



## Online Data sheet

### Encoder WDGI 36J

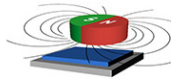
[www.wachendorff-automation.com/wdgi36j](http://www.wachendorff-automation.com/wdgi36j)

#### 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 36J (magnetic)



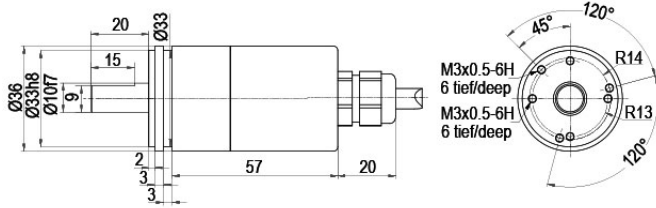
- Compact and robust
- All pulse numbers from 1 to 1,024 I/U available
- Protection rating: IP67 + IP69K, (high pressure / steam cleaning)
- Robust construction for industrial use

[www.wachendorff-automation.com/wdgi36j](http://www.wachendorff-automation.com/wdgi36j)

Resolution	
Pulses per revolution PPR	up to 1024 PPR
Mechanical Data	
<b>Housing</b>	
Flange	servo flange
Flange material	aluminum
Housing cap	stainless steel
Housing	Ø 36 mm
<b>Shaft(s)</b>	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	300 N
Max. Permissible shaft loading axial	300 N
<b>Bearings</b>	
Bearings type	2 precision ball bearings
Nominal service life	5 x 10 <sup>8</sup> revs. at 100 % rated shaft load 5.44 x 10 <sup>9</sup> revs. at 40 % rated shaft load 3.1 x 10 <sup>10</sup> revs. at 20 % rated shaft load
Max. operating speed	6000 rpm
<b>Machinery Directive: basic data safety integrity level</b>	
MTTF <sub>d</sub>	3620 a
Mission time (TM)	25 a
Nominal service life (L10h)	3.1 x 10 <sup>10</sup> revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %
<b>Electrical Data</b>	
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
<b>Accuracy</b>	
Phase offset	90° ± max. 25% 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 %
<b>Environmental data</b>	
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
<b>Duty information</b>	
Customs tariff number:	90318020
Country of origin:	Germany
<b>General Data</b>	
Weight	approx. 210 g
Connections	cable or connector outlet
Protection rating (EN 60529)	IP67+IP69K all around
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)
<b>More Information</b>	
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**

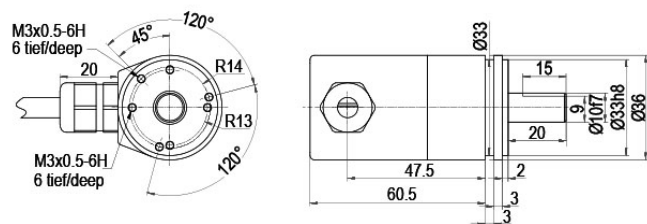
**ABN inv. poss.**

**L2** axial, shield connected to encoder housing

•

Assignments		
	<b>L2</b>	<b>L2</b>
<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 connection L3 radial with 2 m cabel**



**Description**

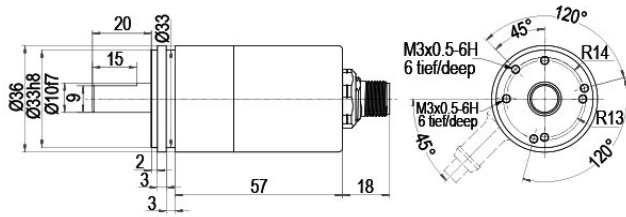
**ABN inv. poss.**

**L3** radial, shield connected to encoder housing

•

Assignments		
	L3	L3
<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

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



### Description

ABN inv. poss.

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

-

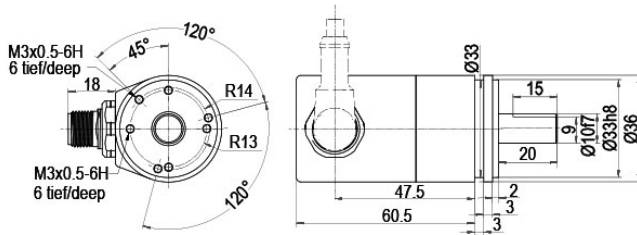
**SB8** axial, 8-pin, Connector connected to encoder housing

•

### Assignments

	SB5 5-pin	SB8 8-pin	SB8 8-pin
<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

-

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

•

Assignments			
	SC5	SC8	SC8
	5-pin	8-pin	8-pin
<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 36J 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 36J 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.

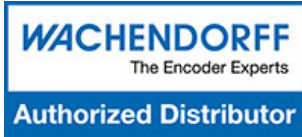
Example: 5 m cable = 050

**Order key****XXX = Decimeter**

Example Order No.	Type					Your encoder
WDGI 36J	WDGI 36J					WDGI 36J
	<b>Shaft</b>					
10	10					
	<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>	
	1-1024	5 - 30 5 - 30	HTL, inv. (TTL/RS422 comp. at 5 VDC) HTL (TTL at 5 VDC)	- -	M35 N35	
	<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>					
	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 36J	10	1024	ABN	M35	L2			WDGI 36J							<b>Your encoder</b>
---------------------------	----------	----	------	-----	-----	----	--	--	----------	--	--	--	--	--	--	---------------------





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

Wachendorff Automation GmbH & Co. KG  
Industriestrasse 7 • 65366 Geisenheim  
Germany

Phone: +49 67 22 / 99 65 25  
E-Mail: [wdg@wachendorff.de](mailto:wdg@wachendorff.de)  
[www.wachendorff-automation.de](http://www.wachendorff-automation.de)

