

Online Data Sheet

Encoder WDGA 58E SSI

www.wachendorff-automation.com/wdga58essi

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 58E 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-/multiturn (max. 14 bit/39 bit)
- Forward-looking technology with 32 bit processor

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Mechanical Data

Housing

Flange	hollow shaft (blind-bored)
Flange material	aluminium
Housing cap	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10001
- 1. Spring plate compensation	axial: ±0.8 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +60 °C
- 2. Cylinder pin 4 mm	needs accessories WDGDS10005
- Compensation	axial: ±0.5 mm, radial: ±1.5 mm, Max. operating speed: 3000 rpm
Housing	Ø 58 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature
Fixing	permanently attached clamping ring

Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 6.35 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
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Shaft	Ø 8 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 3/8"; 9.525 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 10 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

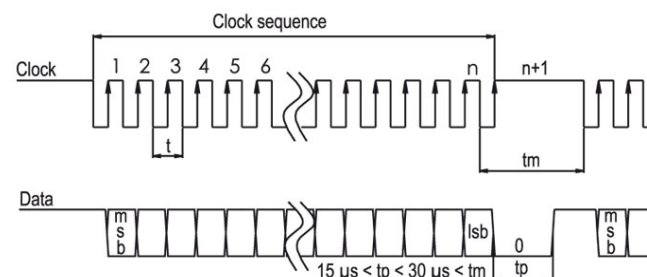
Shaft	Ø 12 mm
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 14 mm
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N

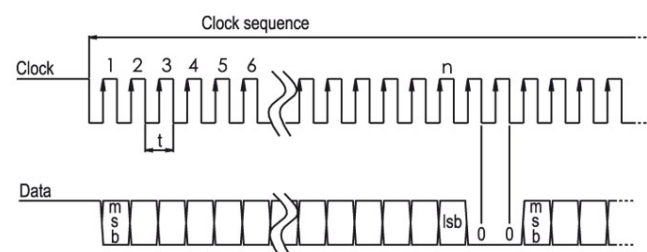
Max. Permissible shaft loading axial	50 N
Bearings	
Bearings type	2 precision ball bearings
Nominal service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	6000 rpm
Machinery Directive: basic data safety 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 6000 rpm
Diagnostic coverage (DC)	0 %
Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: max. 80 mA
Power consumption	max. 0.8 W
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: max. 80 mA
Power consumption	max. 0.4 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 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

Transmission protocol SSI Single transmission:



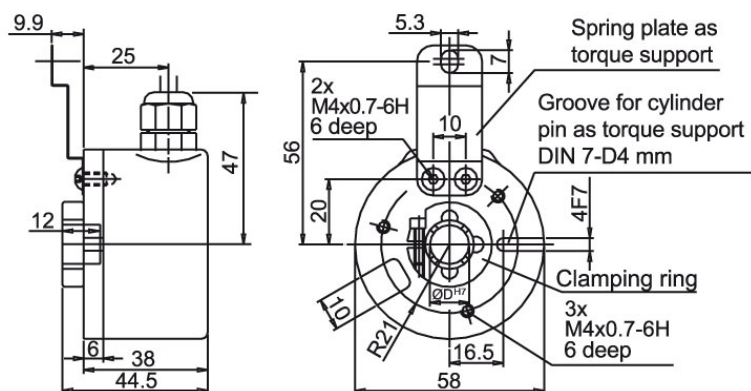
Transmission protocol SSI Multipath transmission:



General Data	
Weight	approx. 220 g
Connections	cable or connector, radial
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	-40 °C up to +80 °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

Cable connection, L3, with 2 m cable

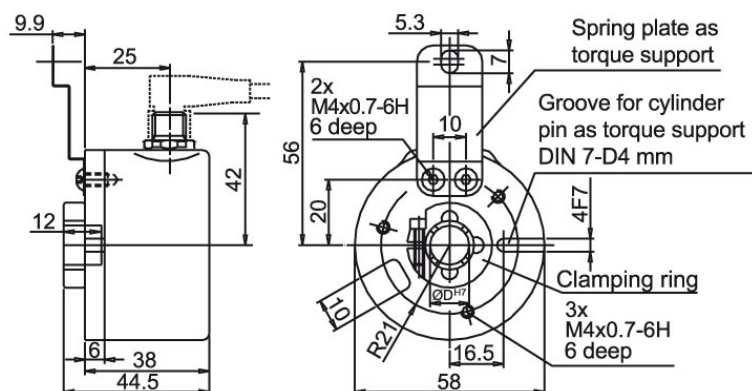


Description

L3 radial, shield connected to encoder housing

Assignments	
	L3
GND	WH
(+) Vcc	BN
SSI CLK+	GN
SSI CLK-	YE
SSI DATA+	GY
SSI DATA-	PK
PRESET	BU
DIR	RD
Shield	housing

Connector, M12x1, CC8, radial, 8-pin



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 58E	WDGA 58E	WDGA 58E	
	Shaft	Order key	
06	Ø 6 mm with adapter sleeve	06	
	Ø 6.35 mm with adapter sleeve	2Z	
	Ø 7 mm with adapter sleeve	07	
	Ø 8 mm with adapter sleeve	08	
	Ø 3/8"; 9.525 mm with adapter sleeve	4Z	
	Ø 10 mm with adapter sleeve	10	
	Ø 12 mm	12	
	Ø 14 mm	14	
	Singleturn Resolution	Order key	
12	Singleturn resolution 8 Bit up to 14 Bit: (e. G. 12 Bit)	12	
	Multiturn Resolution	Order key	
12	Multiturn 1 bit up to 39 bit (e. G. 12 bit) No Multiturn = 00	12	
	Data protocol	Order key	
SI	SSI	SI	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	gray	G	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	4.75 V up to 5.5 V	1	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
CC8	Cable:		
	radial, shield connected to encoder housing, with 2 m cable, IP67	L3	
	Connector:		
	sensor-connector, M12x1, 8-pin, radial, IP67, shield connected to encoder housing	CC8	

Example Order No.	WDGA 58E	06	12	12	SI	A	B	0	1	CC8
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WDGA 58E										Example Order No.
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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



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