



Online Data Sheet

Encoder WDG 36E CANopen

www.wachendorff-automation.com/wdga36ecan

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 WDGA 36E absolute CANopen magnetic, with EnDra®-Technology



EnDra®
Technologie

CANopen®

- EnDra®: maintenance-free and environmentally friendly
- CANopen, Single-turn and Multi-turn
- Communication Profile according to CiA 301
- Device Profile for encoder CiA 406 V3.2 class C2
- Single-turn/Multi-turn (16 bit / 43 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate CiA 303-3

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Mechanical Data

Housing	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
- 1. Spring plate compensation	axial: ±0.2 mm, radial: ±0.1 mm
Housing	Ø 36 mm

Shaft(s)

Starting torque	approx. 0.3 Ncm at ambient temperature
Shaft	Ø 6 mm
Insertion depth min.	8 mm
Insertion depth max.	17 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 6.35 mm, Ø 1/4"
Insertion depth min.	8 mm
Insertion depth max.	17 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	1000 a
Mission time (TM)	20 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	10 VDC up to 32 VDC: typ. 50 mA
Power consumption	max. 0.5 W

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	65,536 steps/360° (16 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 32 bit with high precision value up to 43 bit.

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)	300 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
Turn on time:	<1,5 s

Interface

Interface:	CAN
Protocol:	CANopen <ul style="list-style-type: none"> • Communication profil CiA 301 • Device Profile for encoder CiA 406 V3.2 class C2
Node number:	1 up to 127 (default 127)
Baud rate:	10 kBaud up to 1 MBaud with automatic bit rate detection.
Advice:	The standard settings as well as any customization in the software can be changed via LSS (CiA 305) and the SDO protocol, e. g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate, etc.

Programmable CAN
transmission modes:

Synchronous mode:
when a synchronisation telegram
(SYNC) is received from another bus
node, PDOs are transmitted
independently.
Asynchronous mode:
a PDO message is triggered by an
internal event. (e.g. change of
measured valued, internal timer, etc.)

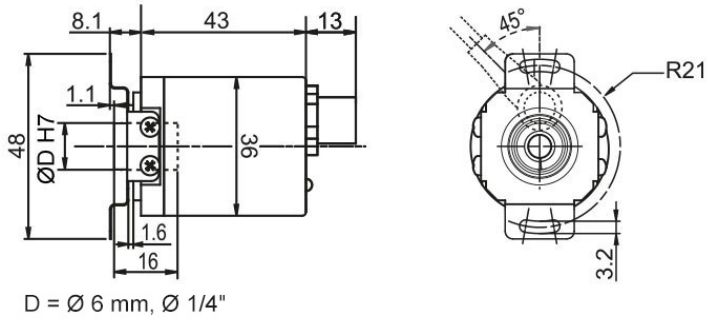
General Data

Weight	approx. 110 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65 (IP20 for K6)
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

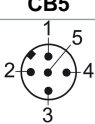
More Information

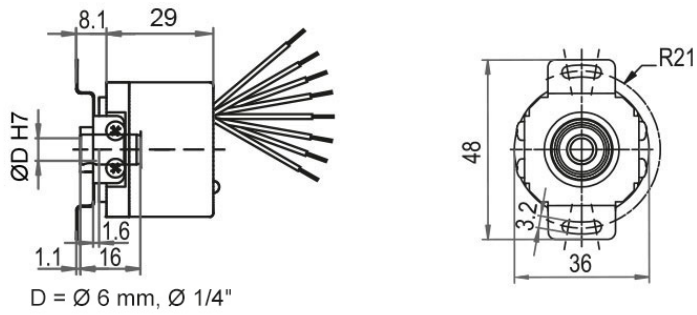
General technical data and safety instructions
<http://www.wachendorff-automation.com/gtd>

Options
<http://www.wachendorff-automation.com/acc>

Connector, M12x1 CB5, 5-pin

Description

CB5 axial, 5-pin, shield connected to encoder housing

Assignments	
	<p style="text-align: center;">CB5</p> 
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Cable connection, K6 (IP20)

Description

K6 axial, shield not connected

Assignments	
	K6
(+) Vcc	BN
GND	WH
CANHigh	GN
CANLow	YE
CANGND shield	GY

Example Order No.	Type	Your encoder
WDGA 36E	WDGA 36E	WDGA 36E
	Shaft	Order key
06	Ø 6 mm	06
	Ø 6.35 mm Ø 1/4"	2Z
	Single-turn Resolution	Order key
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	12
	Multi-turn Resolution	Order key
18	Multi-turn resolution: (examples) 18 bit = 18 43 bit = 43 no Multiturn = 00	18
	Data protocol	Order key
CO	CANopen	CO
	Software	Order key
A	up to date release	A
	Code	Order key
B	binary	B
	Power supply	Order key
0	10 V up to 32 V (standard)	0
	Galvanic isolation	Order key
0	no	0
	Electrical connections	Order key
CB5	Cable: axial, shield not connected, IP20, with 8 cm loose wires	K6
	Connector: sensor-connector, M12x1, 5-pin, axial, IP67, shield connected to encoder housing	CB5

Example Order No.	WDGA 36E	06	12	18	CO	A	B	0	0	CB5
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WDGA 36E											Example Order No.
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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/>



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