

Encoder WDGN 58B

www.wachendorff-automation.com/wdgn58b

Wachendorff Automation

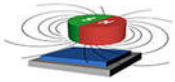
... systems and encoders

- 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

IndustrieROBUST

Encoder WDGN 58B configurable via NFC





Wachendorff Apps WDGN

- 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

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Configurable via NFC

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR

Mechanical Data	
Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	Stainless steel, NFC cover: Thermoplastic polyamide
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø 6 mm
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 8 mm
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 9.525 mm, Ø 3/8"
Shaft length	L: 20 mm, L: 0.787 in
Max. Permissible shaft loading radial	220 N, 22.434 kp
Max. Permissible shaft loading axial	120 N, 12.237 kp
Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 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	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
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 CH4 and inverted signals
Load	max. 40 mA / channel
Circuit protection	inverse-polarity and short-circuit protection
Nullimpuls setzen:	Setzen: SET = +UB für 2 s Deaktiviert: SET = GND
Accuracy	
Phase offset	90° ± max. 8.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %

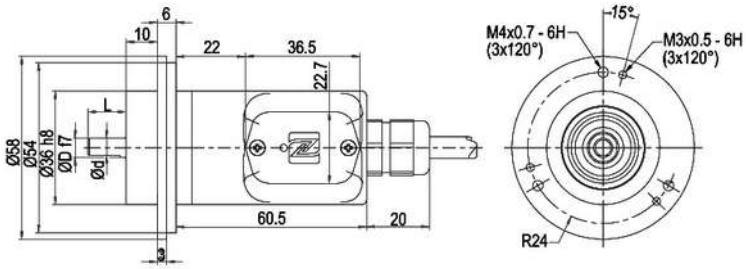
Configurable via NFC:	
BASIC: (BAS)	
Channels:	ABN and inverted
HTL / TTL	freely selectable
Pulses / revolution:	1 ppr up to 16384 ppr freely selectable
Advanced (ADV):	
Channels:	ABN + CH4 and inverted
HTL / TTL:	freely selectable
Pulses / revolution:	1 ppr up to 16384 ppr freely selectable
Number of pulses for each channel:	individually selectable
Set zero pulse:	yes
Pulse width and position:	Width and position adjustable

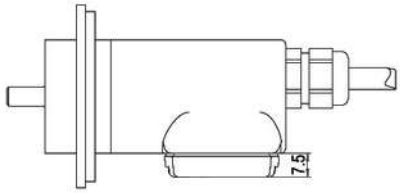
Environmental data	
Noise immunity:	
ESD (DIN EN 61000-4-2):	8 kV
EMC: (DIN EN 61000-4-3):	10 V/m
Burst (DIN EN 61000-4-4):	2 kV
High frequency fields (DIN EN 61000-4-6):	10 V
Surge (DIN EN 61000-4-5):	2 kV
Radio interference:	According DIN EN 55011
NFC:	
EMC:	According ETSI EN 301 489
RED:	According ETSI EN 300 330
Electrical safety:	According DIN EN 61010-1, UL 61010-1, CSA C22.0 No. 61010-1-12
Vibration: (DIN EN 60068-2-6)	300 m/s² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s² (6 ms)
Design:	According DIN VDE 0160

General Data	
Weight	approx. 220 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; (IP40 for K1)
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 L2 axial with 2 m cable



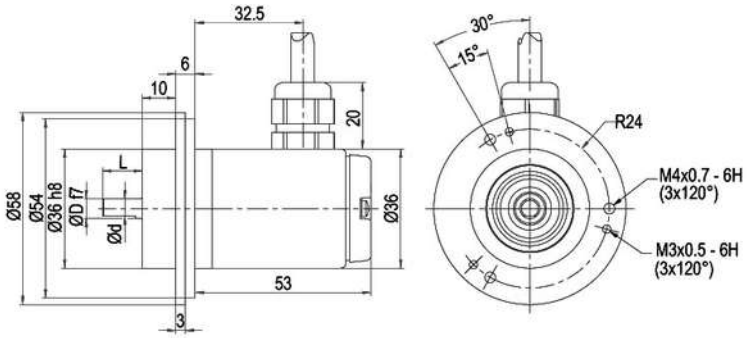


D = 6	L = 12	d = 5.3	Welle abgeflacht / shaft with flat
D = 8	L = 19	d = 7.5	Welle abgeflacht / shaft with flat
D = 9.525 [3/8"]	L = 20	d = 8.302 [0.327"]	Welle abgeflach / shaft with flat
D = 10	L = 20	d = 10	Wellen nicht abgeflacht / shaft without flat
Option AAS:			
D = 10	L = 20	d = 9	Welle abgeflach / shaft with flat

