



Online Data Sheet

Encoder WDGP 36J

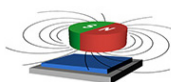
www.wachendorff-automation.com/wdgp36j

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 WDGP 36J (magnetic)



- Protection rating: IP67 + IP69K, (high pressure / steam cleaning)
- Due to high quality electronics any number of pulses up to 16384
- High output frequency up to 1 MHz
- Reverse polarity protection and short-circuit protection at 4.75 VDC to 32 VDC

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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. 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

Bearings	
Bearings type	2 precision ball bearings
Nomiale 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	1200 a
Mission time (TM)	25 a
Nomiale 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 32 VDC: typ. 80 mA
Output circuit	HTL HTL, inv. TTL TTL, RS422 compatible, inv.
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	inverse-polarity and short-circuit protection

Accuracy	
Phase offset	90° ± max. 8.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %

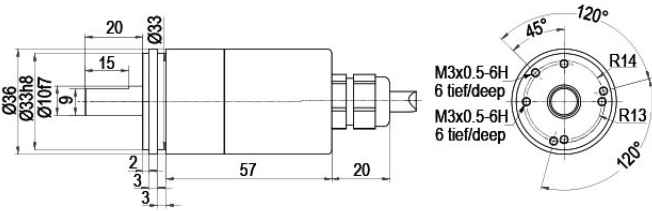
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	According DIN VDE 0160

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

General Data	
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
Storage temperature	Connector: -40 °C up to +100 °C, cable: -30 °C up to +80 °C

More Information	
General technical data and safety instructions http://www.wachendorff-automation.com/gtd	
Options http://www.wachendorff-automation.com/acc	

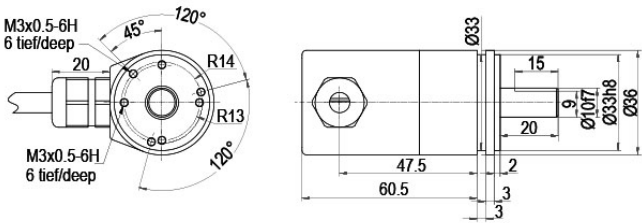
Cable connection L2 axial with 2 m cable



Description	ABN inv. poss.
L2 axial, shield connected to encoder housing	•

Assignments				
	L2	L2	L2	L2
Circuit	M11, M12	M13, M14	N11, N12	N13, N14
GND	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN
A	GN	GN	GN	GN
B	YE	YE	YE	YE
N	GY	GY	GY	GY
SET	-	PK	-	PK
A inv.	RD	RD	-	-
B inv.	BK	BK	-	-
N inv.	VT	VT	-	-
Shield	flex	flex	flex	flex

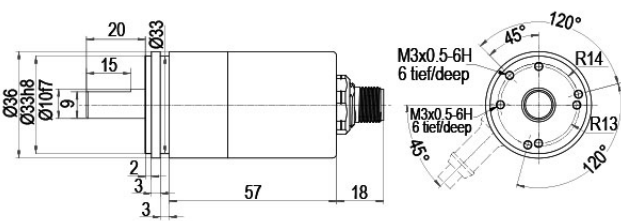
Cable connection L3 radial with 2 m cabel



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

Assignments				
	L3	L3	L3	L3
Circuit	M11, M12	M13, M14	N11, N12	N13, N14
GND	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN
A	GN	GN	GN	GN
B	YE	YE	YE	YE
N	GY	GY	GY	GY
SET	-	PK	-	PK
A inv.	RD	RD	-	-
B inv.	BK	BK	-	-
N inv.	VT	VT	-	-
Shield	flex	flex	flex	flex

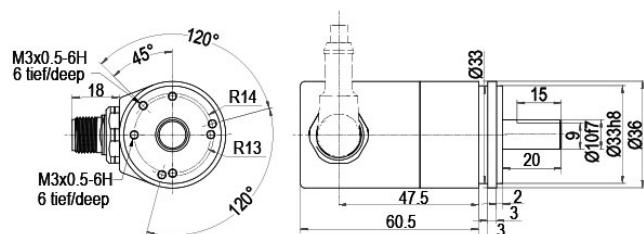
Sensor connector (M12x1) SB axial, 5-, 8-, 12-pin



Description	ABN inv. poss.
SB5 axial, 5-pin, Connector connected to encoder housing	-
SB8 axial, 8-pin, Connector connected to encoder housing	•
SB12 axial, 12-pin, Connector connected to encoder housing	•

Assignments			
	SB5	SB8	SB12
	5-pin	8-pin	12-pin
Circuit	N11, N12	M11, M12	M13, M14
GND	3	1	3
(+) Vcc	1	2	1
A	4	3	4
B	2	4	6
N	5	5	8
SET	-	-	5
A inv.	-	6	9
B inv.	-	7	7
N inv.	-	8	10
n. c.	-	-	2, 11, 12
Shield	-	-	-

Sensor-connector (M12x1) SC radial, 5-, 8-, 12-pin



Description

ABN inv. poss.

SC5 radial, 5-pin, Connector connected to encoder housing

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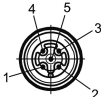
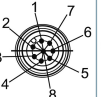
SC8 radial, 8-pin, Connector connected to encoder housing

•

SC12 radial, 12-pin, Connector connected to encoder housing

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Assignments

	SC5	SC8	SC12
	5-pin	8-pin	12-pin
			
Circuit	N11, N12	M11, M12	M13, M14
GND	3	1	3
(+) Vcc	1	2	1
A	4	3	4
B	2	4	6
N	5	5	8
SET	-	-	5
A inv.	-	6	9
B inv.	-	7	7
N inv.	-	8	10
n. c.	-	-	2, 11, 12
Shield	-	-	-

Options

Cable length

Order key

The encoder WDGP 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

XXX = Decimeter

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

Example: 5 m cable = 050

Example Order No.	Type						Your encoder
WDGP 36J	WDGP 36J						WDGP 36J
	Shaft						
10	10						
	Pulses per revolution PPR:						
1-16384	1-16384						1-16384
	Channels:						
ABN	ABN						ABN
	Output circuit						
M11	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key		
	1-16384	4.75 - 32	HTL inverted	-	M11		
		4.75 - 32	TTL, RS422 comp., inverted	-	M12		
		4.75 - 32	HTL, inv. set zero pulse	-	M13		
		4.75 - 32	TTL, RS422 compatible, inv. set zero pulse	-	M14		
		4.75 - 32	HTL	-	N11		
		4.75 - 32	TTL	-	N12		
		4.75 - 32	HTL set zero pulse	-	N13		
4.75 - 32	TTL set zero pulse	-	N14				
	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		
	sensor-connector, M12x1, 12-pin, axial	•			SB12		
	sensor-connector, M12x1, 12-pin, radial	•			SC12		
	Options						
	Description	Order key					
	Cable length	Cable lenght					
	Without option	Empty					

Example Order No. =	WDGP 36J	10	1-16384	ABN	M11	L2		WDGP 36J		1-16384	ABN				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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