



Online Data sheet

Encoder WDGP 58B

www.wachendorff-automation.com/wdgp58b

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 58B



Illustration similar



- 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/wdgp58b

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR
Mechanical Data	
Flange	clamping flange
Flange material	aluminum
Housing material	stainless steel
Flange diameter	Ø 58 mm [Ø 2.283"]
Cam mounting	pitch 69 mm [2.717 inches] (Accessory SP-3-00)
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature
Shaft	Ø 6 mm [Ø 0.236"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]
Shaft	Ø 8 mm [Ø 0.315"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 19 mm [0.748"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]
Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]
Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

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	8000 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 8000 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	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 Deaktiviere: SET = GND
Accuracy	
Phase offset	90° ± max. 8.5 % 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:	DIN EN 61010-1 (VDE 0411-1) / IEC 61010-1 / UL 61010-1 / CSA C22.0 No 61010-1-12
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Duty information

Customs tariff number:	90318020
Country of origin:	Germany

General Data

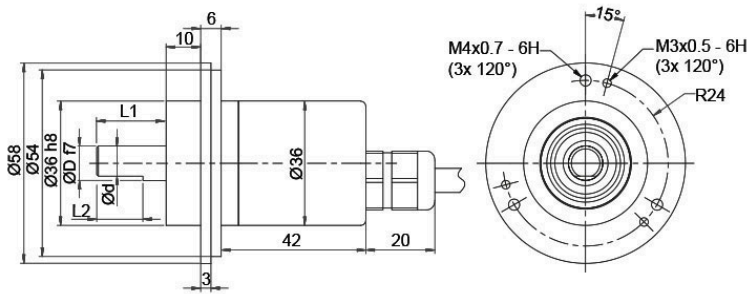
Weight	approx. 220 g [7.76 oz]
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; cable outlet K1: IP40
Operating temperature	Connector: -40 °C up to +85 °C, Cable: -20 °C up to +80 °C. Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F.
Storage temperature	Connector: -40 °C up to +100 °C, Cable: -30 °C up to +80 °C Connector: -40 °F up to +212 °F, Cable: -22 °F up to +176 °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 axial with 2 m cable



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

Alle Abmessungen in mm / All dimensions in mm

Description

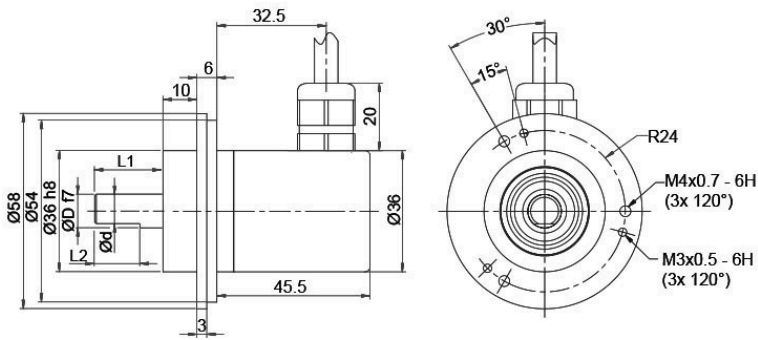
ABN inv. poss.

L2 axial, shield connected to encoder housing

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Assignments		
	L2	L2
Circuit	M13, M14	N13, N14
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
SET	PK	PK
A inv.	RD	-
B inv.	BK	-
N inv.	VT	-
Shield	flex	flex

Cable connection L3 radial with 2 m cable



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

Alle Abmessungen in mm / All dimensions in mm

Description

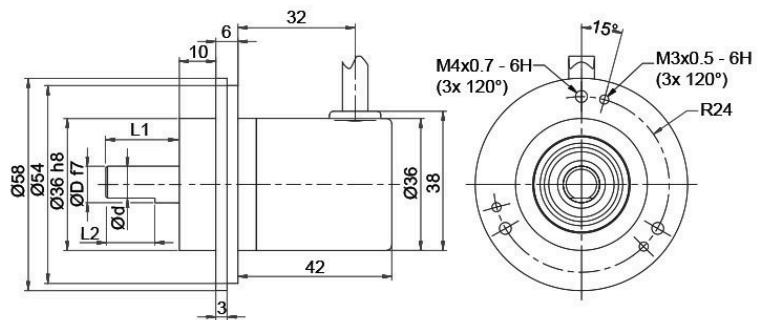
ABN inv. poss.

