



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

www.wachendorff-automation.com/wdgi36a

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR
Mechanical Data	
Housing	
Flange	servo flange
Flange material	aluminum
Housing cap	stainless steel
Housing	Ø 36 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm at ambient temperature
Shaft	Ø 6 mm
Shaft length	L: 11.5 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 6.35 mm, Ø 1/4"
Shaft length	L: 11.5 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 8 mm
Shaft length	L: 18 mm
Max. Permissible shaft loading radial	50 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	2200 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	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	ABN and inverted signals
Load	max. 40 mA / channel
Circuit protection	no
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:	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

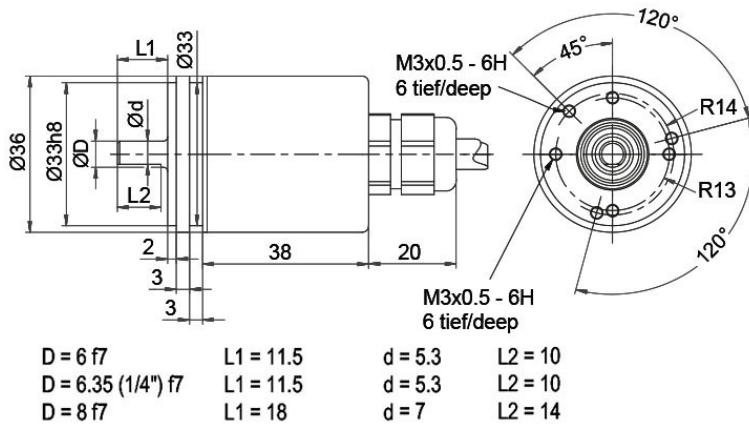
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C, (Option ACA: -40 °C up to +85 °C)
Storage temperature	Connector: -40 °C up to +85 °C, cable: -30 °C up to +80 °C (option ACA: -40 °C up to +85 °C)

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

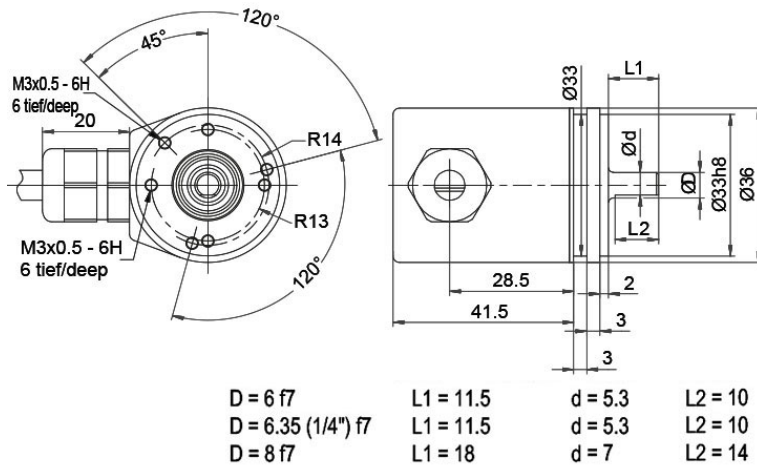
ABN inv. poss.

L2 axial, shield connected to encoder housing

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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



Description

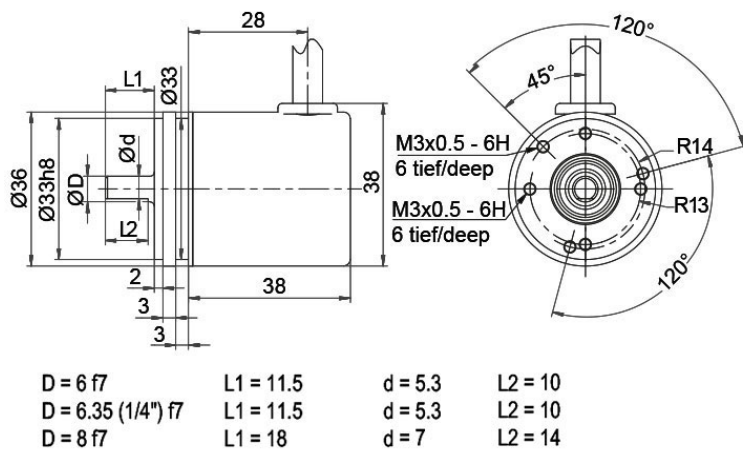
ABN inv. poss.

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



Description

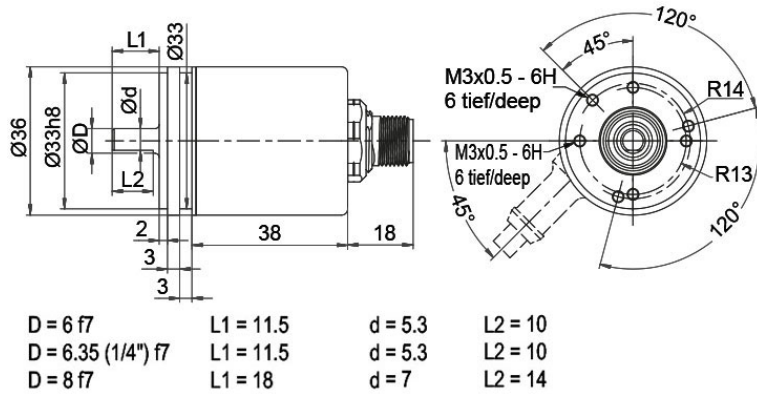
ABN inv. poss.

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

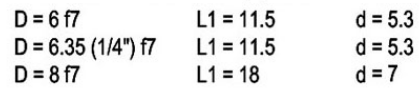
Sensor connector (M12x1) SB axial, 5-, 8-pin



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



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 www.wachendorff-automation.com/atd

Please extend the standard order code with a three figure number, specifying the cable length in decimetres.

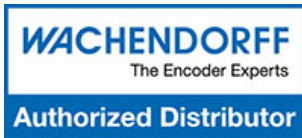
Example: 5 m cable = 050

Order key

XXX = Decimeter

Example Order No.	Type					Your encoder
WDGI 36A	WDGI 36A					WDGI 36A
	Shaft					
06	06; 2Z= Ø 6.35 mm, Ø 1/4"; 08					
	Pulses per revolution PPR:					
16384	1-16384 Other PPRs on request					
	Channels:					
ABN	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				
	Low temperature	ACA				
	Pressure equalising membrane	ACR				
	Without option	Empty				
	Cable length	XXX = Decimeter				

Example Order No.=	WDGI 36A	06	16384	ABN	M35	L2		WDGI 36A							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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