

# Online Data Sheet

## Encoder WDGA 58S SSI

[www.wachendorff-automation.com/wdga58sssi](http://www.wachendorff-automation.com/wdga58sssi)

### 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 58S absolute SSI magnetic, with EnDra®-Technology



**EnDra®**  
Technologie

**SSI**  
Synchronous Serial Interface

- Resistance to salt mist (IEC 60068-2-11) succeeded
- Protection: IP67 + IP69k (high pressure / steam cleaning)
- EnDra®: maintenance-free and environmentally friendly
- SSI, Gray or binary
- Single-/Multiturn (max. 14 bit/39 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition

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Salt mist IEC 60068-2-11  
High pressure / steam cleaning

## Mechanical Data

Housing	
Flange	clamping flange
Flange material	Aluminium, anodized natur
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm

## Shaft(s)

Shaft material	stainless steel
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
Nomiale 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
Nomiale 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	10 VDC up to 32 VDC: max. 50 mA
Power consumption	max. 0.5 W
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: max. 80 mA
Power consumption	max. 0.44 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 39 bit.

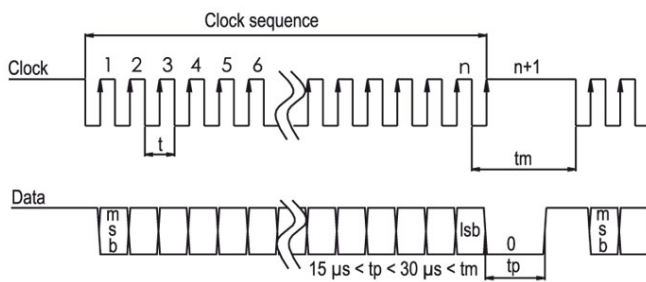
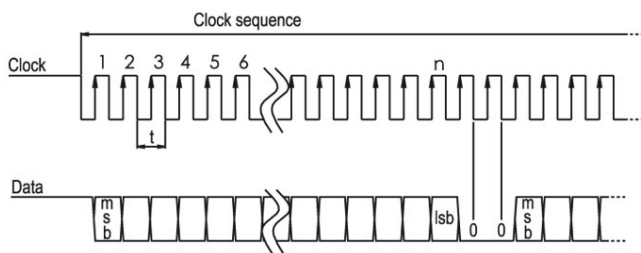
## Environmental data

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 <sup>2</sup> (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 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. 200 g
Connections	connector outlet
Protection rating (EN 60529)	IP67 all around and IP69K. Resistance to salt mist (IEC 60068-2-11) after 672 hours.
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

**More Information**

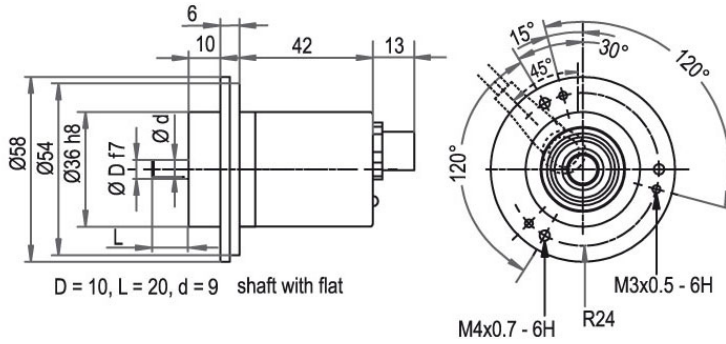
General technical data

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

Options

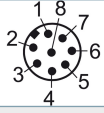
<http://www.wachendorff-automation.com/acc>

**Connector, M12x1 CB8, axial, 8-pin**



**Description**

**CB8** axial, 8-pin, shield connected to encoder housing

Assignments	
	<b>CB8</b> 
<b>GND</b>	1
<b>(+) Vcc</b>	2
<b>SSI CLK+</b>	3
<b>SSI CLK-</b>	4
<b>SSI DATA+</b>	5
<b>SSI DATA-</b>	6
<b>PRESET</b>	7
<b>DIR</b>	8
<b>Shield</b>	housing

Example Order No.	Type	Your encoder	
WDGA 58S	WDGA 58S	WDGA 58S	
<b>Shaft</b>			
10	Ø 10 mm	Order key	10
<b>Singleturn Resolution</b>			
12	Singleturn resolution 8 Bit up to 14 Bit: (e. G. 12 Bit)	Order key	12
<b>Multiturn Resolution</b>			
12	Multiturn 1 bit up to 39 bit (e. G. 12 bit) No Multiturn = 00	Order key	12
<b>Data protocol</b>			
SI	SSI	Order key	SI
<b>Software</b>			
A	up to date release	Order key	A
<b>Code</b>			
B	binary	Order key	B
	gray	Order key	G
<b>Power supply</b>			
0	10 V up to 32 V (standard)	Order key	0
	4.75 V up to 5.5 V	Order key	1
<b>Galvanic isolation</b>			
1	yes	Order key	1
<b>Electrical connections</b>			
CB8	<b>Connector:</b>	Order key	CB8
	sensor-connector, M12x1, 8-pin, axial, IP67, shield connected to encoder housing		

<b>Example Order No.</b>	WDGA 58S	10	12	12	SI	A	B	0	1	CB8
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WDGA 58S											<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.  
[http://www.wachendorff-automation.com/distributors\\_worldwide.html](http://www.wachendorff-automation.com/distributors_worldwide.html)



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