



Online Data sheet

HM 2603

Encoder WDG N 36J

www.wachendorff-automation.com/wdgn36j

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



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info@hemomatik.se

www.hemomatik.se

IndustrieROBUST

Encoder WDG 36J via Smartphone (NFC) configurable



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

www.wachendorff-automation.com/wdgn36j

Illustration similar

Configurable via NFC

Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR
Mechanical Data	
Flange	servo flange
Flange material	aluminum
Housing material	Stainless steel, NFC cover: Thermoplastic polyamide
Flange diameter	Ø 36 mm [Ø 1.417"]
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	1200 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 32 VDC: typ. 80 mA
Operating principle	magnetic
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	BAS: ABN + inverted signals ADV: CH1, CH2, CH3, CH4; + inverted signals
Load	max. 40 mA / channel
Circuit protection	inverse-polarity and short-circuit protection
Nullimpuls setzen:	Setzen: SET = +UB für 2 s Deaktiviert: SET = GND

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

Configurable via NFC:	
BASIC: (BAS)	
Channels:	ABN and inverted
HTL / TTL	freely selectable
Pulses / revolution:	1 ppr up to 16384 ppr freely selectable
Advanced (ADV):	
Channels:	4 channels configurable + inv. signals (ABN possible)
HTL / TTL:	freely selectable
Pulses / revolution:	1 ppr up to 16384 ppr freely selectable
Number of pulses for each channel:	individually selectable
Set zero pulse:	yes
Pulse width and position:	Width and position adjustable

Environmental data	
Noise immunity:	
ESD (DIN EN 61000-4-2):	8 kV
EMC: (DIN EN 61000-4-3):	10 V/m
Burst (DIN EN 61000-4-4):	2 kV
High frequency fields (DIN EN 61000-4-6):	10 V
Surge (DIN EN 61000-4-5):	2 kV
Radio interference:	According DIN EN 55011
NFC:	
EMC:	According ETSI EN 301 489
RED:	According ETSI EN 300 330

Electrical safety:	DIN EN 61010-1 (VDE 0411-1) / IEC 61010-1 / UL 61010-1 / CSA C22.0 No 61010-1-12
Vibration: (DIN EN 60068-2-6)	300 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

General Data

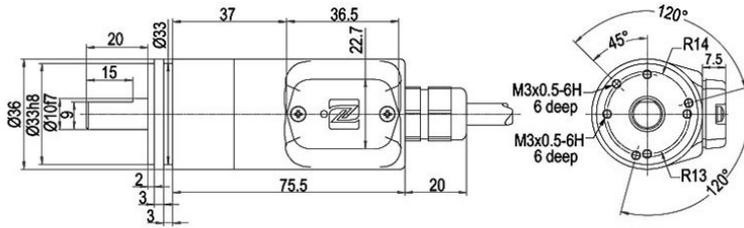
Weight	approx. 210 g [7.407 oz]
Connections	cable or connector outlet
Protection rating (EN 60529)	IP67+IP69K all around
Operating temperature	Connector: -40 °C up to +85 °C, Cable: -20 °C up to +80 °C. Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F.
Storage temperature	Connector: -40 °C up to +100 °C, Cable: -30 °C up to +80 °C Connector: -40 °F up to +212 °F, Cable: -22 °F up to +176 °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 (BAS)



All dimensions in mm

Description

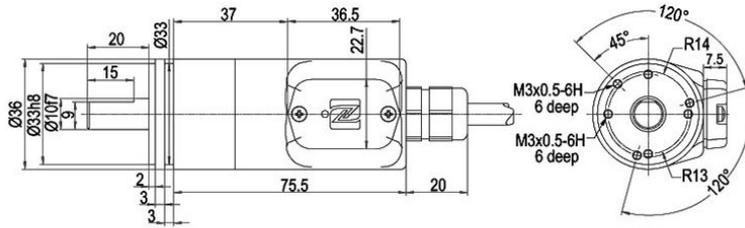
ABN inv. poss.

L2 axial, shield connected to encoder housing

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Assignments	
	L2
Circuit	BAS
GND	WH
(+) Vcc	BN
A	GN
B	YE
N	GY
A inv.	RD
B inv.	BK
N inv.	VT
Shield	flex

Cable connection L2 axial with 2 m cable (ADV)



All dimensions in mm

Description

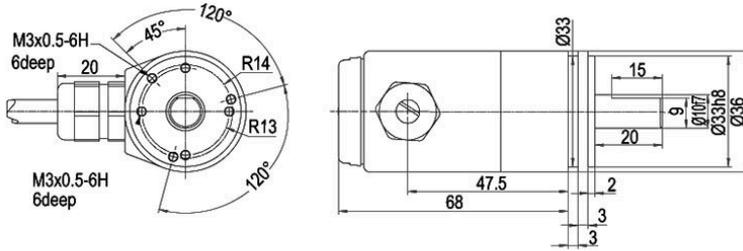
ABN inv. poss.

L2 axial, shield connected to encoder housing

•

Assignments	
	L2
Circuit	ADV
GND	WH
(+) Vcc	BN
CH1	GN
CH2	YE
CH3	GY
CH4	GYPK
SET	PK
CH1 inv.	RD
CH2 inv.	BK
CH3 inv.	VT
CH4 inv.	RDBU
Shield	flex

Cable connection L3 radial with 2 m cabel (BAS)



All dimensions in mm

Description

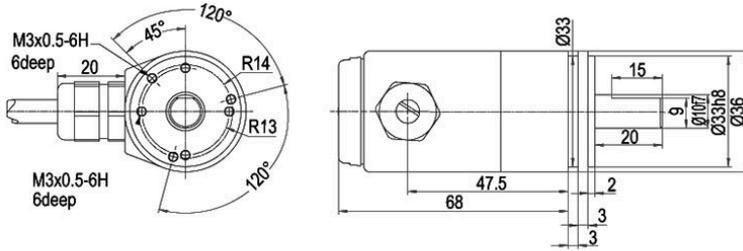
ABN inv. poss.

