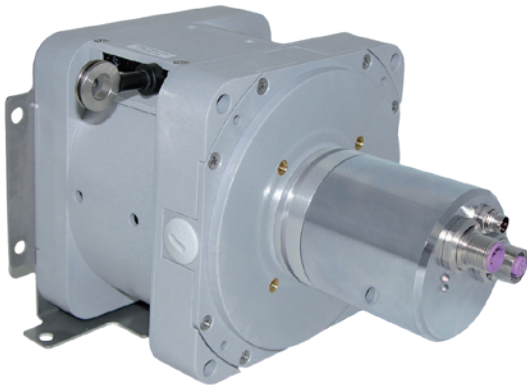


## Draw-wire system SZG140 - WDGA PROFIBUS-DP



- Exceptionally rugged length sensor
- Measuring range: 0 mm up to 10,200 mm
- Interface: PROFIBUS-DP
- free configurable
- IP65 absolute encoder WDGA PROFIBUS-DP ready-mounted

[www.wachendorff-automation.com/szg140wdgaprofibus](http://www.wachendorff-automation.com/szg140wdgaprofibus)

With the new Cable System SZG140, Wachendorff meets these requirements perfectly. The system is installed quickly and easily. The space required is minimised through the compact design. The position of the cable outlet can be determined individually by the mounting bracket. Thanks to the robust design of the cable system in conjunction with the incremental and absolute encoders from Wachendorff, the system can also be used in critical areas. For example, in port cranes or in transport systems in cold storage houses. With an absolute encoder WDGA58B, resolutions can be implemented perfectly.

### Typical areas of application include:

lift/elevators, lifting platforms, theatre stages, fork lifts and cranes.

### Measurement ranges::

0 mm up to 10,200 mm

### Resolution measurement ranges WDGA58B:

Position per mm	Bit per revolution
0.67	8
1.34	9
2.68	10
5.37	11
10.74	12

**Deviation:** Less than 0.04 % of the final value.

### Measuring wire:

0.79 mm of thick high-grade steel wire.  
 Wire connection: eye  
 max. wire speed: 1.5 m/sec.  
 Pull out strength: approx. 0.64 kg

**System-unit housing:** Glass fiber reinforced plastic with UV inhibitor

**Weight:** SZG incl. encoder max. 2.5 kg

**Life expectancy:** At least 1 million cycles

Operating temperature: -40 °C up to +85 °C

Storage temperature: -40 °C up to +85 °C

Interface	PROFIBUS-DP
Protocol:	PROFIBUS-DP V0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 Mbaud
Function:	Multiturn
Nodeaddressing:	adjustable via software
Termination resistor:	non-existent
Code:	binary, CW default, programmable
Programmable Parameter:	steps per revolution counts of revolution Preset Scale Counting direction

