

Online Data Sheet

Encoder WDGA 58D I/O CANopen

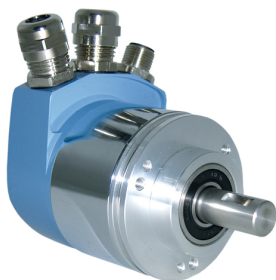
www.wachendorff-automation.com/wdga58diocan

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 58D I/O absolute CANopen galv. isolation, magnetic, with EnDra®- Technology


EnDra®
Technologie

CANopen®
Heavy duty

- EnDra®: maintenance-free and environmentally friendly
- CANopen, Single- and Multiturn + 3 multifunction inputs
- Galvanic isolation
- Communication Profile according to CiA 301
- Device Profile CiA 406 + CiA 404
- Single-/Multiturn (14 bit/39 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate CiA 303-3
- High shaft load up to 400 N radial, 400 N axial

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Preliminary

Mechanical Data	
Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Connection cover	zinc-plated
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø 12 mm
Shaft length	L: 25 mm
Max. Permissible shaft loading radial	400 N
Max. Permissible shaft loading axial	400 N
Bearings	
Bearings type	2 precision ball bearings
Nominal service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	8000 rpm
Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 300 mA
Power consumption	approx. 3 W
Sensor data	
Single-turn technology	innovative hall sensor technology
Single-turn resolution	16,384 steps/360° (14 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 262,144 revolutions (18 bit) with high precision value up to 39 bit.

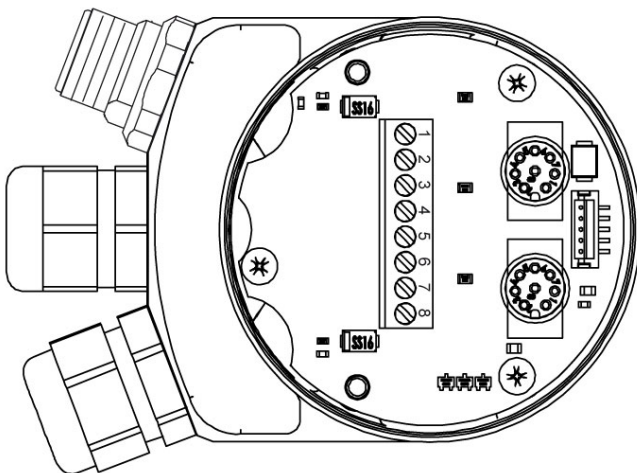
Multifunction inputs	at 20 Hz sampling rate and 20 °C
Sensor type	
Voltage ±10 V	
Input	1, 2, 3
Signal (max.)	±10 V
Step size	0,001 V
Accuracy	±0,001 V + max. ±0,01 % EW
Sensor type	
Current 4...20 mA	
Input	1, 2, 3
Signal (max.)	4...20 mA
Step size	0,001 mA
Accuracy	±0,001 mA + max. ±0,005 % EW
Sensor type	
Current 0...20 mA	
Input	1, 2, 3
Signal (max.)	0...20 mA
Step size	0,001 mA
Accuracy	±0,001 mA + max. ±0,005 % EW
Sensor type	
Type J, K thermocouple	
Input	1, 2, 3
Signal (max.)	±70 mV (-180 °C up to +750 °C)
Step size	0,1 K
Accuracy	±0,1 K + max. ±0,1 % EW
Sensor type	
Pt100	
Input	1
Signal (max.)	0...250 mV (-200 °C up to +850 °C)
Step size	0,1 K
Accuracy	±0,3 K + max. ±0,5 % EW
Sensor type	
Pressure	
Input	1, 2*, 3* * ext. bridge supply requis
Signal (max.)	±50 mV
Step size	0,001 mV
Accuracy	±0,010 mV + max. ±0,2 EW
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
Turn on time:	<1,5 s

Interface

Interface:	CAN
Protocol:	CANopen • Communication profil CiA 301 • Device Profile for encoder CiA 406 V3.2 class C2 • Device Profile for sensors and controllers CiA 404
Node number encoder:	1 up to 127 (default 127)
Node number I/O:	1 up to 127 (default 1)
Baud rate:	50 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.
Status indicator:	2x 2-color status LED
Programmable CANtransmission 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.)

View in connection cover:



Range of cable clamping: Ø 4 mm up to 9,5 mm

General Data

Connections	Connection cover
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

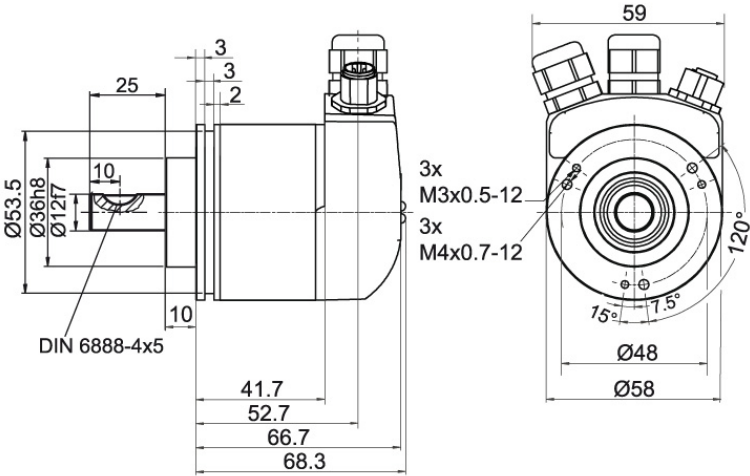
General technical data and safety instructions

<http://www.wachendorff-automation.com/gtd>

Options

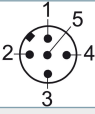
<http://www.wachendorff-automation.com/acc>

WDGA 58D CANopen I/O, connection cover with 2x PG9 and 1x M12x1



Description

IO1 2x PG (PG cable glands) with 3 terminal inputs for I/O, 1x M12x1 for CAN

Assignments	
	IO1
	
Connector	M12x1, 5-pin
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Assignments	
	IO1
	
Clamp	2x PG
P1	1
+1	2
-1	3
G1	4
+2	5
-2	6
+3	7
-3	8

Options

120 Ohm terminating resistor

Order key

The encoder WDGA 58D I/O CANopen is also available with fixed 120 Ohm terminating resistor.

AEO

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
	Shaft	Order key	
12	Ø 12 mm	12	
	Single-turn Resolution	Order key	
12	Single-turn resolution 1 bit up to 14 bit: (e. G. 12 bit)	12	
	Multi-turn Resolution	Order key	
13	Multi-turn resolution: (examples) 13 bit = 18 01 up to 39 bit pos. no Multiturn = 00	13	
	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	
1	yes	1	
	Electrical connections	Order key	
IO1	Connection cover:		
	2x PG (PG cable glands) with 3 terminal inputs for I/O, 1x M12x1 for CAN	IO1	
	Options	Order key	
	Without option	Empty	
	120 Ohm terminating resistor	AEO	

Example Order No.	WDGA 58D	12	12	13	CO	A	B	0	1	IO1	
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WDGA 58D											Example Order No.
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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
http://www.wachendorff-automation.com/distributors_worldwide.html



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