



Online Data Sheet

Encoder WDGP 58A

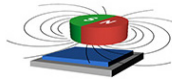
www.wachendorff-automation.com/wdgp58a

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 58A (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/wdgp58a

Resolution

Pulses per revolution PPR 1 PPR up to 16384 PPR

Mechanical Data

Housing

Flange	synchro flange
Flange material	aluminum
Housing cap	stainless steel
Housing	Ø 58 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature

Shaft	Ø 6 mm
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

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
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	8000 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 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 and 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 %

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)
Design:	According DIN VDE 0160

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

General Data

Weight	approx. 240 g
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
Storage temperature	Connector: -40 °C up to +100 °C, cable: -30 °C up to +80 °C

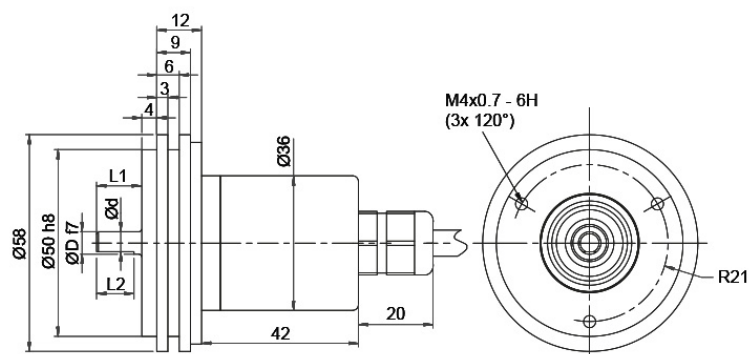
More Information

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 L1 = 12 d = 5.3 L2 = 10
D = 10 L1 = 20 d = 9 L2 = 15

Option AIX:

D = 6 L1 = 10 d = 5.3 L2 = 8

Description

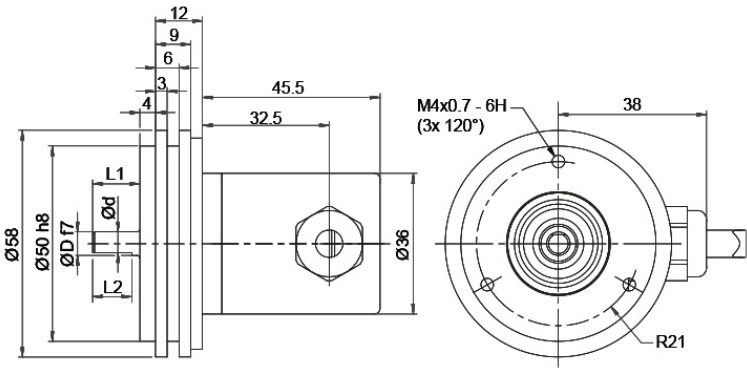
ABN inv. poss.

L2 axial, shield connected to encoder housing

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Assignments				
	L2	L2	L2	L2
Circuit	M11, M12	M13, M14	N11, N12	N13, N14
GND	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN
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

Cable connection L3 radial with 2 m cabel



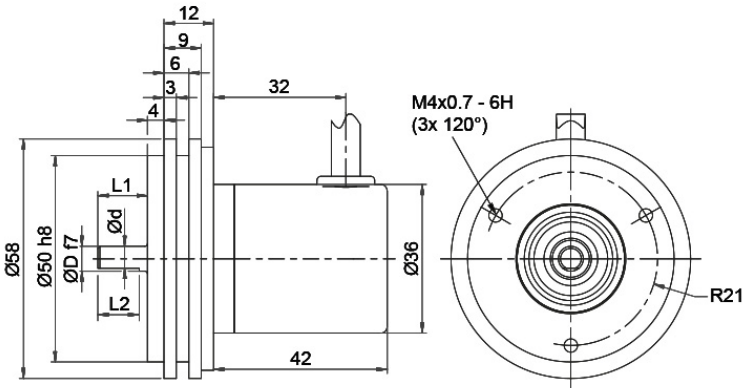
D = 6 L1 = 12 d = 5.3 L2 = 10
D = 10 L1 = 20 d = 9 L2 = 15

Option AIX:
D = 6 L1 = 10 d = 5.3 L2 = 8

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

Assignments				
	L3	L3	L3	L3
Circuit	M11, M12	M13, M14	N11, N12	N13, N14
GND	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN
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

Cable K1 (IP40) radial with 2 m cable



D = 6 L1 = 12 d = 5.3 L2 = 10
D = 10 L1 = 20 d = 9 L2 = 15

Option AIX:
D = 6 L1 = 10 d = 5.3 L2 = 8

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

Assignments				
	K1	K1	K1	K1
Circuit	M11, M12	M13, M14	N11, N12	N13, N14
GND	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN
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

Options

Shafts sealed to IP67, only with shaft 10 mm

Order key

The encoder WDGP 58A 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; radial 110 N
Starting-torque: approx. 4 Ncm at ambient temperature

AAO

Shaft length 10 mm (Ø 6 mm)

Order key

The encoder WDGP 58A shaft: Ø 6 mm is also available with a shortened shaft L = 10 mm.

AIX

Cable length

Order key

The encoder WDGP 58A 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

XXX = Decimeter

Example Order No.	Type					Your encoder
WDGP 58A	WDGP 58A					WDGP 58A
	Shaft					
06	06; 10					
	Pulses per revolution PPR:					
configurable 1-16384	configurable 1-16384 , 1-16384					
	Channels:					
ABN	ABN					ABN
	Output circuit					
N11	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key	
	1-16384	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	
		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	
	Electrical connections					
K1	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, 5-pin, axial			-	SB5	
	sensor-connector, M12x1, 5-pin, radial			-	SC5	
	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 shaft 10 mm			AAO		
	Shaft length 10 mm (Ø 6 mm)			AIX		
	Cable length			Cable lenght		
	Without option			Empty		

Example Order No. =	WDGP 58A	06	configurable 1-16384	ABN	N11	K1		WDGP 58A			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/contact-sales-en/>



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