WACHENDORFF
The Encoder Experts

Online Data sheet

Encoder WDGI 36J

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

IndustrieROBUST

Encoder WDGI 36J

Illustration similar

- Compact and robust
- All pulse numbers from 1 to 16,384 ppr available
- Protection rating: IP67 + IP69K, (high pressure / steam cleaning)
- Robust construction for industrial use

www.wachendorff-automation.com/wdgi36j

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR

Mechanical Data	
Flange	servo flange
Flange material	aluminum
Housing material	stainless steel
Flange diameter	Ø 36 mm [Ø 1.417"]
Cam mounting	pitch 48 mm [1.89 inches] (Accessory SP-3-00)

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature
Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	300 N [30.59 kp]
Max. Permissible shaft loading axial	300 N [30.59 kp]

Bearings	
Bearings type	2 precision ball bearings
Nominale service life	5 x 10'8 revs. at 100 % rated shaft load 5.44 x 10'9 revs. at 40 % rated shaft load 3.1 x 10'10 revs. at 20 % rated shaft load
Max. operating speed	6000 rpm

Machinery Directive: basic data safety integrity level	
$MTTF_d$	2200 a
Mission time (TM)	25 a
Nominale service life (L10h)	3.1 x 10'10 revs. at 20 % rated shaft load and 6000 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	yes

Accuracy	
Phase offset	90° ± max. 7.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %

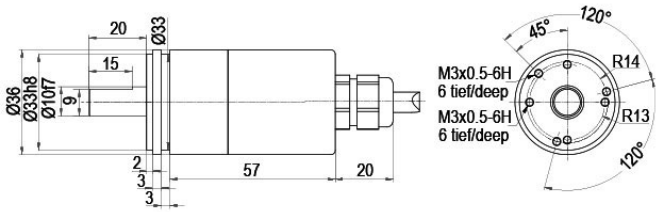
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s^2 (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s^2 (6 ms)
Electrial Safety:	according DIN VDE 0160

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

General Data	
Weight	approx. 210 g [7.407 oz]
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). Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F, Option ACA: -40 °F up to +185 F°
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)

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

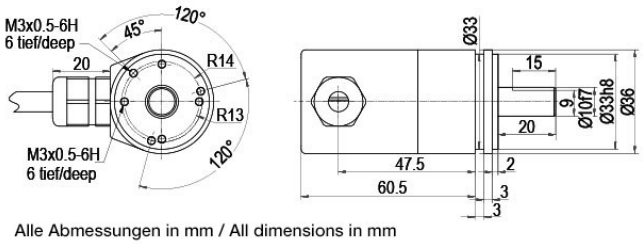


Alle Abmessungen in mm / All dimensions in mm

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

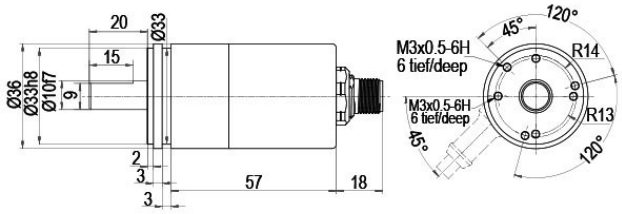


Alle Abmessungen in mm / All dimensions in mm

Description		ABN inv. poss.
L3	radial, shield connected to encoder housing	•

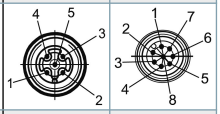
Assignments		
	L3	**L3**
Circuit	N35	M35
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
-	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

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

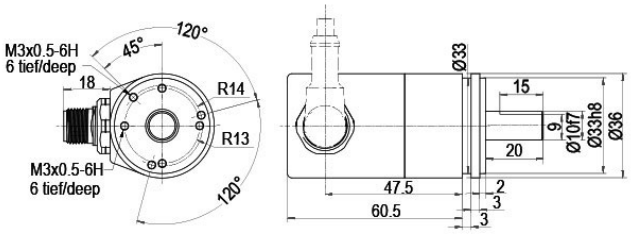


Alle Abmessungen in mm / All dimensions in mm

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

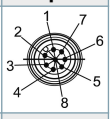
Assignments		
	SB5	**SB8**
	5-pin	**8-pin**
		
Circuit	N35	M35
GND	3	1
(+) Vcc	1	2
A	4	3
B	2	4
N	5	5
-	-	-
A inv.	-	6
B inv.	-	7
N inv.	-	8
n. c.	-	-
Shield	-	-

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	-	-

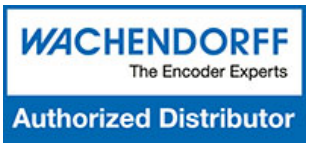
Options

Low temperature	Order key
The encoder WDGI 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).	**ACA**

Cable length	Order key
The encoder WDGI 36J 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	**XXX = Decimeter**

Example Order No.	Type					Your encoder
WDGI 36J	WDGI 36J					WDGI 36J
	Shaft					
10	10					
	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)					
	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		
	Without option			Empty		
	Cable length			XXX = Decimeter		

Example Order No.=	WDGI 36J	10	16384	ABN	M35	L2		WDGI 36J							Your encoder



For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
https://www.wachendorff-automation.com/contact-en/wachendorff-world-wide/

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