

Online Data Sheet

Encoder WDGA 58V RS485

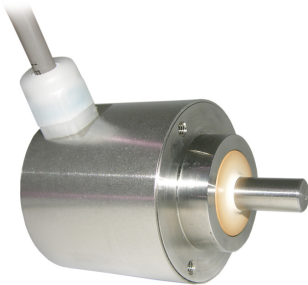
www.wachendorff-automation.com/wdga58vrs485

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

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

- 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-/Multiturn (ST + MT max. 32 bit)
- Forward-looking technology with 32 Bit processor

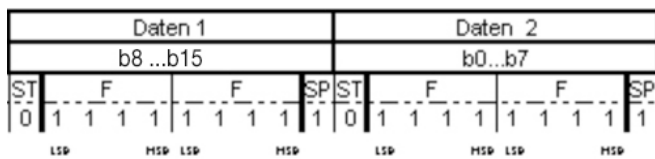
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Mechanical Data	
Housing	
Flange	clamping flange
Flange material	stainless steel, V4A
Housing cap	stainless steel, V4A
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Bearings	
Bearings 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	3600 rpm
Machinery Directive: basic data safety integrity level	
MTTF _d	1000 a
Mission time (TM)	20 a
Nominal 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	10 VDC up to 32 VDC: max. 80 mA
Power consumption	max. 0.8 W
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: max. 80 mA
Power consumption	max. 0.4 W

Sensor data	
Singleturn technology	innovative hall sensor technology
Singleturn resolution	up to 16,384 steps/360° (14 bit)
Singleturn accuracy	< ±0.35°
Singleturn repeat accuracy	< ±0.20°
Intern cycle time	≤ 600 µs
Multiturn technology	patented EnDra® technology no battery no gear.
Multiturn resolution	up to 24 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
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:	RS485
Positive direction of counting: (View on shaft)	DIR = GND -> cw DIR = +Ub -> ccw
Set to zero:	Preset = apply +Ub for 2 s
Baud rate:	available with 500 bit/s up to 1Mbit/s, standard: 9600 bit/s
Polling cycle:	automatic sending available with 1 ms up to 1000 ms Standard: 20 ms (Tolerances: +/- 2 ms)
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: • 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 normal cycle time and normal Baudrate.

Protocol RS485



General Data

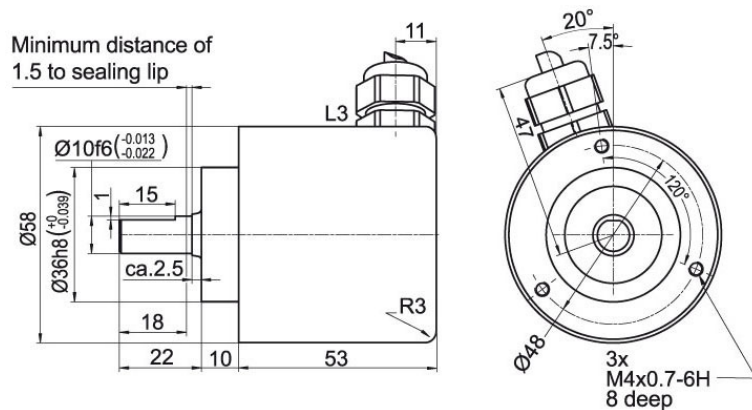
Weight	approx. 600 g
Connections	cable outlet (TPE)
Protection rating (EN 60529)	IP67 all around and IP69K. Resistance to salt mist (IEC 60068-2-11) after 672 hours.
Operating temperature	-20 °C up to +80 °C
Storage temperature	-20 °C up to +80 °C

More Information

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

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

Cable connection L3 with 2 m cabel



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	Order key	
10	Ø 10 mm	10	
	Singleturn Resolution	Order key	
14	Singleturn resolution 8 Bit up to 14 Bit: (e. G. 14 Bit)	14	
	Multiturn Resolution	Order key	
18	Multiturn up to 24 Bit (e. G. 18 Bit) (Singleturn + Multiturn max. 32 Bit) No Multiturn: 00	18	
	Data protocol	Order key	
EI	RS485	EI	
	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	
	4.75 V up to 5.5 V	1	
	Galvanic isolation	Order key	
0	no	0	
	Electrical connections	Order key	
L3	Cable:		
	radial, shield connected to encoder housing	L3	

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