



Online Data sheet

Encoder WDGI 58A

www.wachendorff-automation.com/wdgi58am

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 WDG1 58A



Illustration similar



- Robust construction for industrial use
- Protection to IP67, shaft sealed to IP65 (optional IP67 all round)
- High electrical immunity
- Further options

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Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR
Mechanical Data	
Housing	
Flange	synchro flange
Flange material	aluminum
Housing cap	die cast aluminum, powder coated
Housing	Ø 58 mm
Cam mounting	pitch 69 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 0.5 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 8 mm
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 9.525 mm
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 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
Nomiale service life	3 x 10 ⁸ revs. at 100 % rated shaft load 5 x 10 ⁹ revs. at 40 % rated shaft load 4 x 10 ¹⁰ revs. at 20 % rated shaft load
Max. operating speed	10000 rpm
Machinery Directive: basic data safety integrity level	
MTTF _d	2200 a
Mission time (TM)	25 a
Nomiale service life (L10h)	4 x 10 ¹⁰ revs. at 20 % rated shaft load and 10000 rpm
Diagnostic coverage (DC)	0 %
Electrical Data	
Power supply/Current consumption	4.75 VDC up to 30 VDC: typ. 40 mA
Operating principle	magnetic
Output circuit	HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)
Pulse frequency	HTL up to 16384 ppr: max. 600 kHz TTL up to 16384 ppr: max. 1 MHz
Channels	AB 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)
Electrial Safety:	according DIN VDE 0160

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

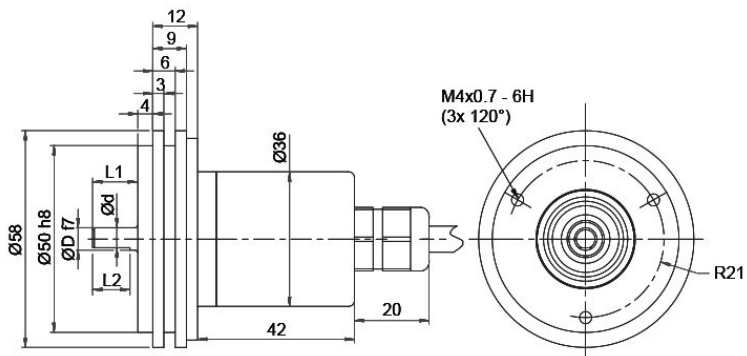
General Data

Weight	approx. 230 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, (Option ACA: -40 °C up to +85 °C)
Storage temperature	Connector: -40 °C up to +85 °C, cable: -30 °C up to +80 °C (option ACA: -40 °C up to +85 °C)

More Information

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

WDGI 58A: 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 = 10, L1 = 20, d = 9, L2 = 15
D = 3/8", L1 = 20, d = 8.3, L2 = 10

Option AIX:

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

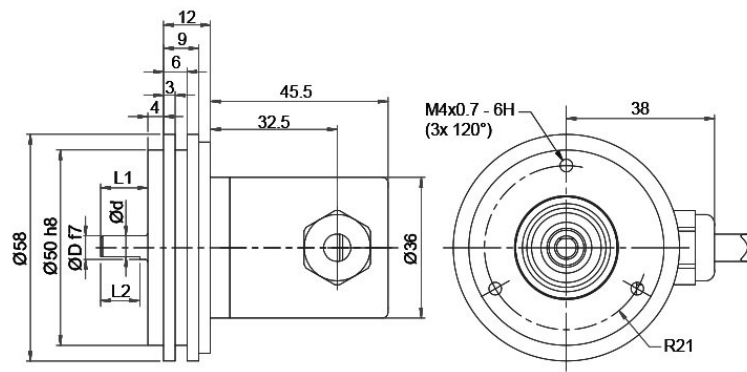
Description

ABN inv. poss.

