



Online Data Sheet

Encoder WDGA 58V RS485

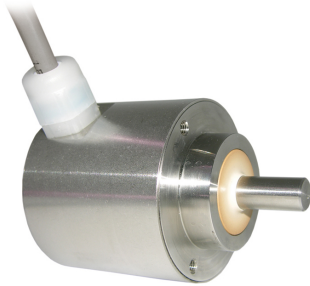
www.wachendorff-automation.com/wdga58vrs485

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 58V absolute RS485 magnetic, with EnDra® Technology


EnDra®
 Technologie

RS485

- Resistance to salt mist acc. to (IEC 60068-2-11)
- High protection rating IP67 all around and IP69K (high pressure / steam cleaning)
- EHEDG: Tested hygienic design
- Ecolab: Certificate on resistance to cleaning and disinfection agents
- Acid- and alkaline resistance
- Radial shaft sealing ring with no dead-room (PTFE)
- EnDra® technology: maintenance-free and environmentally friendly
- RS485
- Single-turn/Multi-turn (max. 16 bit /32 bit)
- Forward-looking technology with 32 Bit processor

Especially for food and beverage industry, acid- and alkaline resistance

www.wachendorff-automation.com/wdga58vrs485

Mechanical Data

Housing	
Flange	clamping flange
Flange material	stainless steel, V4A
Housing cap	stainless steel, V4A
Housing	Ø 58 mm

Shaft(s)	
Shaft material	stainless steel, V4A
Starting torque	approx. 1 Ncm at ambient temperature

Shaft	Ø 10 mm
Shaft length	L: 18 mm
Max. Permissible shaft loading radial	100 N
Max. Permissible shaft loading axial	100 N

Bearings	
Bearings type	2 precision ball bearings
Nominale 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	3600 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	1000 a
Mission time (TM)	20 a
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 3600 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
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 80 mA
Power consumption	max. 0.44 W

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	up to 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 no gear.
Multi-turn resolution	up to 32 bit.

Environmental data

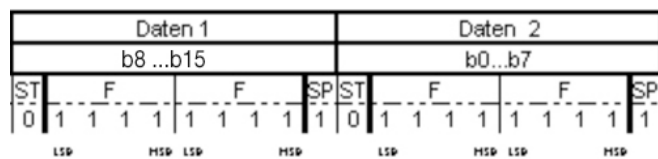
Environmental data:	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3 DIN EN 61326-1
Vibration: (DIN EN 60068-2-6)	300 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	RS485
Configuration inputs:	
Positive direction of counting: (View on shaft)	DIR = GND -> cw DIR = +Ub -> ccw
Set to zero:	Preset = apply +Ub for 2 s
Baud rate:	Standard: 9600 bit/s Other baud rates on request
Polling cycle:	Standard: 20 ms (Tolerances: +/- 2 ms) Other polling cycles on request
Telegram length:	6 byte singleturn, 8 byte multiturn
Telegram composition:	2 Byte Präambel, 2 /4 Byte user data, 2 Byte CRC

Bytecomposition:	Startbit (0) and Stopbit (1), Bytes are Big-Endian and LSB first, no Paritybit
CRC-Definition:	Code: <ul style="list-style-type: none"> • CRC-CCITT 16 bit ($X^{16}+X^{12}+X^5+1$) • Startvalue 0x1021, • Start/Stopbits aren't included • Präambel (0xABCD) is included, • Byte-wise orientation: per CRC-Refresh there is used 1 Byte
Protocol malfunction behaviour:	If encoder recognizes that it's impossible to send a right positionvalue (e.G.: Magnet-loss), there will be send out a telegram with maximum value user Data at normalcycletime and normal Baudrate.

Protocol RS485



General Data

Weight	approx. 600 g
Connections	cable outlet (TPE)
Protection rating (EN 60529)	IP67 all around and IP69K
Operating temperature	-20 °C up to +80 °C
Storage temperature	-20 °C up to +80 °C

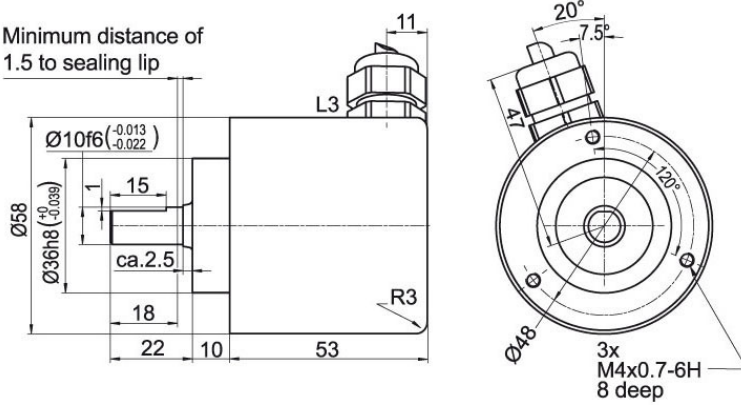
More Information

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

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

Cable connection L3 with 2 m cabel

Minimum distance of 1.5 to sealing lip



Description

L3 radial, shield connected to encoder housing

Assignments	
S- (GND)	OG
S+ (DCin)	BN
A (DATA+)	GY
B (DATA-)	PK
PRESET	BU
DIR	RD
Shield	housing

Example Order No.	Type	Your encoder	
WDGA 58V	WDGA 58V	WDGA 58V	
Shaft			
10	Ø 10 mm	Order key	10
Single-turn Resolution			
14	Single-turn resolution 1 bit up to 16 bit: (e. G. 14 bit)	Order key	14
Multi-turn Resolution			
18	Multi-turn up to 32 bit (e. G. 18 bit) (Single-turn + Multi-turn max. 32 bit) No Multi-turn: 00	Order key	18
Data protocol			
EI	RS485	Order key	EI
Software			
A	up to date release	Order key	A
Code			
B	binary	Order key	B
Power supply			
0	4.75 V up to 32 V (standard)	Order key	0
	4.75 V up to 5.5 V	Order key	1
Galvanic isolation			
0	no	Order key	0
Electrical connections			
L3	Cable:	Order key	
	radial, shield connected to encoder housing	Order key	L3

Example Order No.	WDGA 58V	10	14	18	EI	A	B	0	0	L3
--------------------------	----------	----	----	----	----	---	---	---	---	----

WDGA 58V											Example Order No.
----------	--	--	--	--	--	--	--	--	--	--	--------------------------



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



Wachendorff Automation GmbH & Co. KG
Industriestrasse 7 • 65366 Geisenheim
Germany

Phone: +49 67 22 / 99 65 25
Fax: +49 67 22 / 99 65 70
E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de

