WACHENDORFF
The Encoder Experts



Online Data sheet

Encoder WDGI 36E

www.wachendorff-automation.com/wdgi36e

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 36E



Illustration similar

- Compact and robust
- All pulse numbers from 1 to 16,384 ppr available
- Robust construction for industrial use
- Protection to IP67, shaft sealed to IP65

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Resolution	
Pulses per revolution PPR	1 PPR up to 16384 PPR

Mechanical Data	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing material	stainless steel
- 1. Spring plate compensation	axial: ±0.2 mm [0.0079"], radial: ±0.1 mm [0.0039"]
Flange diameter	Ø 36 mm [Ø 1.417"]

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm [0.425 in-ozf] at ambient temperature
Shaft	Ø 6 mm [Ø 0.236"]
Insertion depth min.	8 mm [0.315"]
Insertion depth max.	17 mm [0.669"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

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	
$MTTF_d$	2200 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 VDC	4.75 - 30 VDC
Current consumption	typ. 40 mA
Signal shape	square-wave
Output circuit	HTL (TTL at 5 VDC)
Channels	AB, ABN
Output	push-pull
Load	max. 40 mA / channel
Signal level mA	at 20 mA
Signal level H>	H > Vcc -10% Vcc
Signal level L	L < 2.5 VDC
Output frequency	HTL: max. 600 kHZ; TTL: max. 1 MHz
Circuit protection	inverse-polarity and short-circuit protection
Light reserve warning	no

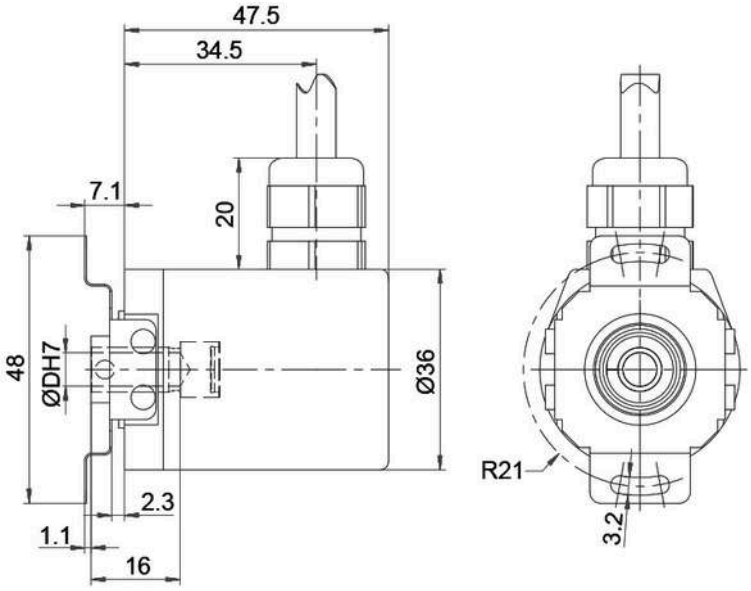
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s^2 (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s^2 (6 ms)
Electrial Safety:	according DIN VDE 0160

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

General Data	
Weight	approx. 130 g [4.586 oz]
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 (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 L3 radial with 2 m cabel



D = Ø 6 mm, Ø 1/4"

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

Assignments	
	L3
Circuit	N35
GND	WH
(+) Vcc	BN
A	GN
B	YE
N	GY
-	-
A inv.	-
B inv.	-
N inv.	-
Shield	flex

Options

Low-friction bearings	Order key
The encoder WDGI 36E is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to ≤ 0.25 Ncm [0.354 in-ozf] and the protection class at the shaft input to IP50.	**AAC**

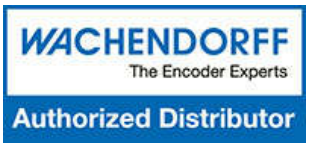
Low temperature	Order key
The encoder WDGI 36E with the output circuit types M35, N35 is also available with the extended temperature range -40 °C up to +85 °C [-40 °F up to +185 °F] (measured at the flange).	**ACA**

Pressure equalising membrane	Order key
The WDGI 36E shaft encoder is also optionally available with a pressure equalising membrane. This prevents water from penetrating into the encoder housing in the case of high air humidity. The IP67 protection level, temperature range and salt spray resistance are maintained. Resistant to chemicals and solvents in accordance with DIN EN ISO 2812-1.	**ACR**

Cable length	Order key
The encoder WDGI 36E 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 36E	WDGI 36E					WDGI 36E
	Bore size					
06	06					06
	Pulses per revolution PPR:					
1-16384	1-16384					1-16384
	Channels:					
ABN	ABN					ABN
	Output circuit					
N35	**Resolution PPR**	**Power supply VDC**	**Output circuit**	**-**	**Order key**	N35
	1-16384	4.75 - 30	HTL (TTL at 5 VDC)	-	N35	
	Electrical connections					
L3	**Description**			**ABN inv. poss.**	**Order key**	L3
	Cable: length (2 m standard, WDG 58T: 1 m)					
	radial, shield connected to encoder housing			•	L3	
	Options					
	Description			**Order key**		
	Low-friction bearings			AAC		
	Low temperature			ACA		
	Pressure equalising membrane			ACR		
	Cable length			Cable lenght		
	Without option			Empty		

Example Order No.=	WDGI 36E	06	1-16384	ABN	N35	L3		WDGI 36E	06	1-16384	ABN	N35	L3		Your encoder



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

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