**Diagnostics:** Position and parameter errors  
 EnDra<sup>®</sup>-diagnosis

**Status encoder:** DUO-LED

**Status bus:** DUO-LED

### Electrical Data:

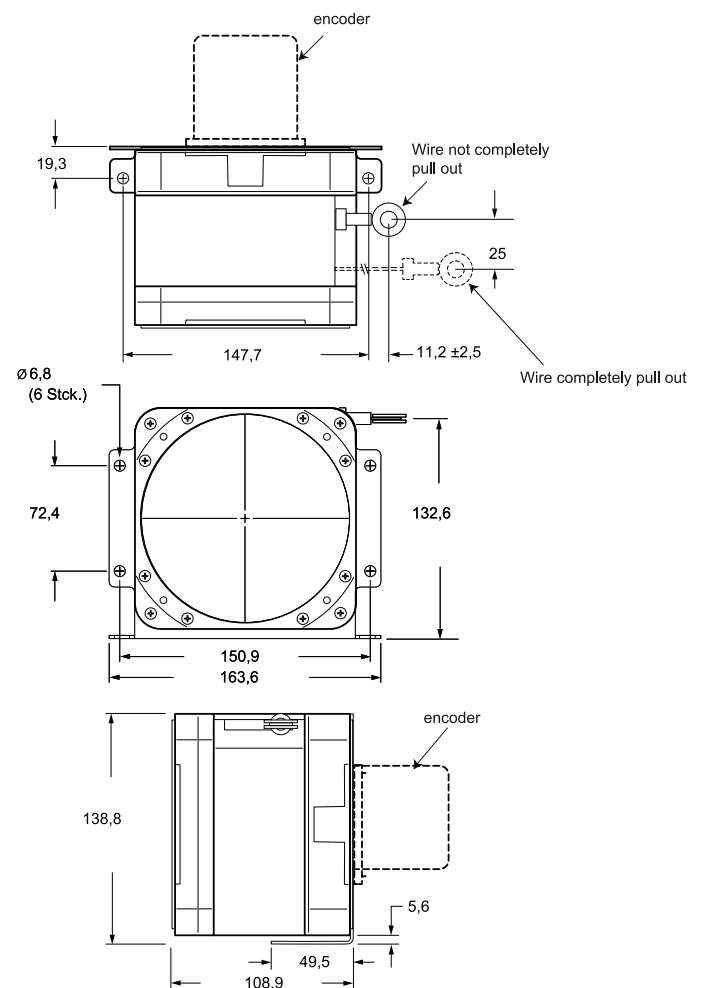
Supply voltage: 10 VDC up to 32 VDC

max. 100 mA

Power consumption: max. 2.5 W

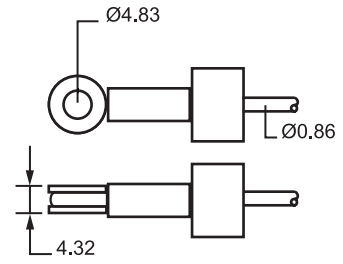
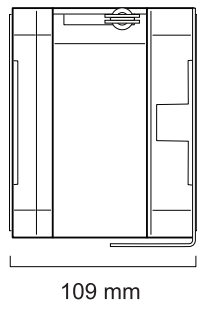
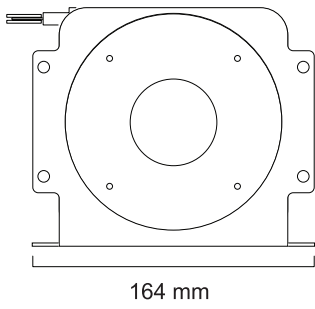
### Connection configuration for encoder WDGA PROFIBUS-DP: axial, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin

connector (A)	M8x1, 4-pin	female connector (B)	M12x1, 5-pin, B-coded	connector (C)	M12x1, 4-pin, B-coded
+UB	1	BUS	OUT	BUS	IN
n. c.	2	5 V DP	1	n. c.	1
GND	3	A	2	A	2
GND	4	GND DP	3	n. c.	3
		B	4	B	4
		n. c.	5		

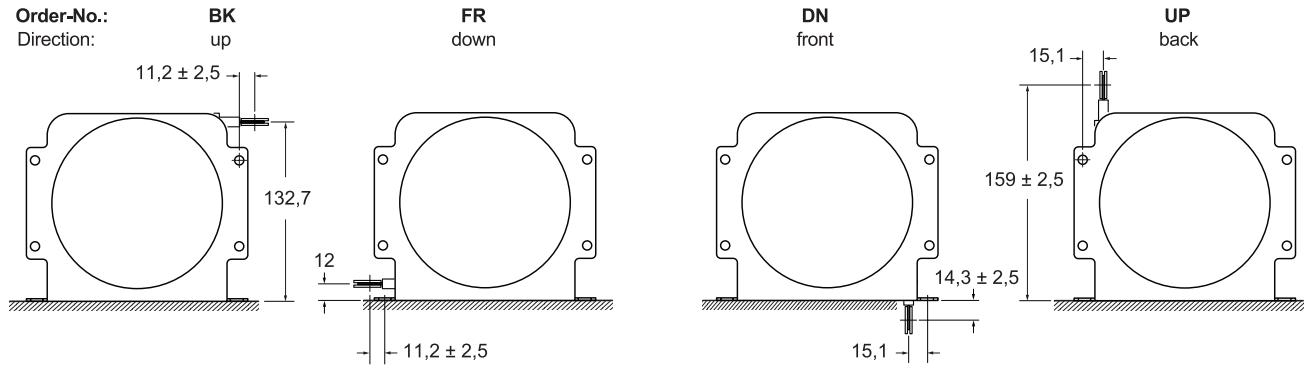


Diameters in mm

\* tolerance = +0,1 -0,0  
 \*\* tolerance = +0,1 -0,1



Order-No.:  
Direction:



**Ordering information:**

**Measurement range:**  
1020 = 10,200 mm

**Measurement wire:**  
B = 0.79 mm of thick high-grade steel wire

**Mounting direction:**  
UP = Wire exit up  
DN = Wire exit down  
FR = Wire exit front  
BK = Wire exit back

**Singleturn resolution in bit per revolution**  
08 => 8 bit (= approx. 0.67 position/mm)  
09 => 9 bit (= approx. 1.34 position/mm)  
10 => 10 bit (= approx. 2.68 position/mm)  
11 => 11 bit (= approx. 5.36 position/mm)  
12 => 12 bit (= approx. 10.74 position/mm)

**Multiturn resolution**  
13 = 13 bit

**Interface**  
DP = PROFIBUS-DP

**Software:**  
A = up to date release

**Code**  
B = binary

**Power supply**  
0 = 10 V up to 32 V

**Galvanic isolation**  
1 = yes

**Connection**  
DB4 = 3x connector, axial

Your system

SZG140 [ ] B [ ] [ ] 13 DP A B 0 1 DB4

**Montageanleitung absolute Drehgeber WDGA EnDra®, PROFIBUS DP,**

Assembly instructions for WDGA EnDra®, PROFIBUS DP absolute encoder, Instructions de montage,

capteur angulaire WDGA EnDra®, PROFIBUS DP, Istruzioni per l'uso trasduttore assoluto WDGA

EnDra®, PROFIBUS DP, Instrucciones de montaje codificador absoluto WDGA EnDra®, PROFIBUS DP.