L2 axial, shield connected to encoder housing

Assignments		
	L2	L2
Circuit	N35	M35
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
-	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

WDGI 58A: 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 = 10, L1 = 20, d = 9, L2 = 15
D = 3/8", L1 = 20, d = 8.3, L2 = 10

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

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

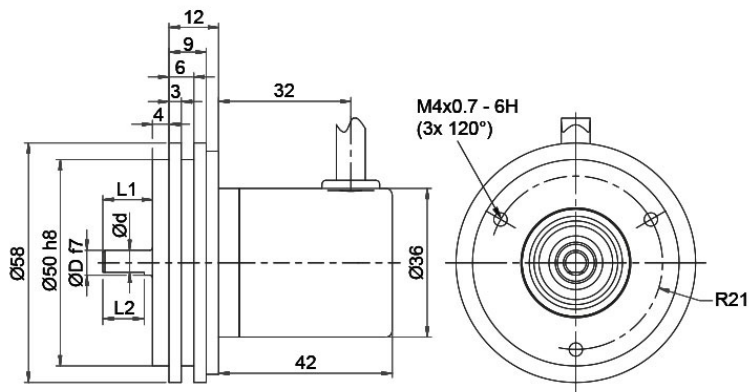
Description	ABN inv. poss.
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ABN inv. poss.

L3	radial, shield connected to encoder housing	•
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Assignments		
	L3	L3
Circuit	N35	M35
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
-	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

WDGI 58A: 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 = 10, L1 = 20, d = 9, L2 = 15
D = 3/8", L1 = 20, d = 8.3, L2 = 10

Option AIX:

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

Description

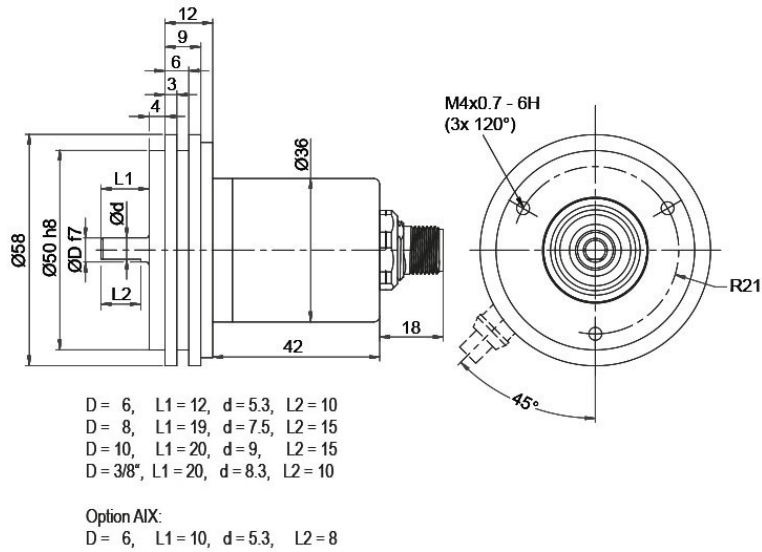
ABN inv. poss.

K1 radial, shield not connected (IP40)

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Assignments		
	K1	K1
Circuit	N35	M35
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
-	-	-
A inv.	-	RD
B inv.	-	BK
N inv.	-	VT
Shield	flex	flex

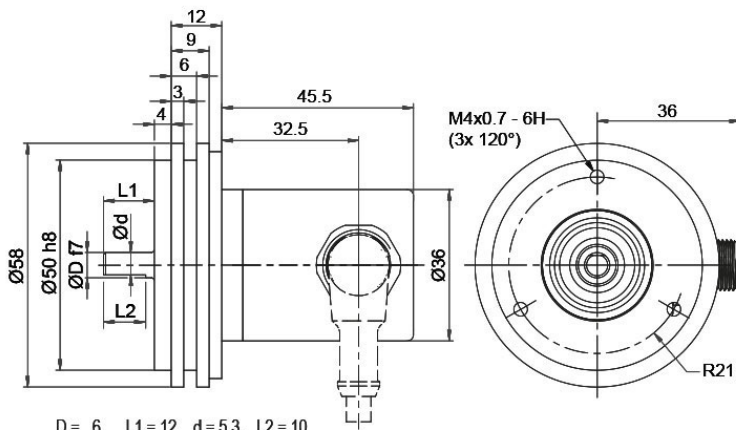
WDGI 58A: Sensor-connector (M12x1) SB, axial, 5-, 8-pin



