



Online Data sheet

Encoder WDGI 36A

www.wachendorff-automation.com/wdgi36a

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 WDGI 36A



Illustration similar



- Compact and robust
- All pulse numbers from 1 to 16,384 ppr available
- Robust construction for industrial use
- Protection to IP67, shaft sealed to IP65

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Resolution		Diagnostic coverage (DC)	
Pulses per revolution PPR	1 PPR up to 16384 PPR		0 %
Mechanical Data		Electrical Data	
Housing		Power supply/Current consumption	4.75 VDC up to 30 VDC: typ. 40 mA
Flange	servo flange	Operating principle	magnetic
Flange material	aluminum	Output circuit	HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)
Housing cap	stainless steel	Pulse frequency	HTL up to 16384 ppr: max. 600 kHz TTL up to 16384 ppr: max. 1 MHz
Housing	Ø 36 mm [Ø 1.417"]	Channels	ABN and inverted signals
Shaft(s)		Load	max. 40 mA / channel
Shaft material	stainless steel	Circuit protection	no
Starting torque	approx. 0.3 Ncm [0.425 in-ozf] at ambient temperature		
		Accuracy	
Shaft	Ø 6 mm [Ø 0.236"]	Phase offset	90° ± max. 7.5 % of the period duration
Shaft length	L: 11.5 mm [0.453"]	pulse-/pause-ratio	50 % ± max. 7 %
Max. Permissible shaft loading radial	80 N [8.157 kp]		
Max. Permissible shaft loading axial	50 N [5.098 kp]	Environmental data	
		ESD (DIN EN 61000-4-2):	8 kV
Shaft	Ø 6.35 mm [Ø 1/4"] Order No: 2Z	Burst (DIN EN 61000-4-4):	2 kV
Shaft length	L: 11.5 mm [0.453"]	includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Max. Permissible shaft loading radial	80 N [8.157 kp]	Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Max. Permissible shaft loading axial	50 N [5.098 kp]	Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
		Electrical Safety:	according DIN VDE 0160
Shaft	Ø 8 mm [Ø 0.315"]		
Shaft length	L: 18 mm [0.709"]	Duty information	
Max. Permissible shaft loading radial	50 N [5.098 kp]	Customs tariff number:	90318020
Max. Permissible shaft loading axial	50 N [5.098 kp]	Country of origin:	Germany
Bearings		General Data	
Bearings type	2 precision ball bearings	Weight	approx. 130 g [4.586 oz]
Nomiale service life	1.4 x 10 ⁸ revs. at 100 % rated shaft load 2 x 10 ⁹ revs. at 40 % rated shaft load 1.7 x 10 ¹⁰ revs. at 20 % rated shaft load	Connections	cable or connector outlet
Max. operating speed	12000 rpm	Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; cable outlet K1: IP40
Machinery Directive: basic data safety integrity level		Operating temperature	Connector: -40 °C up to +85 °C, Cable: -20 °C up to +80 °C (Option ACA: -40 °C up to +85 °C). Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F, Option ACA: -40 °F up to +185 °F
MTTF _d	2200 a		
Mission time (TM)	25 a		
Nomiale service life (L10h)	1.7 x 10 ¹⁰ revs. at 20 % rated shaft load and 12000 rpm		

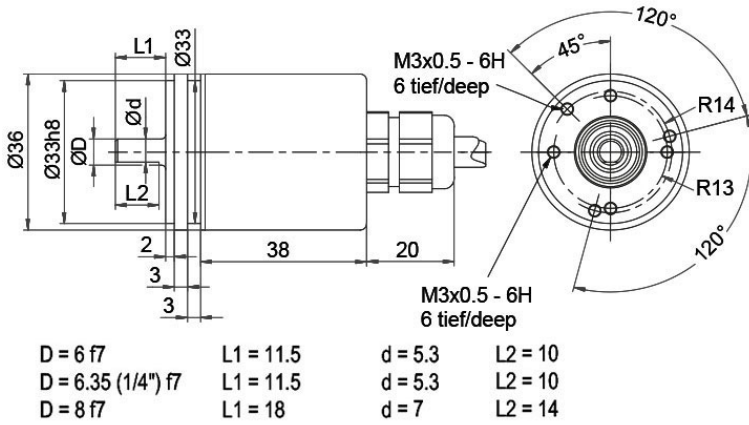
Storage temperature	Connector: -40 °C up to +85 °C, Cable: -30 °C up to +80 °C (Option ACA: -40 °C up to +85 °C) Connector: -40 °F up to +185 °F, cable: -22 °F up to +176 °F, (Option ACA: -40 °F up to +185 °F)
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More Information