$-40\text{ °C} \dots +80\text{ °C}$   
 $(-40\text{ °F} \dots +176\text{ °F})$

$-40\text{ °C} \dots +100\text{ °C}$   
 $(-40\text{ °F} \dots +212\text{ °F})$

**Montage nur qualifiziertes Personal**  
 Assembly only qualified personnel  
 Montage par qualifié personnel  
 Montaggio solo personale qualificato  
 Montaje solamente personal cualificado

**DIN EN 100015-1**

**Sicherheitsmassnahmen/safety instructions:**  
 Die Produkte dürfen nur in industrieller Umgebung und im NICHT sicherheitsrelevanten Bereich eingesetzt werden. The products are only designed and produced for use in industrial environments and NOT for use in safety related applications.

Standard	F <sub>r</sub> max.	F <sub>a</sub> max.
WDGA58A	125 N	120 N
WDGA58B		
Ø 6 mm		
Ø 8 mm		
Ø 10 mm	220 N	120 N
Ø 3/8"		
WDGA58D	400 N	400 N
Ø 12 mm		
WDGA58E	80 N	50 N

WDGA58A  
 WDGA58B  
 WDGA58D

WDGA58B/D:  
 M3 (8.8)  
 Ma = 1 Nm

WDGA58A/B/D:  
 M4 (8.8)  
 Ma = 2 Nm

WDGA58B  
WDGA58D

M3 (8.8)  
 Ma = 1 Nm

M4 (8.8)  
 Ma = 2 Nm

WDGA58A  
WDGA58B  
WDGA58D

M3 (8.8)  
 Ma = 1 Nm

M4 (8.8)  
 Ma = 2 Nm

WDGA58E Artikelnr., Item number, Numéro d'article, Número de artículo: WDGDS10019

d/mm	Lmin	Lmax
6, 6.35 (1/4"), 7, 8,	10	19
9.525 (3/8"), 10, 12, 14		

M3 (8.8)  
 Ma = 1 Nm

M3 (8.8)  
 Ma = 1 Nm

Baudrate in kbit/s Baud rate in kbit/s Vitesse de transmission en kbit/s Baud rate in kbit/s Velocidad de transmisión en kbit/s	max. Kabellänge, Typ A max. cable length, type A Longueur de câble max., type A max. lunghezza cavo, tipo A Longitud máx. del cable, tipo A	max. Kabellänge, Typ B max. cable length, type B Longueur de câble max., type B max. lunghezza cavo, tipo B Longitud máx. del cable, tipo B
9.6	1200 m	1200 m
19.2	1200 m	1200 m
45.45	1200 m	1200 m
93.75	1200 m	1200 m
187.5	1000 m	600 m
500	400 m	200 m
1500	200 m	70 m
3000	100 m	-
6000	100 m	-
12000	100 m	-

X10 X1

**Teilnehmeradresse, Adress, Adresse, Dirección, Indirizzo**

Über Drehschalter einstellbar. Bsp. Teilnehmeradresse 24  
 By rotary switch. e.g. (for example): adress 24  
 Par le rotary switch. Adresse par exemple 24  
 Por el rotary switch. Por ejemplo dirección 24  
 Impostabile rotary switch. Es. Indirizzo 24

ON = Letzter Teilnehmer, laste node, dernier usager, último usuario, ultimo utente

OFF = Teilnehmer X, node X, usager X, usuario X, utente X

**Bitte beachten Sie das Handbuch zum WDGA PROFIBUS unter [www.wachendorff-automation.de/handbuchwdga](http://www.wachendorff-automation.de/handbuchwdga)**

Please observe the handbook for WDGA PROFIBUS under [www.wachendorff-automation.de/handbuchwdga](http://www.wachendorff-automation.de/handbuchwdga)

Veuillez consulter le manuel WDGA de PROFIBUS sur [www.wachendorff-automation.de/handbuchwdga](http://www.wachendorff-automation.de/handbuchwdga)

Osservare il manuale del WDGA PROFIBUS sotto [www.wachendorff-automation.de/handbuchwdga](http://www.wachendorff-automation.de/handbuchwdga)

