



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

www.wachendorff-automation.com/wdga58ssi

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	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.

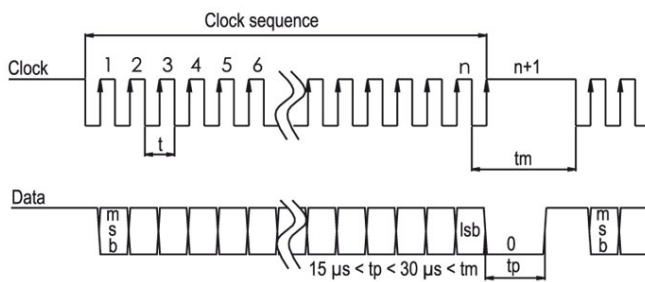
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3 DIN EN 61326-1
Vibration: (DIN EN 60068-2-6)	300 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Duty information	
Customs tariff number:	90318020
Country of origin:	Germany

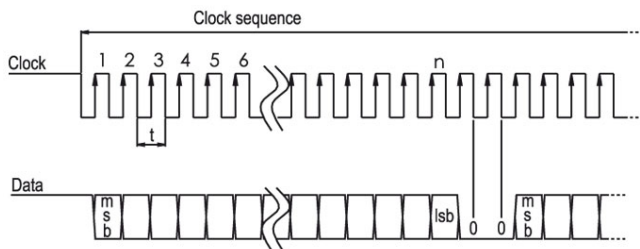
Interface	
Interface:	SSI
Clock input:	via opto-coupler; I > 1.6 mA; U > 2.2 V
Clock frequency:	100 kHz up to 500 kHz, up to 2 MHz on request
Data output:	RS485/RS422 compatible
Output code:	gray or binary
SSI output:	Angular-/position value
Parity bit:	optional (even/odd)
Error bit:	optional
Turn on time:	<1,5 s

Configuration inputs	DIR = GND -> cw 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:



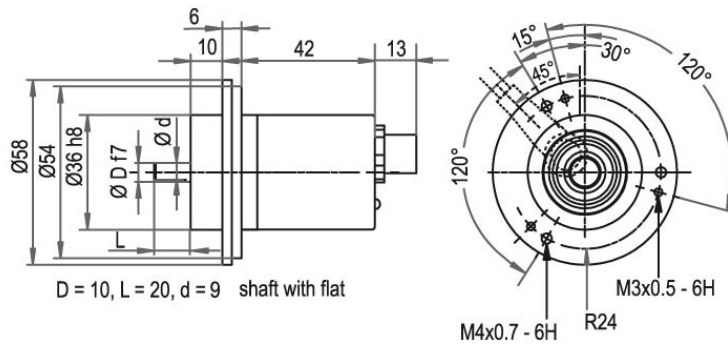
General Data

Weight	approx. 200 g
Connections	connector outlet
Protection rating (EN 60529)	IP67+IP69K all around
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

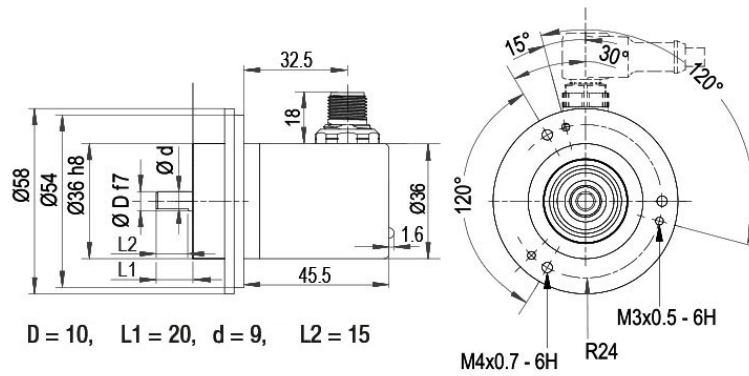


Description

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

Connector, M12x1 CC8, 8-pin, radial



Description

CC8 radial, 8-pin, shield connected to encoder housing

Assignments	
	CC8
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	Order key	
10	Ø 10 mm	10	
	Single-turn Resolution	Order key	
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	12	
	Multi-turn Resolution	Order key	
12	Multi-turn up to 43 bit (e. G. 12 bit) No Multi-turn = 00	12	
	Data protocol	Order key	
SI	SSI	SI	SI
	Software	Order key	
A	up to date release	A	A
	Code	Order key	
B	binary	B	
	gray	G	
	Power supply	Order key	
0	4.75 V up to 32 V (standard)	0	
	4.75 V up to 5.5 V	1	
	Galvanic isolation	Order key	
1	yes	1	1
	Electrical connections	Order key	
CB8	Connector:		
	sensor-connector, M12x1, 8-pin, axial, shield connected to encoder housing	CB8	
	sensor-connector, M12x1, 8-pin, radial, shield connected to encoder housing	CC8	

Example Order No.	WDGA 58S	10	12	12	SI	A	B	0	1	CB8
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WDGA 58S				SI	A			1		Your encoder
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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/contact-sales-en/>



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

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

