



Online Data Sheet

Encoder WDG 36E

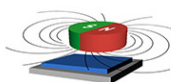
www.wachendorff-automation.com/wdgi36e

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 36E (magnetic)



- Compact and robust
- All pulse numbers from 1 to 1,024 I/U available
- Robust construction for industrial use
- Protection to IP67, shaft sealed to IP65

www.wachendorff-automation.com/wdgi36e

Resolution	
Pulses per revolution PPR	up to 1024 PPR

Mechanical Data	
Housing	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	stainless steel
- 1. Spring plate compensation	axial: ± 0.2 mm, radial: ± 0.1 mm
Housing	$\varnothing 36$ mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm at ambient temperature

Shaft	$\varnothing 6$ mm
Insertion depth min.	8 mm
Insertion depth max.	17 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	$\varnothing 6.35$ mm, $\varnothing 1/4$ "
Insertion depth min.	8 mm
Insertion depth max.	17 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Bearings	
Bearings type	2 precision ball bearings
Nominal 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
Max. operating speed	12000 rpm

Machinery Directive: basic data safety integrity level	
MTTF _d	3620 a
Mission time (TM)	25 a
Nominal service life (L10h)	1.7 x 10 ¹⁰ revs. at 20 % rated shaft load and 12000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	5 VDC up to 30 VDC: typ. 40 mA
Output circuit	HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)
Pulse frequency	≤ 1024 ppr: max. 200 kHz
Channels	ABN and inverted signals
Load	max. 40 mA / channel
Circuit protection	no

Accuracy	
Phase offset	90° $\pm$ max. 7.5 % of the period duration
pulse-/pause-ratio	at 1 ppr up to 128 ppr: 50 % $\pm$ max. 7 % 129 ppr - 256 ppr: 50 % $\pm$ max. 9 % 257 ppr - 512 ppr: 50 % $\pm$ max. 13 % 513 ppr - 1024 ppr: 50 % $\pm$ max. 18 %

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

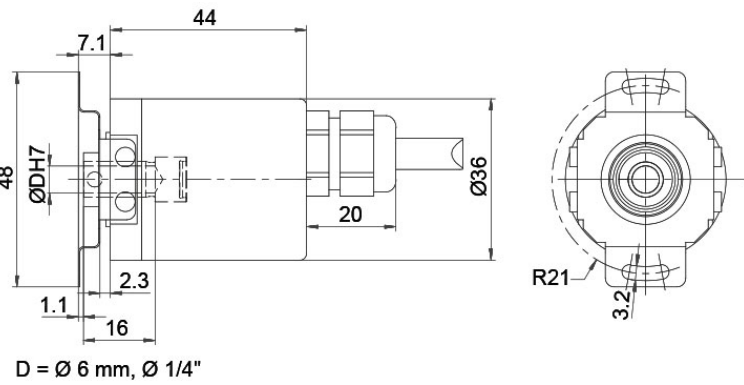
General Data	
Weight	approx. 130 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; cable outlet K1: IP40
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C, (Option ACA: -40 °C up to +85 °C)
Storage temperature	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>

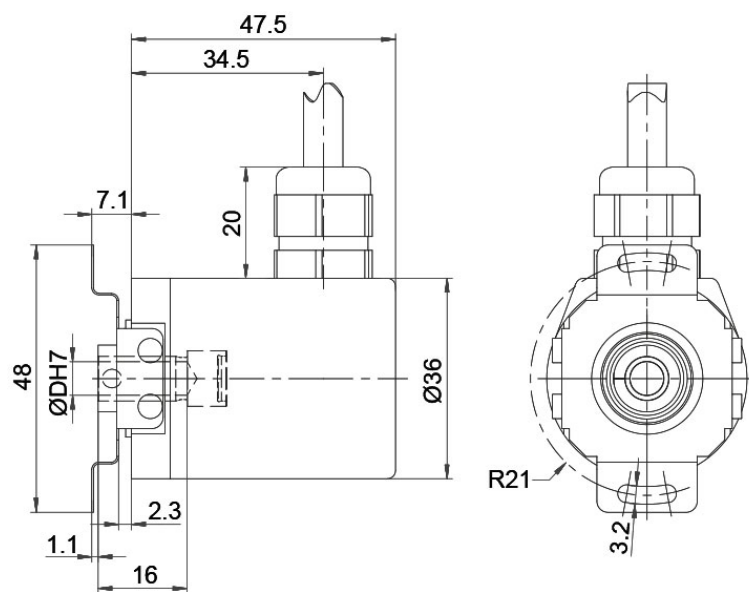
Cable connection L2 axial with 2 m cable