L3 radial, shield connected to encoder housing

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Assignments	
	L3
Circuit	BAS
GND	WH
(+) Vcc	BN
A	GN
B	YE
N	GY
A inv.	RD
B inv.	BK
N inv.	VT
Shield	flex

Cable connection L3 radial with 2 m cabel (ADV)



All dimensions in mm

Description

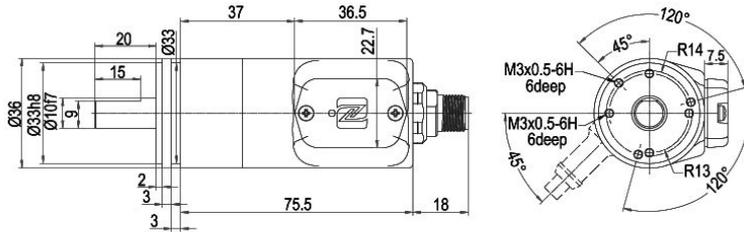
ABN inv. poss.

L3 radial, shield connected to encoder housing

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Assignments	
	L3
Circuit	ADV
GND	WH
(+) Vcc	BN
CH1	GN
CH2	YE
CH3	GY
CH4	GYPK
SET	PK
CH1 inv.	RD
CH2 inv.	BK
CH3 inv.	VT
CH4 inv.	RDBU
Shield	flex

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



All dimensions in mm

Description

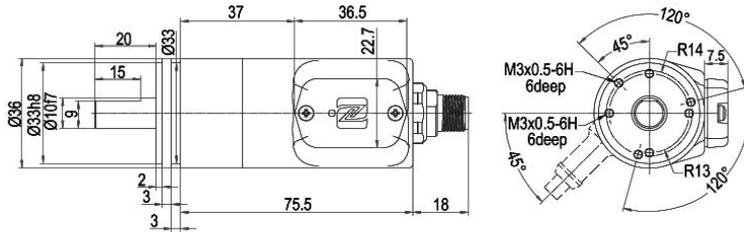
ABN inv. poss.

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

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Assignments	
	SB8
	8-pin
Circuit	BAS
GND	1
(+) Vcc	2
A	3
B	4
N	5
A inv.	6
B inv.	7
N inv.	8

Sensor connector (M12x1) SB axial, 12-pin (ADV)



All dimensions in mm

Description

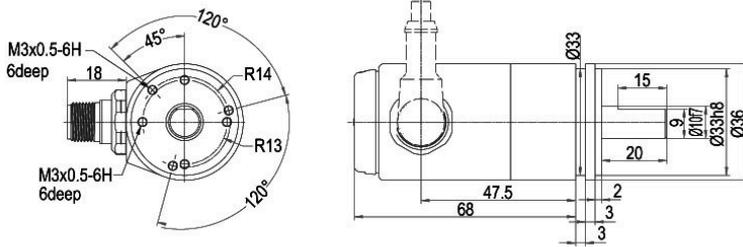
ABN inv. poss.

SB12 axial, 12-pin, Connector connected to encoder housing

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Assignments	
	SB12
	12-pin
	
Circuit	ADV
GND	3
(+) Vcc	1
CH1	4
CH2	6
CH3	8
CH4	11
SET	5
CH1 inv.	9
CH2 inv.	7
CH3 inv.	10
CH4 inv.	12
n. c.	2

Sensor-connector (M12x1) SC radial, 8-pin (BAS)



All dimensions in mm

Description

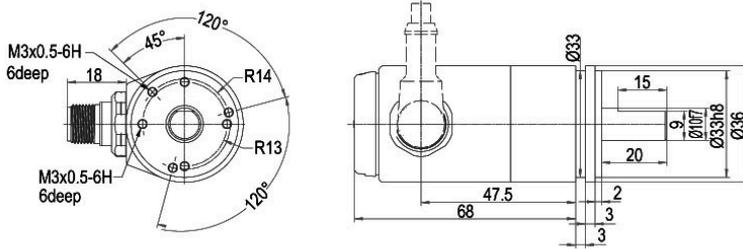
ABN inv. poss.

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

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Assignments	
	SC8
	8-pin
Circuit	BAS
GND	1
(+) Vcc	2
A	3
B	4
N	5
A inv.	6
B inv.	7
N inv.	8

Sensor-connector (M12x1) SC radial, 12-pin (ADV)



All dimensions in mm

Description

ABN inv. poss.

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

•

Assignments	
	SC12
	12-pin
Circuit	ADV
GND	3
(+) Vcc	1
CH1	4
CH2	6
CH3	8
CH4	11
SET	5
CH1 inv.	9
CH2 inv.	7
CH3 inv.	10
CH4 inv.	12
n. c.	2

Options**Cable length****Order key**

The encoder WDG 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/>

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
WDGN 36J	WDGN 36J					WDGN 36J
	Shaft					
10	10					
	Pulses per revolution PPR:					
X	1-16384 configurable Other PPRs on request					
	Channels:					
X	X (BAS=ABN, ADV= CH1,CH2,CH3,CH4)					
	Output circuit					
BAS	Resolution PPR	Power supply VDC	Output circuit	-	Order key	
	1-16384	4.75 - 32	configurable HTL, TTL (A,B,N + inv.)	-	BAS	
		4.75 - 32	configurable HTL, TTL; 4 channels+inv.	-	ADV	
	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, 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.=	WDGN 36J	10	X	X	BAS	L2		WDGN 36J						Your encoder
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