L3 radial, shield connected to encoder housing

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

Cable K1 (IP40) radial with 2 m cable



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

Alle Abmessungen in mm / All dimensions in mm

Description

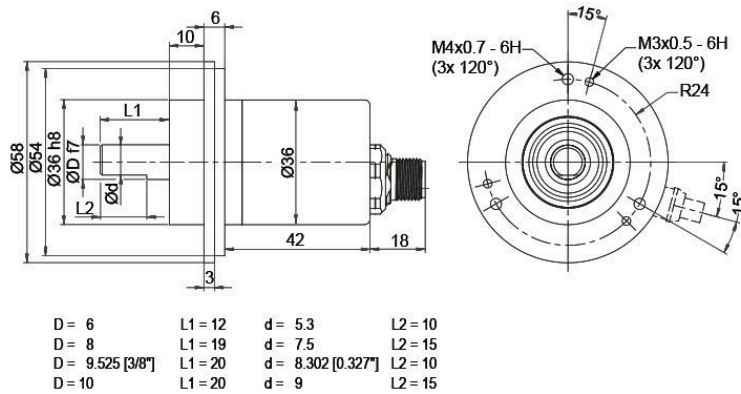
ABN inv. poss.

K1 radial, shield not connected (IP40)

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Assignments		
	K1	K1
Circuit	M13, M14	N13, N14
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
SET	PK	PK
A inv.	RD	-
B inv.	BK	-
N inv.	VT	-
Shield	flex	flex

Sensor connector (M12x1) SB axial, 12-pin



Alle Abmessungen in mm / All dimensions in mm

Description

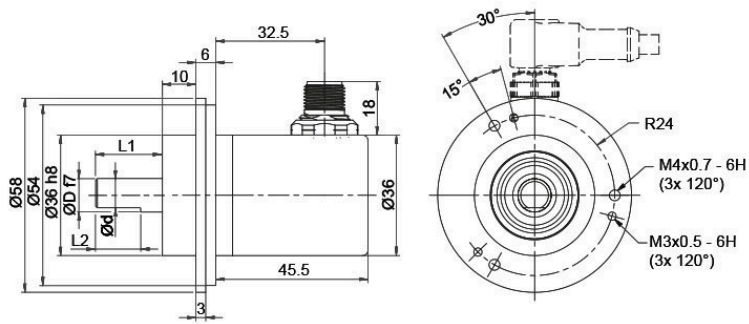
ABN inv. poss.

SB12 axial, 12-pin, Connector connected to encoder housing

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Assignments	
	SB12
	12-pin
Circuit	M13, M14
GND	3
(+) Vcc	1
A	4
B	6
N	8
SET	5
A inv.	9
B inv.	7
N inv.	10
n. c.	2, 11, 12
Shield	-

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



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

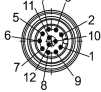
Alle Abmessungen in mm / All dimensions in mm

Description

ABN inv. poss.

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

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

Options
Low-friction bearings

The encoder WDGP 58B is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.

Order key
AAC
Shafts sealed to IP67, only with 10 mm [0.394"] shaft

The encoder WDGP 58B can be supplied in a IP67 version.
 (full IP67 only connection SB, SC, L2 or L3 version; not cable connection K1 = IP40).
 Max. RPM: 3500 min⁻¹
 Permitted Shaft-Loading: axial 100 N [10.197 kp]; radial 110 N [11.216 kp]
 Starting-torque: approx. 4 Ncm [5.664 in-ozf] at ambient temperature

Order key
AAO
Cable length

The encoder WDGP 58B 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
WDGP 58B	WDGP 58B				WDGP 58B
Shaft					
10	06; 08; 4Z; 10				
Pulses per revolution PPR:					
16384	1-16384 Other PPRs on request				
Channels:					
ABN	ABN				
Output circuit					
M13	Resolution PPR	Power supply VDC	Output circuit	-	Order key
	1-16384	4.75 - 32	HTL, inv. set zero pulse	-	M13
		4.75 - 32	TTL, RS422 compatible, inv. set zero pulse	-	M14
		4.75 - 32	HTL set zero pulse	-	N13
4.75 - 32		TTL set zero pulse	-	N14	
Electrical connections					
L2	Description			ABN inv. poss.	Order key
	Cable: length (2 m standard, WDG 58T: 1 m)				
	radial, shield not connected (IP40)			•	K1
	axial, shield connected to encoder housing			•	L2
	radial, shield connected to encoder housing			•	L3
	Connector: (shield connected to encoder housing)				
	sensor-connector, M12x1, 12-pin, axial			•	SB12
sensor-connector, M12x1, 12-pin, radial			•	SC12	
Options					
Description			Order key		
Low-friction bearings			AAC		
Shafts sealed to IP67, only with 10 mm [0.394"] shaft			AAO		
Without option			Empty		
Cable length			XXX = Decimeter		

Example Order No.=	WDGP 58B	10	16384	ABN	M13	L2		WDGP 58B						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-en/wachendorff-world-wide/>

WACHENDORFF

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