Description	ABN inv. poss.
SB5 axial, 5-pin, Connector connected to encoder housing	-
SB8 axial, 8-pin, Connector connected to encoder housing	•

Assignments		
	SB5 5-pin	SB8 8-pin
Circuit	N35	M35
GND	3	1
(+) Vcc	1	2
A	4	3
B	2	4
N	5	5
-	-	-
A inv.	-	6
B inv.	-	7
N inv.	-	8
n. c.	-	-
Shield	-	-

WDGI 58A: Sensor-connector (M12x1) SC, radial, 5-, 8-pin



D = 6, L1 = 12, d = 5.3, L2 = 10
D = 8, L1 = 19, d = 7.5, L2 = 15
D = 10, L1 = 20, d = 9, L2 = 15
D = 3/8", L1 = 20, d = 8.3, L2 = 10

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

Description	ABN inv. poss.
SC5 radial, 5-pin, Connector connected to encoder housing	-
SC8 radial, 8-pin, Connector connected to encoder housing	•

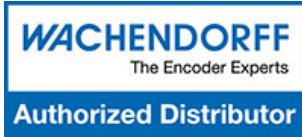
Assignments			
	4-pin	SC5 5-pin	SC8 8-pin
Circuit	N35	N35	M35
GND	3	3	1
(+) Vcc	1	1	2
A	2	4	3
B	4	2	4
N	-	5	5
-	-	-	-
A inv.	-	-	6
B inv.	-	-	7
N inv.	-	-	8
n. c.	-	-	-
Shield	-	-	-

Options

Shafts sealed to IP67, only with shaft 10 mm	Order key
The encoder WDG1 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
Low temperature	Order key
The encoder WDG1 58A with the output circuit types M35, N35 is also available with the extended temperature range -40 °C up to +85 °C [-40 °F up to +185 °F] (measured at the flange).	ACA
Pressure equalising membrane	Order key
The WDG1 58A shaft encoder is also optionally available with a pressure equalising membrane. This prevents water from penetrating into the encoder housing in the case of high air humidity. The IP67 protection level, temperature range and salt spray resistance are maintained. Resistant to chemicals and solvents in accordance with DIN EN ISO 2812-1.	ACR
Shaft length 10 mm (Ø 6 mm)	Order key
The encoder WDG1 58A shaft: Ø 6 mm is also available with a shortened shaft L = 10 mm.	AIX
Cable length	Order key
The encoder WDG1 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
WDGI 58A	WDGI 58A					WDGI 58A
		Shaft				
06	06; 08; 4Z; 10					
		Pulses per revolution PPR:				
16384	1-16384 Other PPRs on request					
		Channels:				
ABN	AB, ABN					
		Output circuit				
M35	Resolution PPR	Power supply VDC	Output circuit	-	Order key	
	1-16384	4.75 - 30	HTL (TTL at 5 VDC)	-	N35	
		4.75 - 30	HTL, inv. (TTL/RS422 comp. at 5 VDC)	-	M35	
		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, 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		
		Options				
	Description		Order key			
	Shafts sealed to IP67, only with shaft 10 mm		AAO			
	Low temperature		ACA			
	Pressure equalising membrane		ACR			
	Shaft length 10 mm (Ø 6 mm)		AIX			
	Without option		Empty			
	Cable length		XXX = Decimeter			

Example Order No. =	WDGI 58A	06	16384	ABN	M35	L2		WDGI 58A								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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