



Online Data sheet

Encoder WDGP 36C

www.wachendorff-automation.com/wdgp36c

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 36C



Illustration similar



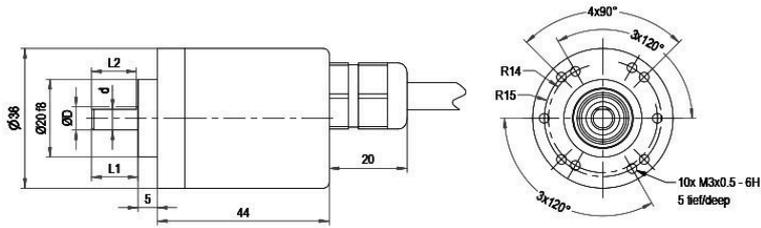
- Due to high quality electronics any number of pulses up to 16384
- Protection class IP67, at shaft input IP65
- High output frequency up to 1 MHz
- Reverse polarity protection and short-circuit protection at 4.75 VDC to 32 VDC

www.wachendorff-automation.com/wdgp36c

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR
Mechanical Data	
Flange	round flange
Flange material	aluminum
Housing material	stainless steel
Flange diameter	Ø 36 mm [Ø 1.417"]
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm [0.425 in-ozf] at ambient temperature
Shaft	Ø 6 mm [Ø 0.236"]
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
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	12000 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 12000 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 Deactivate: 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
Duty information	
Customs tariff number:	90318020
Country of origin:	Germany
General Data	
Weight	approx. 125 g [4.409 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=67 L1=12 d=5.3 L2=11.5

Alle Abmessungen in mm / All dimensions in mm

Description

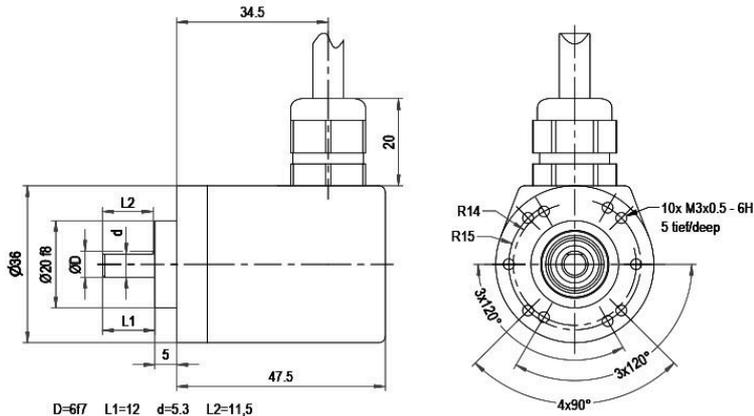
ABN inv. poss.

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=677 L1=12 d=5.3 L2=11,5

Alle Abmessungen in mm / All dimensions in mm

Description

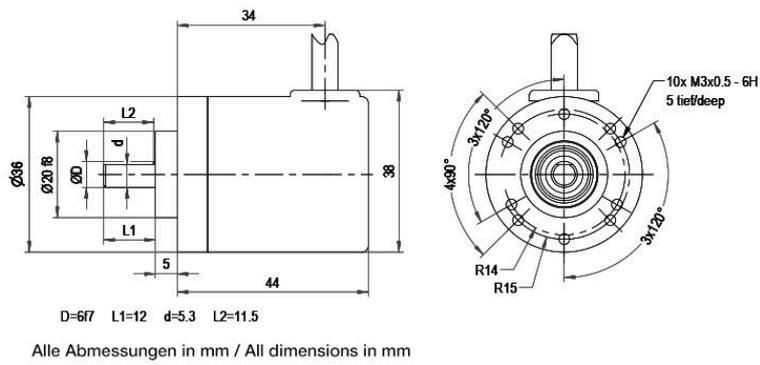
ABN inv. poss.

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



Description

ABN inv. poss.

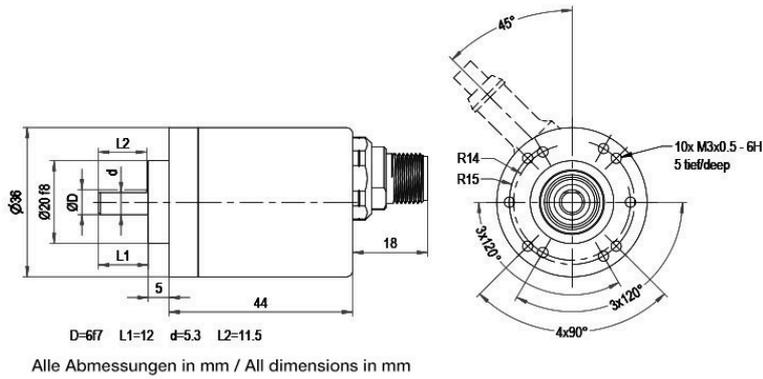
K1 radial, shield not connected (IP40)

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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



Description

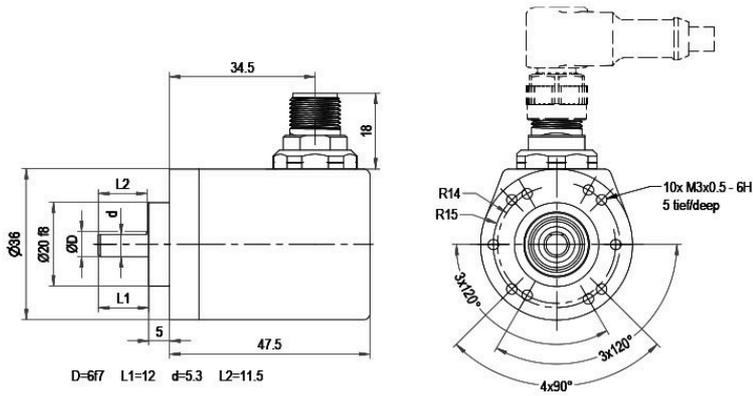
ABN inv. poss.

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



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 36C is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.25 Ncm [0.354 in-ozf] and the protection class at the shaft input to IP50.

Order key

AAC

Pressure equalising membrane

The WDGP 36C 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.

Order key

ACR

Cable length

The encoder WDGP 36C 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.

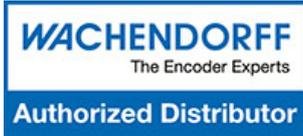
Example: 5 m cable = 050

Order key

XXX = Decimeter

Example Order No.	Type				Your encoder
WDGP 36C	WDGP 36C				WDGP 36C
	Shaft				
06	06				
	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	
	Pressure equalising membrane			ACR	
	Without option			Empty	
	Cable length			XXX = Decimeter	

Example Order No.=	WDGP 36C	06	16384	ABN	M13	L2		WDGP 36C						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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