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Industrie **ROBUST**

Online Data sheet

Encoder WDGA 58D CANopen
www.wachendorff-automation.com/wdga58dcan

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

Industrie ROBUST

Encoder WDGA 58D absolute CANopen, with EnDra®-Technology

- EnDra®: maintenance-free and environmentally friendly
- CANopen, Single-turn/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
- High shaft load up to 500 N radial, 500 N axial

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Illustration similar

Mechanical Data

Housing

Flange	clamping flange
Flange material	aluminum
Housing cap	stainless steel
Housing	Ø 58 mm [Ø 2.283"]
Cam mounting	pitch 69 mm [2.717 inches]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature
Shaft	Ø 12 mm [Ø 0.472"]
Shaft length	L: 25 mm [0.984"]
Max. Permissible shaft loading radial	500 N [50.984 kp]
Max. Permissible shaft loading axial	500 N [50.984 kp]

Bearings

Bearings type	3 precision ball bearings
Nominale service life	2 x 10'8 revs. at 100 % rated shaft load 3.5 x 10'9 revs. at 40 % rated shaft load 2.5 x 10'10 revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

Machinery Directive: basic data safety integrity level

$MTTF_d$	1000 a
Mission time (TM)	20 a
Nominale service life (L10h)	2.5 x 10'10 revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	4,75 VDC up to 32 VDC: typ. 50 mA
Power consumption	max. 0.5 W
Operating principle	magnetic

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (12 bit)
Single-turn repeat accuracy	± 0.0878° (12 bit)

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

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 DIN EN 61326-1
Vibration: (DIN EN 60068-2-6)	300 m/s² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s² (6 ms)
Electrial Safety:	According DIN VDE 0160
Turn on time:	<1,5 s

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

Interface

Interface:	**CAN**
Protocol:	CANopen • 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.

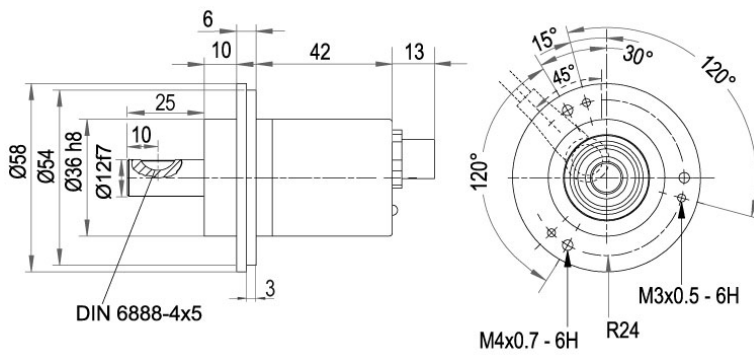| Programmable CAN transmission modes: | **Sychronous mode:** when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently. |
| | **Asynchronous mode:** a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.)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

General Data	
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; cable outlet L1: IP40
Operating temperature	-40 °C up to +85 °C [-40 °F up to 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

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	
	CB5
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Connector, M12x1 CC5, 5-pin
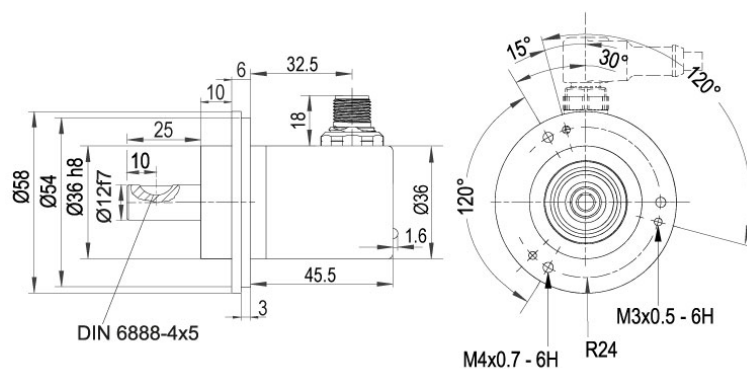
Description

