



# Online Data Sheet

## Encoder WDGI 36K

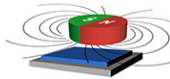
[www.wachendorff-automation.com/wdgi36k](http://www.wachendorff-automation.com/wdgi36k)

### 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 36K (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/wdgi36k](http://www.wachendorff-automation.com/wdgi36k)

Resolution	
Pulses per revolution PPR	up to 1024 PPR

Mechanical Data	
Housing	
Flange	round 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

Bearings	
Bearings type	2 precision ball bearings
Nominale service life	1.4 x 10 <sup>8</sup> revs. at 100 % rated shaft load 2 x 10 <sup>9</sup> revs. at 40 % rated shaft load 1.7 x 10 <sup>10</sup> revs. at 20 % rated shaft load
Max. operating speed	12000 rpm

Machinery Directive: basic data safety integrity level	
MTTF <sub>d</sub>	3620 a
Mission time (TM)	25 a
Nominale service life (L10h)	1.7 x 10 <sup>10</sup> 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
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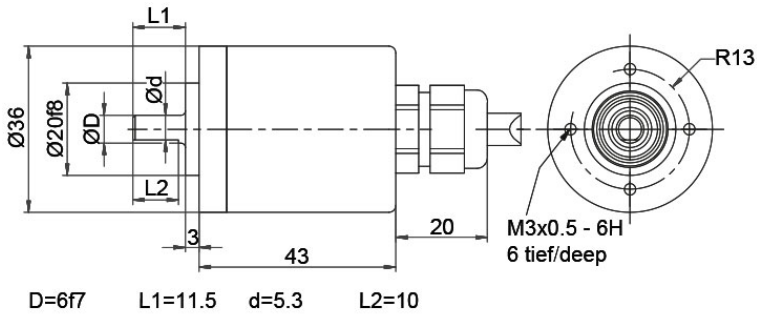
Accuracy	
Phase offset	90° ± max. 7.5 % of the period duration
pulse-/pause-ratio	at 1 ppr up to 128 ppr: 50 % ± max. 7 % 129 ppr - 256 ppr: 50 % ± max. 9 % 257 ppr - 512 ppr: 50 % ± max. 13 % 513 ppr - 1024 ppr: 50 % ± max. 18 %

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 <sup>2</sup> (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s <sup>2</sup> (6 ms)
Design:	according DIN VDE 0160

Duty information	
Customs tariff number:	90318020
Country of origin:	Germany

General Data	
Weight	approx. 125 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)

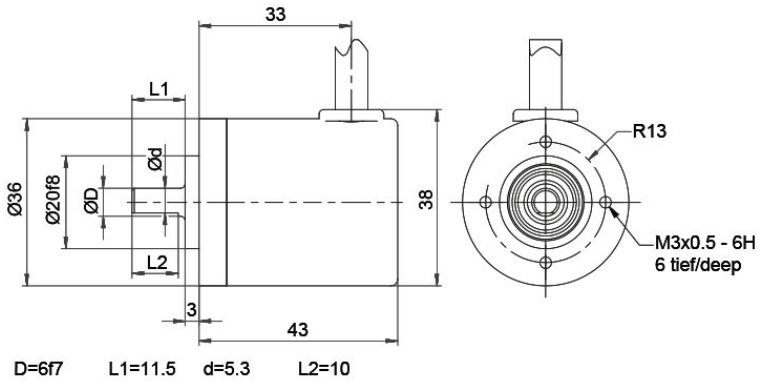
More Information	
General technical data and safety instructions <a href="http://www.wachendorff-automation.com/gtd">http://www.wachendorff-automation.com/gtd</a>	
Options <a href="http://www.wachendorff-automation.com/acc">http://www.wachendorff-automation.com/acc</a>	

**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
<b>Circuit</b>	N35	M35
<b>GND</b>	WH	WH
<b>(+) Vcc</b>	BN	BN
<b>A</b>	GN	GN
<b>B</b>	YE	YE
<b>N</b>	GY	GY
<b>Light reserve warning</b>	-	-
<b>A inv.</b>	-	RD
<b>B inv.</b>	-	BK, (BU at ACA)
<b>N inv.</b>	-	VT
<b>Shield</b>	flex	flex

