



Online Data Sheet

Encoder WDGA 58S SSI

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-turn/Multi-turn (max. 16 bit/43 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	Aluminum, 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 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
Nomiale 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: 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)

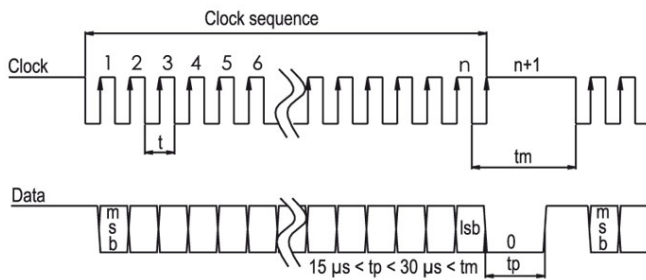
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	600 µs
Multi-turn technology	patented EnDra® technology no battery, no gear.
Multi-turn resolution	up to 43 bit.

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
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

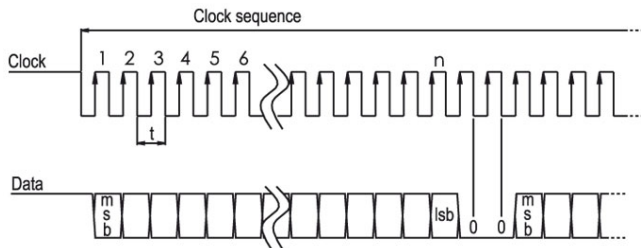
Interface	
Interface:	SSI
Clock input:	via opto-coupler
Clock frequency:	100 kHz up to 500 kHz, up to 2 MHz on request
Data output:	RS485/RS422 compatible
Output code:	gray or binary
SSI output:	Angular-/position value
Parity bit:	optional (even/odd)
Error bit:	optional
Turn on time:	<1,5 s
Configuration inputs	DIR = GND -> cw Positive direction of counting: (View on shaft) DIR = +UB -> ccw
Set to zero:	Set: Preset = +UB for 2 s Deactivate: Preset = GND
LED-behaviour:	
At Start / while booting:	- red gleam (< 2.3 s)
Malfunction:	- constant red gleam (> 2.3 s)
Normal function:	- constant green gleam

No supply: - no gleam

Transmission protocol SSI Single transmission:



Transmission protocol SSI Multipath transmission:



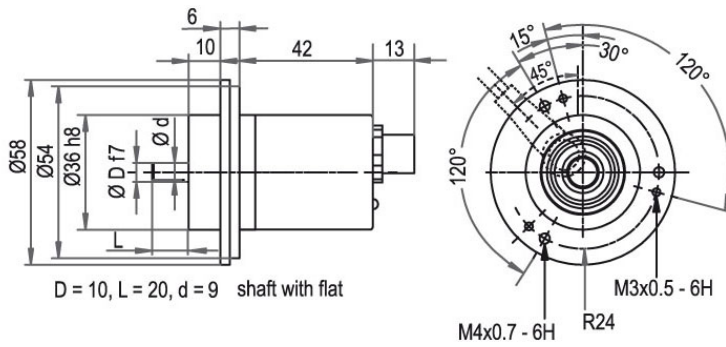
General Data

Weight	approx. 200 g
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; cable outlet K1: IP40, K6: IP20
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

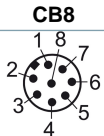
More Information

General technical data and safety instructions
<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	
	CB8 
GND	1
(+) Vcc	2
SSI CLK+	3
SSI CLK-	4
SSI DATA+	5
SSI DATA-	6
PRESET	7
DIR	8
Shield	housing

Example Order No.	Type	Your encoder	
WDGA 58S	WDGA 58S	WDGA 58S	
Shaft			
10	Ø 10 mm	Order key	10
Single-turn Resolution			
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	Order key	12
Multi-turn Resolution			
12	Multi-turn up to 43 bit (e. G. 12 bit) No Multi-turn = 00	Order key	12
Data protocol			
SI	SSI	Order key	SI
Software			
A	up to date release	Order key	A
Code			
B	binary	Order key	B
	gray	Order key	G
Power supply			
0	10 V up to 32 V (standard)	Order key	0
	4.75 V up to 5.5 V	Order key	1
Galvanic isolation			
1	yes	Order key	1
Electrical connections			
CB8	Connector:	Order key	CB8
	sensor-connector, M12x1, 8-pin, axial, IP67, shield connected to encoder housing		

Example Order No.	WDGA 58S	10	12	12	SI	A	B	0	1	CB8
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WDGA 58S											Example Order No.
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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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