



# Online Data Sheet

## Encoder WDGA 58V SSI

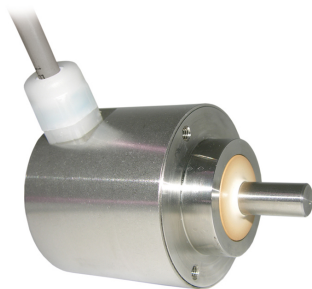
[www.wachendorff-automation.com/wdga58vssi](http://www.wachendorff-automation.com/wdga58vssi)

### 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 SSI magnetic, with EnDra®-Technology



**EnDra®**  
Technologie

**SSI**  
Synchronous Serial Interface

- Resistance to salt mist acc. to (IEC 60068-2-11)
- Acid- and alkaline resistance
- High protection rating IP67 all around and IP69K (high pressure / steam cleaning)
- EnDra® multiturn technology: maintenance-free and environmentally friendly
- SSI, gray or binary
- Single-turn/Multi-turn (16 bit/43 bit)
- Forward-looking technology with 32 bit processor

[www.wachendorff-automation.com/wdga58vssi](http://www.wachendorff-automation.com/wdga58vssi)

Especially for food and beverage industry  
Acid- and alkaline resistance

Mechanical Data	
<b>Housing</b>	
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
Nominal service life	1 x 10 <sup>9</sup> revs. at 100 % rated shaft load 1 x 10 <sup>10</sup> revs. at 40 % rated shaft load 1 x 10 <sup>11</sup> revs. at 20 % rated shaft load
Max. operating speed	3600 rpm

Machinery Directive: basic data safety integrity level	
MTTF <sub>d</sub>	1000 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 <sup>11</sup> revs. at 20 % rated shaft load and 3600 rpm
Diagnostic coverage (DC)	0 %

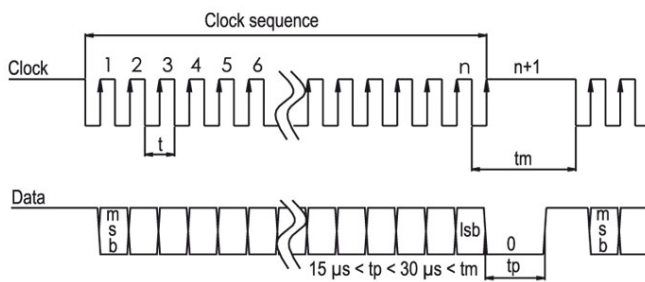
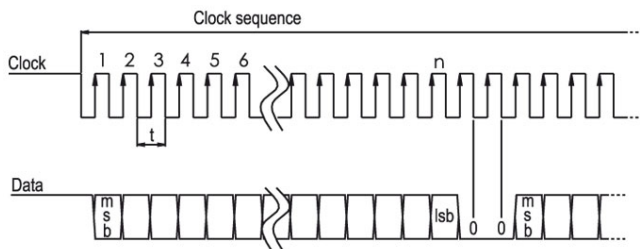
Electrical Data	
Power supply/Current consumption	4,75 VDC up to 32 VDC: typ. 50 mA
Power consumption	max. 0.5 W
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 80 mA
Power consumption	max. 0.44 W

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 43 bit.

Environmental data	
<b>Environmental data:</b>	
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 <sup>2</sup> (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s <sup>2</sup> (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface	
<b>Interface:</b>	<b>SSI</b>
Clock input:	via opto-coupler
Clock frequency:	100 kHz up to 500 kHz, up to 2 MHz on request
Data output:	RS485/RS422 compatible
Output code:	gray or binary
SSI output:	Angular-/position value
Parity bit:	optional (even/odd)
Error bit:	optional
Turn on time:	<1,5 s
<b>Configuration inputs</b>	DIR = GND -> cw DIR = +UB -> ccw
Positive direction of counting: (View on shaft)	
Set to zero:	Set: Preset = +UB for 2 s Deactivate: Preset = GND

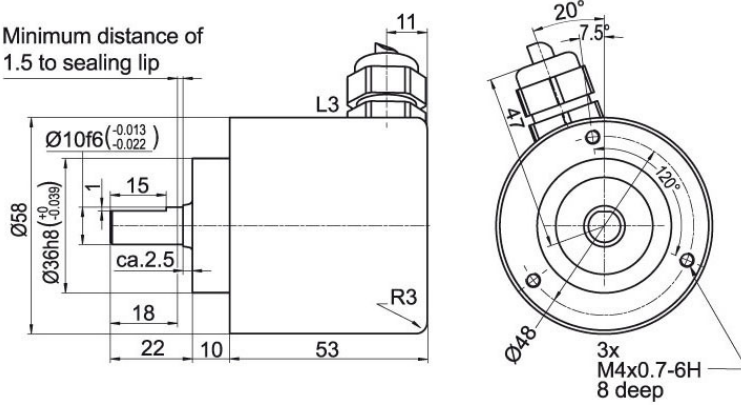
**Transmission protocol SSI Single transmission:**

**Transmission protocol SSI Multipath transmission:**

**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 radial with 2 m cabel**

 Minimum distance of  
 1.5 to sealing lip

**Description**
**L3** radial, shield connected to encoder housing

Assignments	
<b>GND</b>	OG
<b>(+) Vcc</b>	BN
<b>SSI CLK+</b>	GN
<b>SSI CLK-</b>	YE
<b>SSI DATA+</b>	GY
<b>SSI DATA-</b>	PK
<b>PRESET</b>	BU
<b>DIR</b>	RD
<b>Shield</b>	housing

Example Order No.	Type	Your encoder
WDGA 58V	WDGA 58V	WDGA 58V
	<b>Shaft</b>	<b>Order key</b>
10	Ø 10 mm	10
	<b>Single-turn Resolution</b>	<b>Order key</b>
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	12
	<b>Multi-turn Resolution</b>	<b>Order key</b>
12	Multi-turn up to 43 bit (e. G. 12 bit) No Multi-turn = 00	12
	<b>Data protocol</b>	<b>Order key</b>
SI	SSI	SI
	<b>Software</b>	<b>Order key</b>
A	up to date release	A
	<b>Code</b>	<b>Order key</b>
B	binary	B
	gray	G
	<b>Power supply</b>	<b>Order key</b>
0	4.75 V up to 32 V (standard)	0
	4.75 V up to 5.5 V	1
	<b>Galvanic isolation</b>	<b>Order key</b>
1	yes	1
	<b>Electrical connections</b>	<b>Order key</b>
L3	<b>Cable:</b>	
	radial, shield connected to encoder housing	L3

<b>Example Order No.</b>	WDGA 58V	10	12	12	SI	A	B	0	1	L3
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WDGA 58V											<b>Example Order No.</b>
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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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