Por favor, tengan en cuenta el manual WDGA PROFIBUS en [www.wachendorff-automation.com/manualwdga](http://www.wachendorff-automation.com/manualwdga)

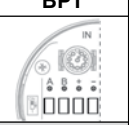
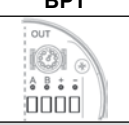
**Die GSD-Datei finden Sie unter [www.wachendorff-automation.de/gsd](http://www.wachendorff-automation.de/gsd)**

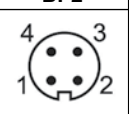
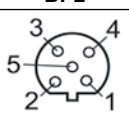
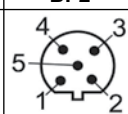
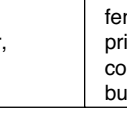
You will find the GSD file under [www.wachendorff-automation.de/gsd](http://www.wachendorff-automation.de/gsd)

Vous trouverez le fichier GSD sur [www.wachendorff-automation.de/gsd](http://www.wachendorff-automation.de/gsd)

Il file GSD può essere trovato sotto [www.wachendorff-automation.de/gsd](http://www.wachendorff-automation.de/gsd)

Encontrará el archivo GSD en [www.wachendorff-automation.com/gsd](http://www.wachendorff-automation.com/gsd)

	BP1		BP1
IN		OUT	
A	1	A	5
B	2	B	6
+UB	3	+UB	7
GND	4	GND	8

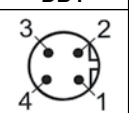
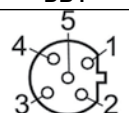
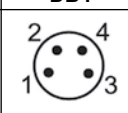
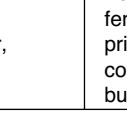
	BP2		BP2		BP2		BP2
							
Stecker <sup>1</sup>	M12x1, 4-polig, A-codiert <sup>3</sup>	Buchse <sup>2</sup>	M12x1, 5-polig, B-codiert <sup>4</sup>	Stecker <sup>1</sup>	M12x1, 5-polig, B-codiert <sup>4</sup>		
+UB	1	BUS	OUT	BUS	IN		
n. c.	2	n. c.	1	n. c.	1		
GND	3	A	2	A	2		
n. c.	4	n. c.	3	n. c.	3		
		B	4	B	4		
		n. c.	5	n. c.	5		

<sup>1</sup> Stecker, connector, connecteur, conector, spina

<sup>2</sup> Buchse, female connector, prise femelle, conector hembra, bussola

<sup>3</sup> M12x1, 4-polig, A-codiert; M12x1, 4-pin, A-coded; M12x1, 4-pôles, codé A; M12x1, 4-pines, codificado A; M12x1, 4-poli, cifrare A

<sup>4</sup> M12x1, 5-polig, B-codiert; M12x1, 5-pin, B-coded; M12x1, 5-pôles, codé B; M12x1, 5-pines, codificado B; M12x1, 5-poli, cifrare B

	DB4		DB4		DB4		DB4
							
Stecker <sup>1</sup>	M12x1, 4-polig, B-codiert <sup>3</sup>	Buchse <sup>2</sup>	M12x1, 5-polig, B-codiert <sup>4</sup>	Stecker <sup>1</sup>	M8x1, 4-polig <sup>5</sup>		
BUS	IN	BUS	OUT	+UB	1		
n. c.	1	5 V DP	1	n. c.	2		
A	2	A	2	GND	3		
n. c.	3	GND DP	3	GND	4		
B	4	B	4				
		n. c.	5				

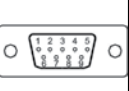
<sup>1</sup> Stecker, connector, connecteur, conector, spina

<sup>2</sup> Buchse, female connector, prise femelle, conector hembra, bussola

<sup>3</sup> M12x1, 4-polig, B-codiert; M12x1, 4-pin, B-coded; M12x1, 4-pôles, codé B; M12x1, 4-pines, codificado B; M12x1, 4-poli, cifrare B

<sup>4</sup> M12x1, 5-polig, B-codiert; M12x1, 5-pin, B-coded; M12x1, 5-pôles, codé B; M12x1, 5-pines, codificado B; M12x1, 5-poli, cifrare B

<sup>5</sup> M8x1, 4-polig; M8x1, 4-pin; M8x1, 4-pôles; M8x1, 4-pines; M8x1, 4-poli

	SD9, SE9	
		
Buchse <sup>1</sup>	D-SUB	
n. c.	1	
GND	2	
B	3	
n. c.	4	
GND DP	5	
5 V DP	6	
+UB	7	
A	8	
n. c.	9	
Schirm <sup>2</sup>	Gehäuse <sup>3</sup>	

<sup>1</sup> Buchse, female connector, prise femelle, conector hembra, bussola

<sup>2</sup> Schirm, Shield, Blindage, Pantalla, Schermo

<sup>3</sup> Gehäuse, Housing, Boîtier, Caja, Contenitore