

## Draw-wire system SZG81 - WDGA PROFIBUS-DP



- Exceptionally rugged length sensor
- Measuring range: 0 mm bis 2.500 mm bis 0 mm bis 6.250 mm
- Interface: PROFIBUS-DP
- free configurable
- IP65 absolute encoder WDGA PROFIBUS-DP ready-mounted

[www.wachendorff-automation.com/szg81wdgaprofibus](http://www.wachendorff-automation.com/szg81wdgaprofibus)

The draw-wire encoder SZG81 WDGA PROFIBUS-DP was developed for use in harsh environments. The various methods of installation mean high flexibility. It can be used even where space is tight, thanks to its compact dimensions. The SZG81 WDGA PROFIBUS-DP can be mounted quickly and with its highly precise mechanics provides reliable accurate length measurement, with all advantages, which result from an absolute length measurement. e. g. The position-value is saved, if supply breaks down and is available immediately if supply gets recovered. Doing a reference run isn't necessary. The intelligent spring-suspension and the nylon-coated stainless-steel wire cable guarantee long-service life, even in difficult operating conditions. The encoder is already installed.

### Typical areas of application include:

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

### Measurement ranges::

0 mm up to 2.500 mm, 0 mm up to 3.500 mm, 0 mm up to 5.000 mm and 0 mm up to 6.250 mm

### Resolution measurement ranges WDGA58A:

Position per mm	Bit per revolution
1.26	8
2.52	9
5.04	10
10.08	11
20.17	12

**Deviation:** Less than 0.02 % of the final value.

**Measuring wire:** 0.86 mm of thick nylon coated high-grade steel wire.

Wire connection: eye  
max. wire speed: 7.5 m/sec.  
Pull out strength: approx. 0.5 kg

**System-unit housing:** anodised aluminum

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

**Life expectancy:** At least 10 million cycles

**Operating temperature:** -40 °C up to +80 °C

**Storage temperature:** -40 °C up to +80 °C

**Interface**  
**Protocol:** PROFIBUS-DPV0/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, programable  
**Programmable** steps per revolution  
**Parameter:** counts of revolution  
Preset  
Scale  
Counting direction

**Diagnostics:** Position and parameter errors  
EnDra®-diagnosis

**Status encoder:** DUO-LED

**Status bus:** DUO-LED

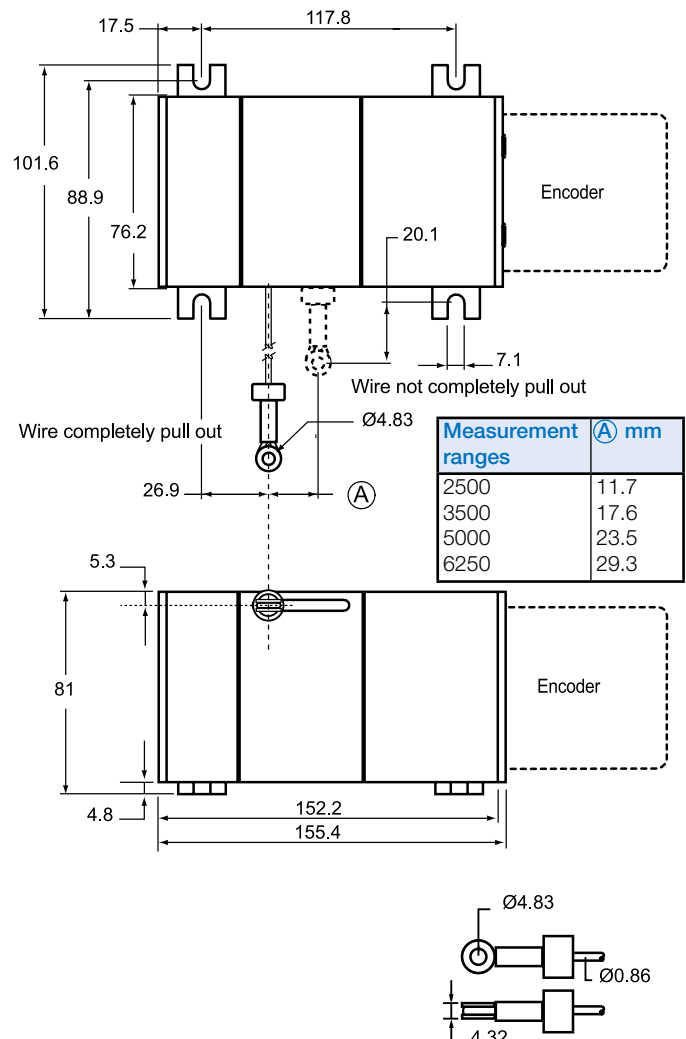
### Electrical Data:

Supply voltage: 10 VDC up to 32 VDC  
max. 100 mA

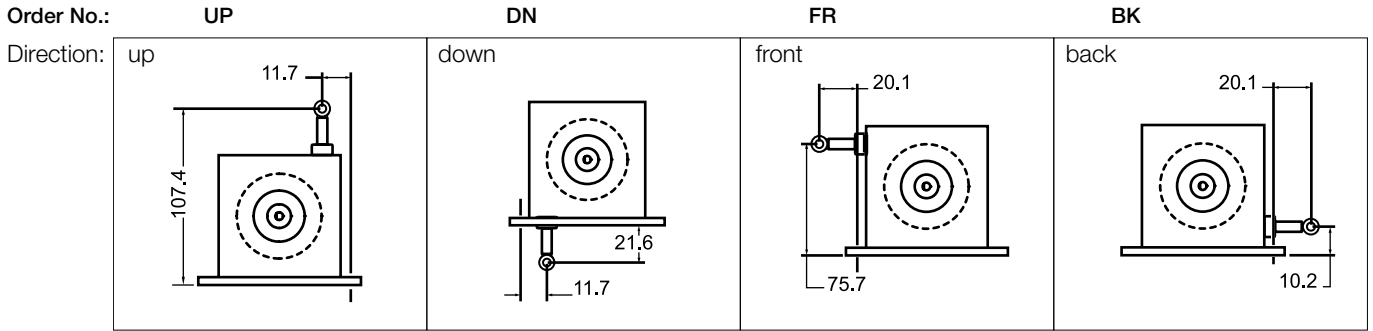
Power consumption: max. 2.5 W

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

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



All details in mm and dependent on the encoder configuration.



**Ordering information:**

**Measurement range:**

2500 = 2,500 mm  
3500 = 3,500 mm  
5000 = 5,000 mm  
6250 = 6,250 mm

**Measurement wire:**

N = 0.86 mm of thick nylon coated 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. 1.26 position/mm)  
09 => 9 bit (= approx. 2.52 position/mm)  
10 => 10 bit (= approx. 5.04 position/mm)  
11 => 11 bit (= approx. 10.08 position/mm)  
12 => 12 bit (= approx. 20.17 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

SZG81  N   13 DP A B 0 1 DB4