 80 mA
Output circuit	HTL HTL set zero pulse HTL, inv. HTL, inv. set zero pulse TTL TTL set zero pulse TTL, RS422 compatible, inv. TTL, RS422 compatible, inv. set zero pulse
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	inverse-polarity and short-circuit protection
Set zero pulse:	Set: SET = +UB for 2 s Deactivate: SET = GND

Accuracy

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

General Data

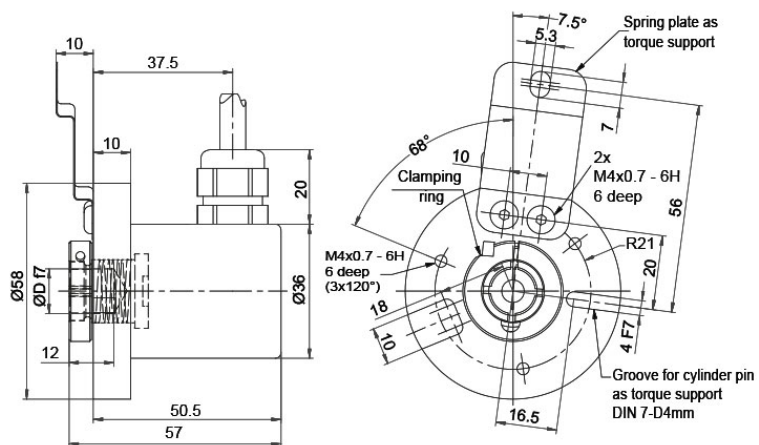
Weight	approx. 200 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C
Storage temperature	Connector: -40 °C up to +100 °C, cable: -30 °C up to +80 °C

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 cabel



Description

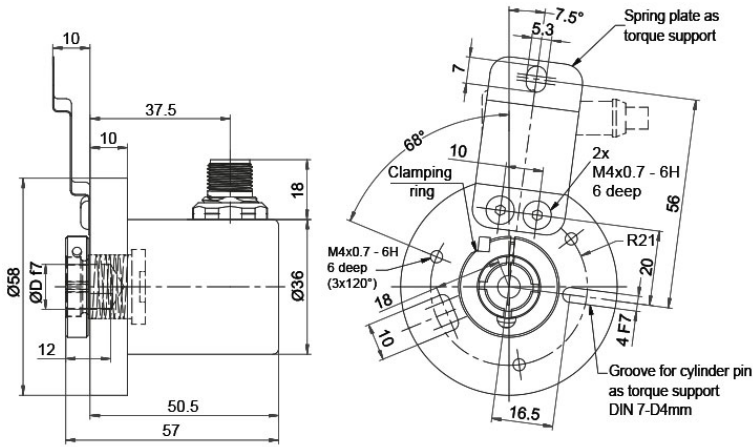
ABN inv. poss.

L3 radial, shield connected to encoder housing

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Assignments				
	L3	L3	L3	L3
Circuit	M11, M12	M13, M14	N11, N12	N13, N14
(+) Vcc	BN	BN	BN	BN
GND	WH	WH	WH	WH
A	GN	GN	GN	GN
B	YE	YE	YE	YE
N	GY	GY	GY	GY
SET	-	PK	-	PK
A inv.	RD	RD	-	-
B inv.	BK	BK	-	-
N inv.	VT	VT	-	-
Shield	flex	flex	flex	flex

Sensor-connector (M12x1) SC radial, 5-, 8-, 12-pin



Description

ABN inv. poss.

SC5 radial, 5-pin, Connector connected to encoder housing

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


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

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

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Assignments

	SC5	SC8	SC12
	5-pin	8-pin	12-pin
			
Circuit	N11, N12	M11, M12	M13, M14
GND	3	1	3
(+) Vcc	1	2	1
A	4	3	4
B	2	4	6
N	5	5	8
SET	-	-	5
A inv.	-	6	9
B inv.	-	7	7
N inv.	-	8	10
n. c.	-	-	2, 11, 12
Shield	-	-	-

Options

Cable length

Order key

The encoder WDGP 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

XXX = Decimeter

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
WDGP 58E	WDGP 58E				WDGP 58E
	Bore size				
14	06; 08; 10; 12; 14; 15				
	Pulses per revolution PPR:				
16384	1-16384 Other PPRs on request				
	Channels:				
ABN	ABN				
	Output circuit				
M13	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key
	1-16384	4.75 - 32	HTL inverted	-	M11
		4.75 - 32	TTL, RS422 comp., inverted	-	M12
		4.75 - 32	HTL, inv. set zero pulse	-	M13
		4.75 - 32	TTL, RS422 compatible, inv. set zero pulse	-	M14
		4.75 - 32	HTL	-	N11
		4.75 - 32	TTL	-	N12
		4.75 - 32	HTL set zero pulse	-	N13
4.75 - 32		TTL set zero pulse	-	N14	
	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, 5-pin, radial			-	SC5
	sensor-connector, M12x1, 8-pin, radial			•	SC8
sensor-connector, M12x1, 12-pin, radial			•	SC12	
	Options				
	Description			Order key	
	Without option			Empty	
	Cable length			XXX = Decimeter	

Example Order No.=	WDGP 58E	14	16384	ABN	M13	L3		WDGP 58E						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/>



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