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
Light reserve warning	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

Cable connection L3 radial with 2 m cable



D = Ø 6 mm, Ø 1/4"

Description

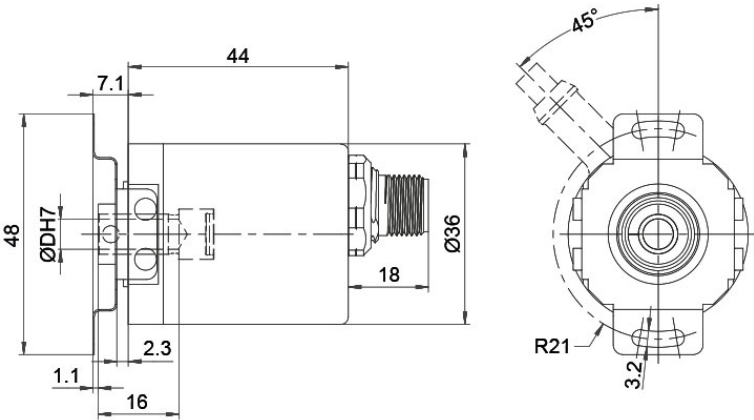
ABN inv. poss.

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
Light reserve warning	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

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

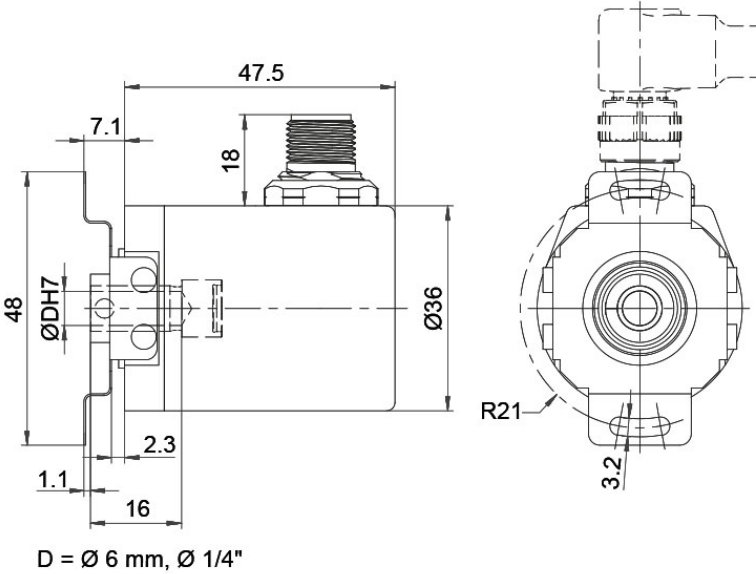


D = Ø 6 mm, Ø 1/4"

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

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

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



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

Options

Low temperature

The encoder WDGI 36E with the output circuit types M35, N35 is also available with the extended temperature range (measured at the flange).

Order key

ACA

Cable length

The encoder WDGI 36E 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

Order key

XXX = Decimeter

Example Order No.	Type					Your encoder
WDGI 36E	WDGI 36E					WDGI 36E
	Bore size					
06	06; 2Z= Ø 6.35 mm, Ø 1/4"					
	Pulses per revolution PPR:					
1-1024	1-1024					1-1024
	Channels:					
AB	AB, ABN					
	Output circuit					
N35	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key	
	1-1024	5 - 30	HTL (TTL at 5 VDC)	-	N35	
		5 - 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)					
	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		
	Cable length			Cable lenght		
	Without option			Empty		

Example Order No. =	WDGI 36E	06	1-1024	AB	N35	L2		WDGI 36E		1-1024					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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