CC5   radial, 5-pin, shield connected to encoder housing

Assignments	
	CC5
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1
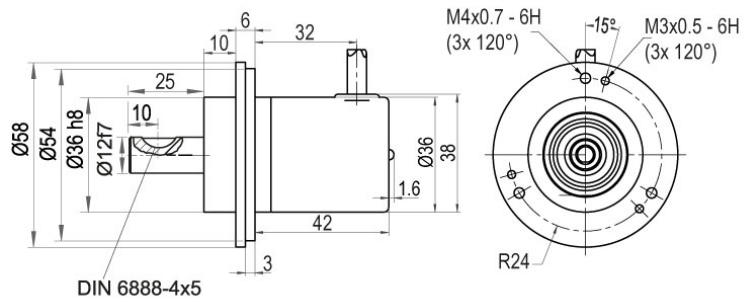
Description

L1   radial, shield connected to encoder housing (IP40)

Assignments	
	L1
(+) Vcc	BN
GND	WH
CANHigh	GN
CANLow	YE
CANGND shield	shield

Description

L2 axial, shield connected to encoder housing

Assignments	
	L2
(+) Vcc	BN
GND	WH
CANHigh	GN
CANLow	YE
CANGND shield	shield

Cable connection, L3 radial with 2 m cable
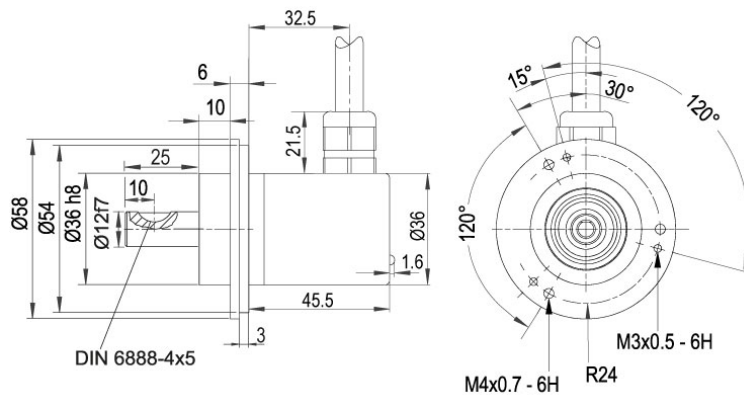
Description

L3   radial, shield connected to encoder housing

Assignments	
	L3
(+) Vcc	BN
GND	WH
CANHigh	GN
CANLow	YE
CANGND shield	shield

Options

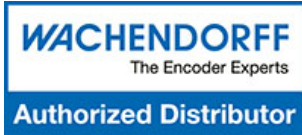| 120 Ohm terminating resistor	Order key
The encoder WDGA 58D CANopen is also available with fixed 120 Ohm terminating resistor.	**AEO**

Example Order No.	Type		Your encoder
WDGA 58D	WDGA 58D		WDGA 58D
	Shaft	**Order key**	
12	Ø 12 mm [Ø 0.472"]	12	
	Single-turn Resolution	**Order key**	
12	Single-turn resolution 1 bit up to 16 bit, recommended min. 6 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	CO
	Software	**Order key**	
A	up to date release	A	A
	Code	**Order key**	
B	binary	B	B
	Power supply	**Order key**	
0	4.75 V up to 32 V (standard)	0	0
	Galvanic isolation	**Order key**	
0	no	0	0
	Electrical connections	**Order key**	
	Cable:		
	radial, shield connected to encoder housing (IP40), with 2 m cable	L1	
	axial, shield connected to encoder housing, with 2 m cable	L2	
	radial, shield connected to encoder housing, with 2 m cable	L3	
CB5			
	Connector:		
	sensor-connector, M12x1, 5-pin, axial, shield connected to encoder housing	CB5	
	sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing	CC5	
	Options	**Order key**	
	120 Ohm terminating resistor	AEO	
	Without option	Empty	

Example Order No.	WDGA 58D	12	12	18	CO	A	B	0	0	CB5		
	WDGA 58D				CO	A	B	0	0			**Your encoder**

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

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