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

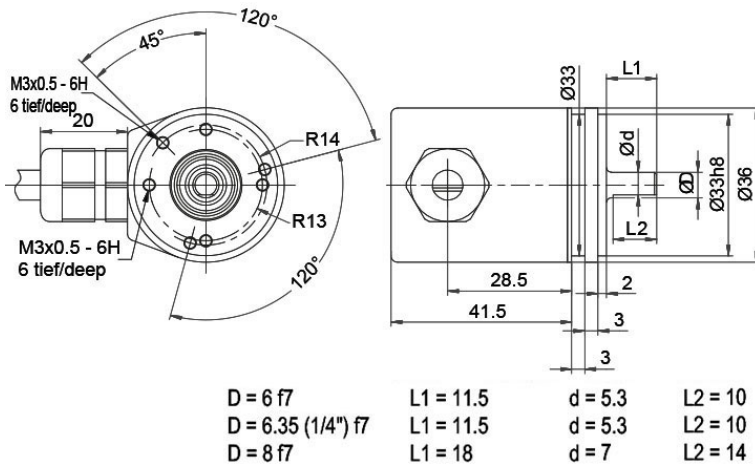


Alle Abmessungen in mm / All dimensions in mm

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

Cable connection L3 radial with 2 m cabel



Alle Abmessungen in mm / All dimensions in mm

Description

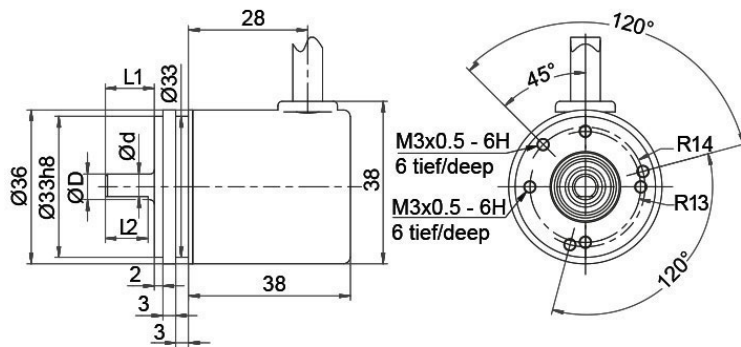
ABN inv. poss.

L3 radial, shield connected to encoder housing

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Assignments		
	L3	L3
Circuit	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

Cable K1 (IP40) radial with 2 m cable



D = 6 f7	L1 = 11.5	d = 5.3	L2 = 10
D = 6.35 (1/4") f7	L1 = 11.5	d = 5.3	L2 = 10
D = 8 f7	L1 = 18	d = 7	L2 = 14

Alle Abmessungen in mm / All dimensions in mm

Description

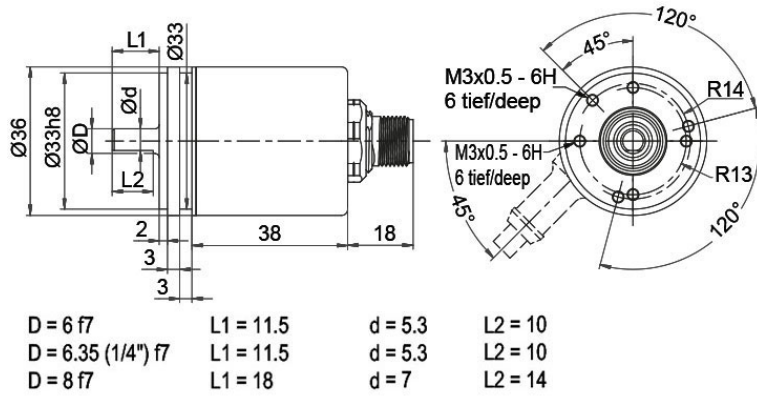
ABN inv. poss.

K1 radial, shield not connected (IP40)

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Assignments		
	K1	K1
Circuit	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

Sensor connector (M12x1) SB axial, 5-, 8-pin

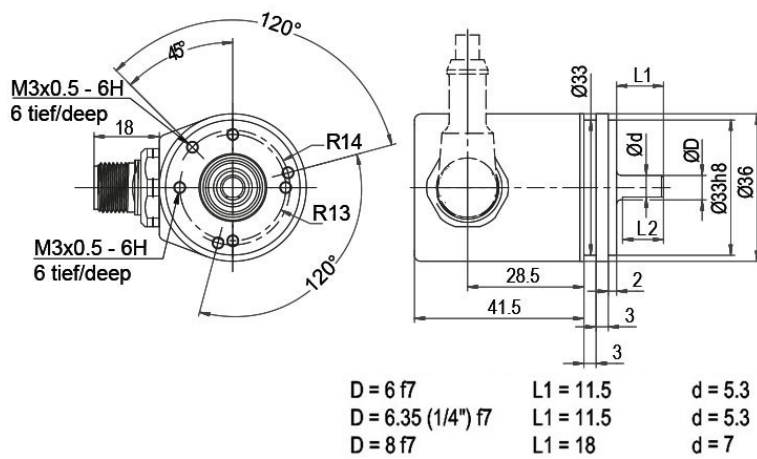


Alle Abmessungen in mm / All dimensions in mm

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	-	-

Sensor-connector (M12x1) SC radial, 5-, 8-pin



Alle Abmessungen in mm / All dimensions in mm

Description

ABN inv. poss.

SC5	radial, 5-pin, Connector connected to encoder housing	-
SC8	radial, 8-pin, Connector connected to encoder housing	•

Assignments

	SC5	SC8
	5-pin	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	-	-

Options

Low temperature

The encoder WDG1 36A with the output circuit types N35, M35 is also available with the extended temperature range -40 °C up to +85 °C [-40 °F up to +185 °F] (measured at the flange).

Order key

ACA

Pressure equalising membrane

The WDG1 36A 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 WDG1 36A 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.

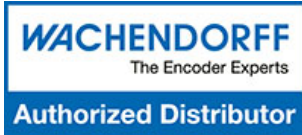
Example: 5 m cable = 050

Order key

XXX = Decimeter

Example Order No.	Type					Your encoder
WDGI 36A	WDGI 36A					WDGI 36A
	Shaft					
06	06; 2Z; 08					
	Pulses per revolution PPR:					
1-16384	1-16384					1-16384
	Channels:					
ABN	ABN					ABN
	Output circuit					
N35	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					
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	
	Options					
	Description			Order key		
	Low temperature			ACA		
	Pressure equalising membrane			ACR		
	Cable length			Cable lenght		
	Without option			Empty		

Example Order No. =	WDGI 36A	06	1-16384	ABN	N35	K1		WDGI 36A		1-16384	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/>

WACHENDORFF

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