Description		ABN inv. poss.
L2	axial, shield connected to encoder housing	•

Assignments		
	L2	**L2**
Circuit	BAS	ADV
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
CH4	-	GYPK
SET	-	PK
A inv.	RD	RD
B inv.	BK	BK
N inv.	VT	VT
CH4 inv.	-	RDBU
Shield	flex	flex

Cable connection L3 radial with 2 m cabel

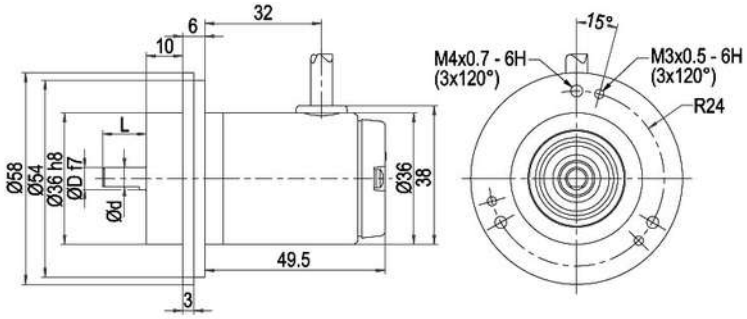


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D = 9.525 [3/8"]	L = 20	d = 8.302 [0.327"]	Welle abgeflach / shaft with flat
D = 10	L = 20	d = 10	Wellen nicht abgeflacht / shaft without flat
Option AAS:			
D = 10	L = 20	d = 9	Welle abgeflach / shaft with flat

Description		ABN inv. poss.
L3	radial, shield connected to encoder housing	•

Assignments		
	L3	**L3**
Circuit	BAS	ADV
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
CH4	-	GYPK
SET	-	PK
A inv.	RD	RD
B inv.	BK	BK
N inv.	VT	VT
CH4 inv.	-	RDBU
Shield	flex	flex

Cable K1 (IP40) radial with 2 m cable

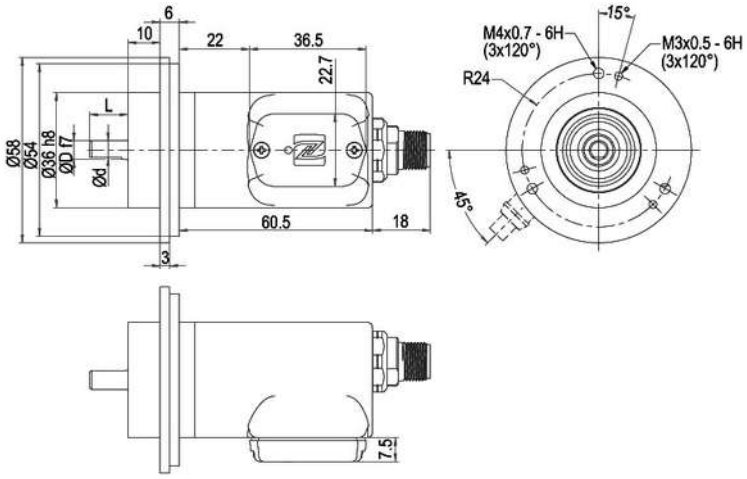


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D = 8	L = 19	d = 7.5	Welle abgeflacht / shaft with flat
D = 9.525 [3/8"]	L = 20	d = 8.302 [0.327"]	Welle abgeflach / shaft with flat
D = 10	L = 20	d = 10	Wellen nicht abgeflacht / shaft without flat
Option AAS:			
D = 10	L = 20	d = 9	Welle abgeflach / shaft with flat

Description		ABN inv. poss.
K1	radial, shield not connected (IP40)	•

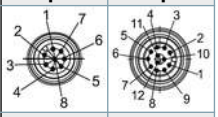
Assignments		
	K1	**K1**
Circuit	BAS	ADV
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
CH4	-	GYPK
SET	-	PK
A inv.	RD	RD
B inv.	BK	BK
N inv.	VT	VT
CH4 inv.	-	RDBU
Shield	flex	flex

