

Encoder WDGP 36S

www.wachendorff-automation.com/wdgp36s

Wachendorff Automation

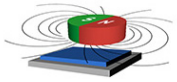
... systems and encoders

- 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 WDGP 36S (magnetic)





- Due to high quality electronics any number of pulses up to 16384
- Protection class IP67, at shaft input IP65
- 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	screw flange
Starting torque nut	max. 10 Nm
Flange material	aluminum, incl. nut M20 x 1.5
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 10'8 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	
$MTTF_d$	1200 a
Mission time (TM)	25 a
Nominale 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 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 %

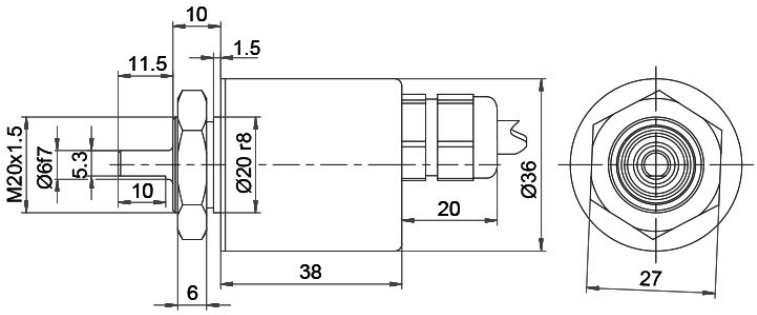
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s^2 (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s^2 (6 ms)
Design:	According DIN VDE 0160

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

General Data	
Weight	approx. 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
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**

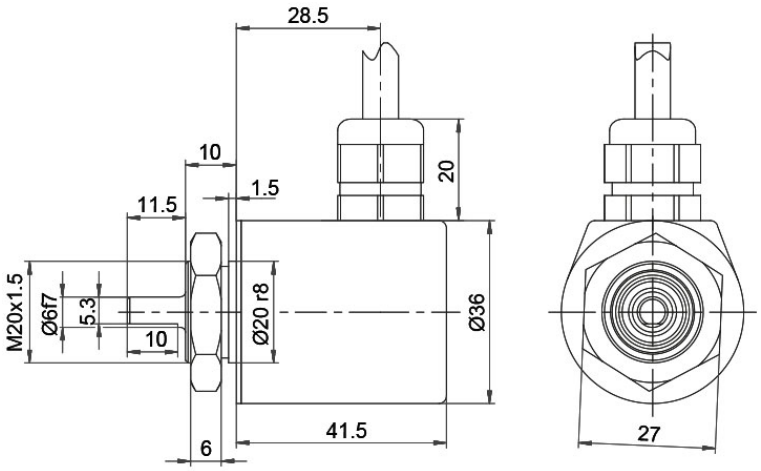
Cable connection L2 axial with 2 m cable



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

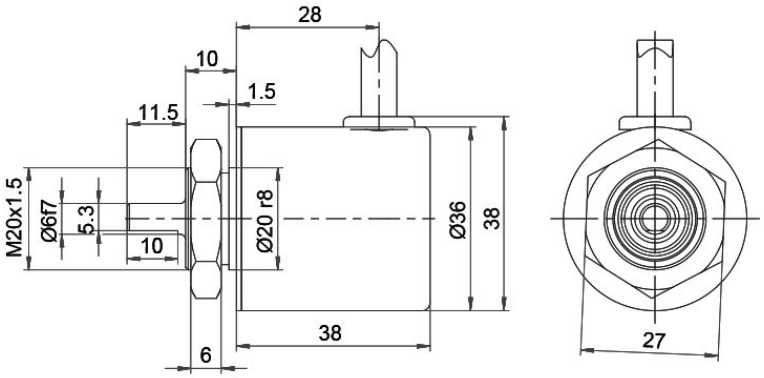
Cable connection L3 radial with 2 m cabel



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

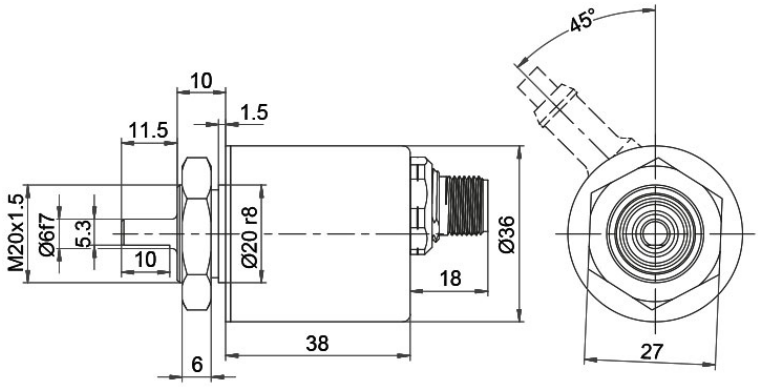
Cable K1 (IP40) radial with 2 m cable



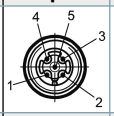
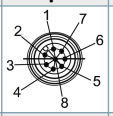
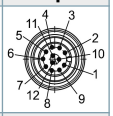
Description		ABN inv. poss.
K1	radial, shield not connected (IP40)	•

Assignments				
	K1	**K1**	**K1**	**K1**
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

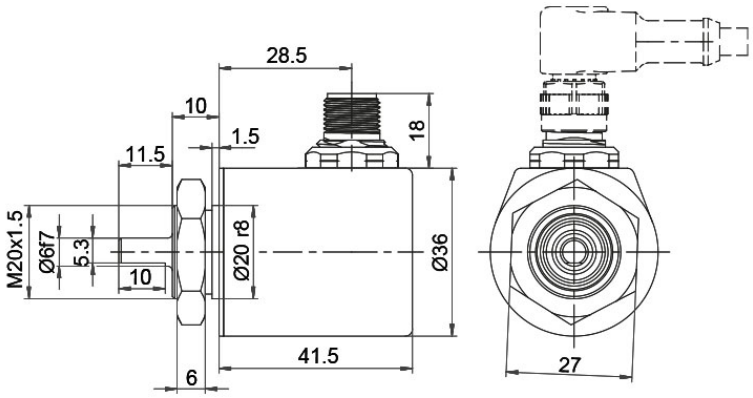
Sensor connector (M12x1) SB axial, 5-, 8-, 12-pin



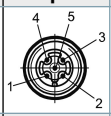
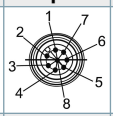
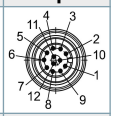
Description		ABN inv. poss.
SB5	axial, 5-pin, Connector connected to encoder housing	-
SB8	axial, 8-pin, Connector connected to encoder housing	•
SB12	axial, 12-pin, Connector connected to encoder housing	•

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	-
SC8	radial, 8-pin, Connector connected to encoder housing	•
SC12	radial, 12-pin, Connector connected to encoder housing	•

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 36S 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	**XXX = Decimeter**

Example Order No.	Type						Your encoder
WDGP 36S	WDGP 36S						WDGP 36S
	Shaft						
06	06						
	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						
K1	**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	
	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 36S	06	1-16384	ABN	M11	K1	

WDGP 36S		1-16384	ABN				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-sales-en/

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