



Online Data Sheet

Encoder WDGA 58B SSI

www.wachendorff-automation.com/wdga58bssi

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 58B absolute SSI magnetic, with EnDra®-Technology



EnDra®
Technologie

SSI
Synchronous Serial Interface

- 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
- 2-colour-LED as indicator for operating condition
- High shaft load up to 220 N radial, 120 N axial

www.wachendorff-automation.com/wdga58bssi

Mechanical Data

Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm
Cam mounting	pitch 69 mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature

Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

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	8000 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 8000 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

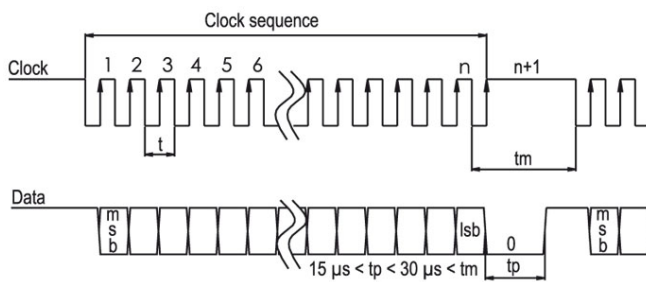
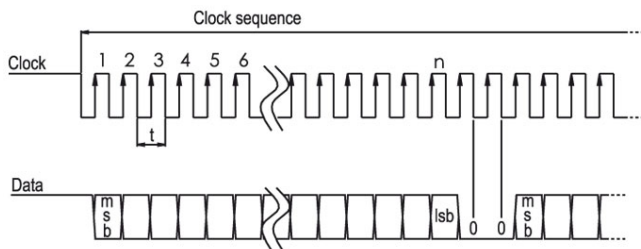
Environmental data:	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	
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 DIR = +UB -> ccw
Positive direction of counting: (View on shaft)	
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

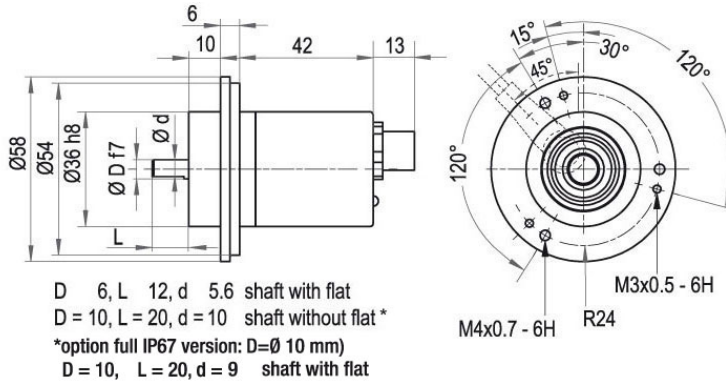
Weight	approx. 202 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65; cable outlet K1: IP40, K6: IP20
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

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

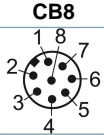
Options
<http://www.wachendorff-automation.com/acc>

Connector, M12x1, CB8, axial, 8-pin



Description

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

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

Options

Shafts sealed to IP67, only with 10 mm shaft with flat

Order key

The encoder WDG 58B SSI can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder	
WDGA 58B	WDGA 58B	WDGA 58B	
	Shaft	Order key	
10	Ø 10 mm	10	10
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	13	13
	Multi-turn Resolution	Order key	
12	Multi-turn up to 43 bit (e. G. 12 bit) No Multi-turn = 00	12	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	B
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	0
	Galvanic isolation	Order key	
1	yes	1	1
	Electrical connections	Order key	
CB8	Connector: sensor-connector, M12x1, 8-pin, axial, IP67, shield connected to encoder housing	CB8	CB8
	Options	Order key	
	Shafts sealed to IP67, only with 10 mm shaft with flat	AAS	
	Without option	Empty	

Example Order No.	WDGA 58B	10	13	12	SI	A	B	0	1	CB8	
--------------------------	----------	----	----	----	----	---	---	---	---	-----	--

WDGA 58B	10	13	12	SI	A	B	0	1	CB8		Your encoder
----------	----	----	----	----	---	---	---	---	-----	--	---------------------



For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
<https://www.wachendorff-automation.com/>



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

Phone: +49 67 22 / 99 65 25
Fax: +49 67 22 / 99 65 70
E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de