Sensor connector (M12x1) SB axial, 8-, 12-pin

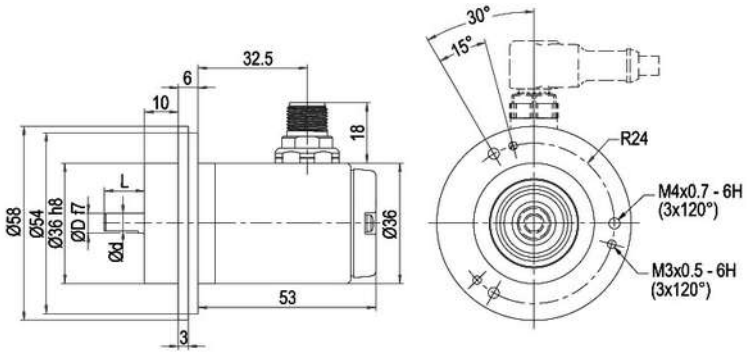


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D = 8	L = 19	d = 7.5	Welle abgeflacht / shaft with flat
D = 9.525 [3/8"]	L = 20	d = 8.302 [0.327"]	Welle abgeflach / shaft with flat
D = 10	L = 20	d = 10	Wellen nicht abgeflacht / shaft without flat
Option AAS:			
D = 10	L = 20	d = 9	Welle abgeflach / shaft with flat

Description		ABN inv. poss.
SB8	axial, 8-pin, Connector connected to encoder housing	•
SB12	axial, 12-pin, Connector connected to encoder housing	•

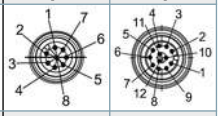
Assignments		
	SB8	**SB12**
	8-pin	**12-pin**
		
Circuit	BAS	ADV
GND	1	3
(+) Vcc	2	1
A	3	4
B	4	6
N	5	8
CH4	-	11
SET	-	5
A inv.	6	9
B inv.	7	7
N inv.	8	10
CH4 inv.	-	12
n. c.	-	2
Shield	-	-

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



D = 6	L = 12	d = 5.3	Welle abgeflacht / shaft with flat
D = 8	L = 19	d = 7.5	Welle abgeflacht / shaft with flat
D = 9.525 [3/8"]	L = 20	d = 8.302 [0.327"]	Welle abgeflach / shaft with flat
D = 10	L = 20	d = 10	Wellen nicht abgeflacht / shaft without flat
Option AAS:			
D = 10	L = 20	d = 9	Welle abgeflach / shaft with flat

Description		ABN inv. poss.
SC8	radial, 8-pin, Connector connected to encoder housing	•
SC12	radial, 12-pin, Connector connected to encoder housing	•

Assignments		
	SC8	**SC12**
	8-pin	**12-pin**
		
Circuit	BAS	ADV
GND	1	3
(+) Vcc	2	1
A	3	4
B	4	6
N	5	8
CH4	-	11
SET	-	5
A inv.	6	9
B inv.	7	7
N inv.	8	10
CH4 inv.	-	12
n. c.	-	2
Shield	-	-

Options

Shafts sealed to IP67, only with 10 mm shaft with flat	Order key
The encoder WDGN 58B can be supplied in a IP67 version. (full IP67 only connection CB, CC, L2 or L3 version; cable connection L1 IP40 only shaft sealed IP67). Max. RPM: 3500 min'-1 Permitted Shaft-Loading: axial 100 N; radial 110 N Starting-torque: approx. 4 Ncm at ambient temperature	**AAS**

Cable length	Order key
The encoder WDGN 58B can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see Downloads: „General technical Data“. Please extend the standard order code with a three figure number, specifying the cable length in decimetres. Example: 5 m cable = 050	**XXX = Decimeter**

Example Order No.	Type						Your encoder
WDGB 58B	WDGB 58B						WDGB 58B
	Shaft						
10	06; 08; 4Z= Ø 9.525 mm,Ø 3/8"; 10						
	Pulses per revolution PPR:						
X	configurable 1-16384 Other PPRs on request						
	Channels:						
X	ABN, ABN+CH4						
	Output circuit						
BAS	**Resolution PPR**	**Power supply VDC**	**Output circuit**		**Light reserve warning**	**Order key**	
	configurable 1-16384	4.75 - 32	configurable HTL, TTL (A,B,N + inv.)		-	BAS	
		4.75 - 32	configurable HTL, TTL (A,B,N,CH4 + inv.)		-	ADV	
	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, 8-pin, axial				•	SB8	
	sensor-connector, M12x1, 8-pin, radial				•	SC8	
	sensor-connector, M12x1, 12-pin, axial				•	SB12	
	sensor-connector, M12x1, 12-pin, radial				•	SC12	
	Options						
	Description				**Order key**		
	Shafts sealed to IP67, only with 10 mm shaft with flat				AAS		
	Without option				Empty		
	Cable length				XXX = Decimeter		

Example Order No.=	WDGB 58B	10	X	X	BAS	L2		WDGB 58B							Your encoder



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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