



# Online Data Sheet

## Encoder WDG 58M SSI

[www.wachendorff-automation.com/wdgf58mssi](http://www.wachendorff-automation.com/wdgf58mssi)

### 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 WDG 58M Motorfeedback SSI



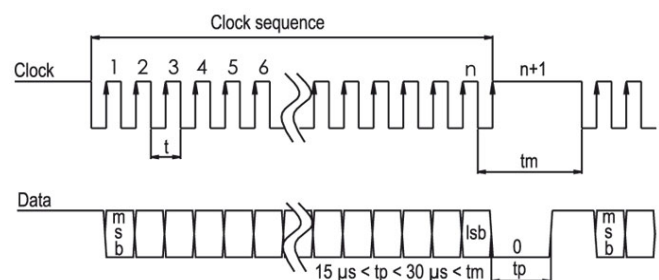
- Highest precision in highly dynamic movement
- Interface: SSI
- Singleturn max. 19 Bit
- Up to 2048 sin/cos per revolution
- 2-colour-LED as indicator for operating condition and error message
- Specific spring lever available

[www.wachendorff-automation.com/wdgm58mssi](http://www.wachendorff-automation.com/wdgm58mssi)

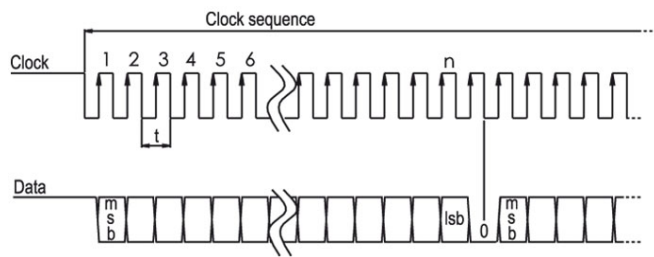
Mechanical Data	
<b>Housing</b>	
Flange	Motorfeedback flange
Flange material	aluminum
Housing cap	aluminum
Housing	Ø 58 mm
<b>Shaft(s)</b>	
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø Conus 1/10; 9.25 mm
Shaft length	L: 16.5 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	60 N
<b>Bearings</b>	
Bearings type	2 precision ball bearings
Nominale 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	12000 rpm
<b>Electrical Data</b>	
Power supply/Current consumption	3.5 VDC up to 30 VDC: typ. 160 mA
Power consumption	max. 0.6 W
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 80 mA
Power consumption	max. 0.6 W
<b>Sensor data</b>	
Single-turn technology	optical
Single-turn resolution	max. 524,288 steps/360° (19 bit)
1 Vpp resolution	2048 sin/cos (512, 1024 optional)
Channels output	AB
Limit frequency (-3dB)	400 kHz
<b>Environmental data</b>	
<b>Environmental data:</b>	
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
<b>Interface</b>	
<b>Interface:</b>	<b>SSI</b>
Clock input:	via opto-coupler
Clock frequency:	100 kHz up to 4 MHz
Data output:	RS485
Out put code:	gray or binary
SSI output:	Angular-/position value
Paritybit:	optional (even/odd)
Errorbit:	optional
<b>Configuration inputs</b>	DIR = GND -> cw Positive direction: DIR = +UB -> ccw (View on shaft)
Set to zero:	Set: SET = +UB Deactivate: SET = GND

## Transmission protocol SSI Single transmission



## Transmission protocol SSI Multipath transmission



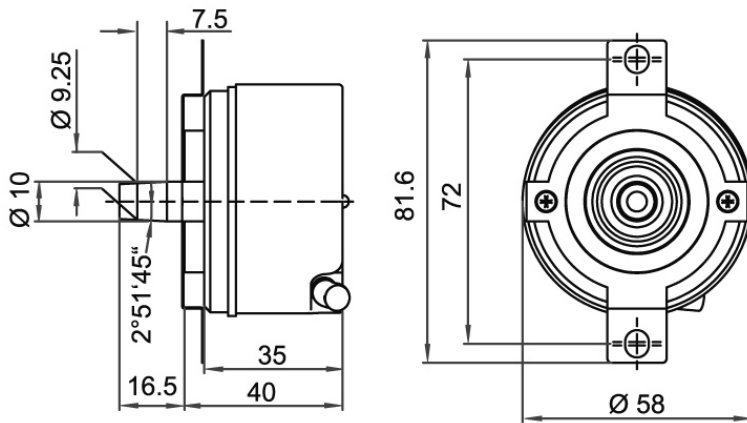
### General Data

Weight	approx. 279 g
Connections	cable output, 2 m, tangential
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +115 °C
Storage temperature	-40 °C up to +115 °C

### More Information

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

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

**Cable outlet tangential, 2 m, T3**

**Description**

T3 tangential, flex

Assignments	
	<b>T3</b>
<b>A+</b>	GYPK
<b>A-</b>	RDBU
<b>B+</b>	BK
<b>B-</b>	VT
<b>Data+</b>	GY
<b>Data-</b>	PK
<b>CLK+</b>	GN
<b>CLK-</b>	YE
<b>(+) Vcc</b>	BN
<b>GND</b>	WH
<b>Shield</b>	flex
<b>SET</b>	BU
<b>DIR</b>	RD

## Options

### Cable length

The encoder WDF 58M SSI can be supplied with more than 2 m cable.  
Please extend the standard order code with a three figure number, specifying the cable length in decimetres.  
5 m cable = 050  
10 m cable = 100

### Order key

**XXX = Decimeter**

Example Order No.	Type	Your encoder	
WDGF 58M	WDGF 58M	WDGF 58M	
	<b>Shaft</b>	<b>Order key</b>	
10	Ø Conus 1/10; 9.25 mm	10	
	<b>Single-turn Resolution</b>	<b>Order key</b>	
13	9 bit up to 19 bit (EG: 13 bit = 13)	13	
	<b>Multi-turn Resolution</b>	<b>Order key</b>	
00	No Multi-turn = 00	00	
	<b>Sinus per revolution 1Vpp</b>	<b>Order key</b>	
11	2048	11	
	512 (optional)	9	
	1024 (optional)	10	
	<b>Data protocol</b>	<b>Order key</b>	
SI	SSI	SI	SI
	<b>Software</b>	<b>Order key</b>	
A	up to date release	A	A
	<b>Code</b>	<b>Order key</b>	
B	binary	B	
	gray	G	
	<b>Power supply</b>	<b>Order key</b>	
2	3,5 V up to 30 V (standard)	2	
	4.75 V up to 5.5 V	1	
	<b>Galvanic isolation</b>	<b>Order key</b>	
1	yes	1	
	no	0	
	<b>Electrical connections</b>	<b>Order key</b>	
T3	<b>Cable:</b>		T3
	tangential, flex, with 2 m cable, IP67	T3	
	<b>Options</b>	<b>Order key</b>	
	Without option	Empty	
	Cable lenght	XXX = Decimeter	

<b>Example Order No.</b>	WDGF 58M	10	13	00	11	SI	A	B	2	1	T3	
--------------------------	----------	----	----	----	----	----	---	---	---	---	----	--

WDGF 58M					SI	A					T3	<b>Your encoder</b>
----------	--	--	--	--	----	---	--	--	--	--	----	---------------------



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](mailto:wdg@wachendorff.de)  
[www.wachendorff-automation.de](http://www.wachendorff-automation.de)