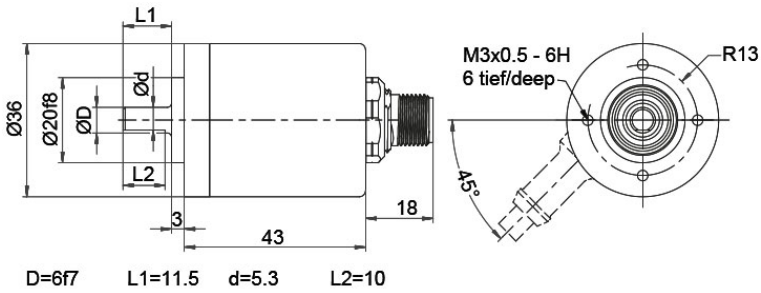


**Cable K1 (IP40) radial with 2 m cable**

**Description**
**ABN inv. poss.**
**K1** radial, shield not connected (IP40)

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Assignments		
	K1	K1
<b>Circuit</b>	N35	M35
<b>GND</b>	WH	WH
<b>(+) Vcc</b>	BN	BN
<b>A</b>	GN	GN
<b>B</b>	YE	YE
<b>N</b>	GY	GY
<b>Light reserve warning</b>	-	-
<b>A inv.</b>	-	RD
<b>B inv.</b>	-	BK
<b>N inv.</b>	-	VT
<b>Shield</b>	flex	flex

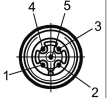
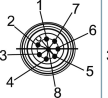

**Sensor connector (M12x1) SB axial, 5-, 8-, 12-pin**

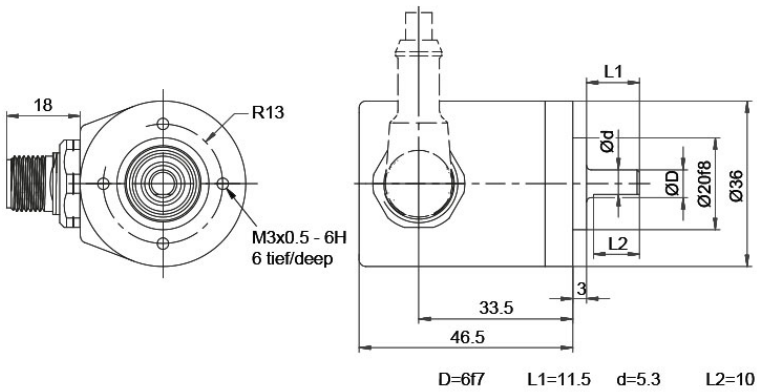


**Description**

**ABN inv. poss.**

- SB5** axial, 5-pin, Connector connected to encoder housing -
- SB8** axial, 8-pin, Connector connected to encoder housing •

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

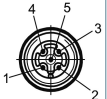
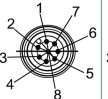

**Sensor-connector (M12x1) SC radial, 5-, 8-pin**

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

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**SC8** radial, 8-pin, Connector connected to encoder housing

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**Assignments**

	<b>SC5</b>	<b>SC8</b>	<b>SC8</b>
	<b>5-pin</b>	<b>8-pin</b>	<b>8-pin</b>
			
<b>Circuit</b>	N35	N35	M35
<b>GND</b>	3	1	1
<b>(+) Vcc</b>	1	2	2
<b>A</b>	4	3	3
<b>B</b>	2	4	4
<b>N</b>	5	5	5
<b>Light reserve warning</b>	-	-	-
<b>A inv.</b>	-	-	6
<b>B inv.</b>	-	-	7
<b>N inv.</b>	-	-	8
<b>n. c.</b>	-	6, 7, 8	-
<b>Shield</b>	-	-	-

## Options

### Low temperature

The encoder WDG1 36K 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**

### Cable length

The encoder WDG1 36K 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](http://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 36K	WDGI 36K					WDGI 36K
	<b>Shaft</b>					
06	06					
	<b>Pulses per revolution PPR:</b>					
1024	1-1024 Other PPRs on request					
	<b>Channels:</b>					
ABN	ABN					
	<b>Output circuit</b>					
M35	<b>Resolution PPR</b>	<b>Power supply VDC</b>	<b>Output circuit</b>	<b>Light reserve warning</b>	<b>Order key</b>	
	up to 1024	5 - 30 5 - 30	HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)	- -	N35 M35	
	<b>Electrical connections</b>					
L2	<b>Description</b>			<b>ABN inv. poss.</b>	<b>Order key</b>	
	<b>Cable: length (2 m standard, WDG 58T: 1 m)</b>					
	radial, shield not connected (IP40)			•	K1	
	axial, shield connected to encoder housing			•	L2	
	radial, shield connected to encoder housing			•	L3	
	<b>Connector: (shield connected to encoder housing)</b>					
	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		
	<b>Options</b>					
	<b>Description</b>			<b>Order key</b>		
	Low temperature			ACA		
	Without option			Empty		
	Cable length			XXX = Decimeter		

<b>Example Order No.=</b>	WDGI 36K	06	1024	ABN	M35	L2		WDGI 36K							<b>Your encoder</b>
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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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