



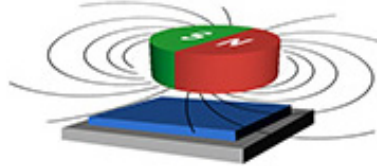
Online Data Sheet

마그네틱 인크리멘탈 샤프트 엔코더

magnetic

Encoder WDGP 36S

www.wachendorff-automation.com/wdgp36s



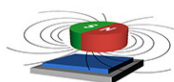
Wachendorff Automation

... 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)



- 방수방진 IP67 / 샤프트 Input IP65
- 고품질의 전자장치 기능으로 최대 16384의 펄스 수 사용가능
- 최대 1MHz의 높은 출력 주파수
- 4.75VDC ~ 32VDC에서 과전류 보호 기능 탑재

www.wachendorff-automation.com/wdgp36s

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
Nominal 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
Nominal 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

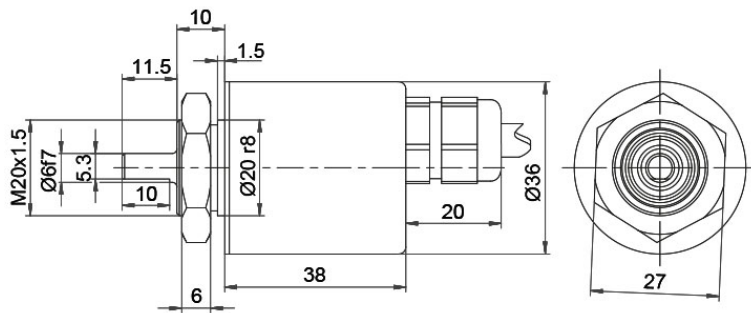
Channels	ABN and inverted signals
Load	max. 40 mA / channel
Circuit protection	inverse-polarity and short-circuit protection
Set zero pulse:	Set: SET = +UB for 2 s Deactivate: SET = GND
Accuracy	
Phase offset	90° ± max. 8.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %

Environmental data	
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

General Data	
Weight	approx. 130 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; (IP40 for K1)
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

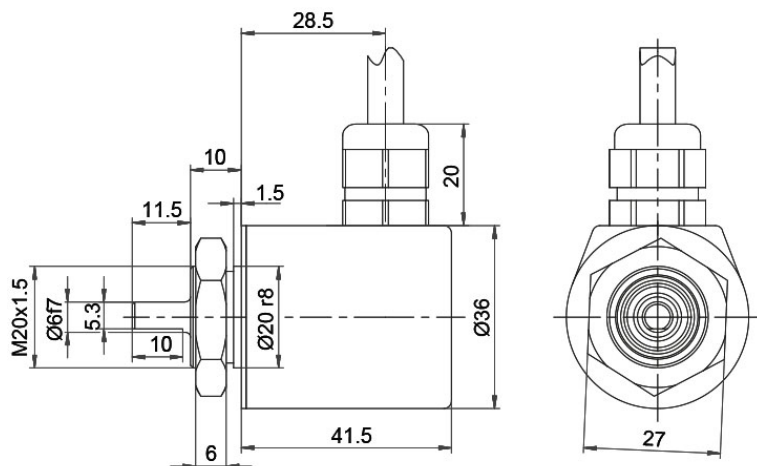
ABN inv. poss.

L2 axial, shield connected to encoder housing

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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

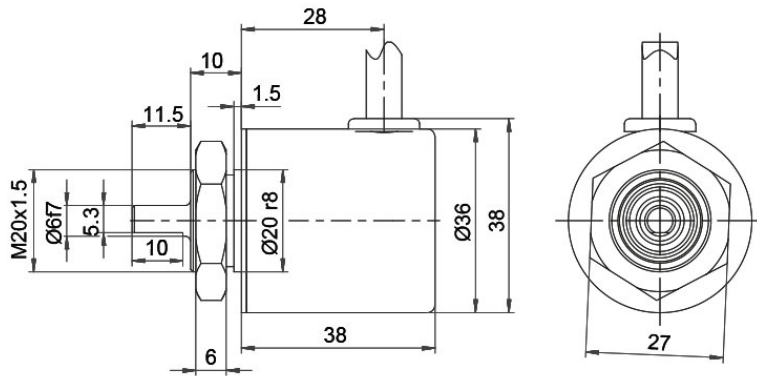
ABN inv. poss.

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

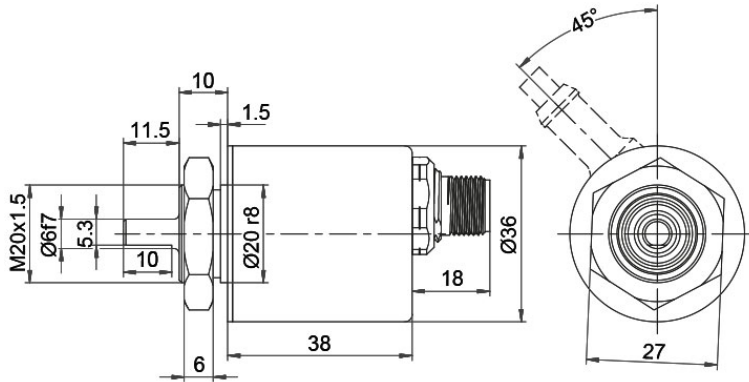
ABN inv. poss.

K1 radial, shield not connected (IP40)

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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

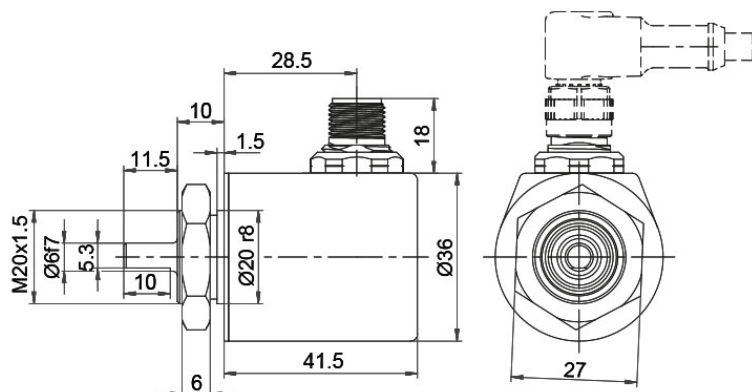
ABN inv. poss.

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 Downloads: „General technical Data“.

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 36S	WDGP 36S					WDGP 36S
	Shaft					
06	06					
	Pulses per revolution PPR:					
16384	1-16384 Other PPRs on request					
	Channels:					
ABN	ABN					
	Output circuit					
M13	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)					
	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				
	Without option	Empty				
	Cable length	XXX = Decimeter				

Example Order No. =	WDGP 36S	06	16384	ABN	M13	L2		WDGP 36S							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/>

