

## Draw-wire system SZG81 - WDGA CANopen



- Exceptionally rugged length sensor
- Measuring range: 0 mm bis 2.500 mm bis 0 mm bis 6.250 mm
- Interface: CANopen CiA 406
- free configurable
- IP65 absolute encoder WDGA CANopen ready-mounted

[www.wachendorff-automation.com/szg81wdgacan](http://www.wachendorff-automation.com/szg81wdgacan)

The draw-wire encoder SZG81 WDGA CANopen 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 CANopen 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:** CANopen  
 - Communication profil CiA 301  
 - Device Profile for encoder CiA 406 V3.2 class C2

**Node number:** 0 up to 127 (default 127)

**Baud rate:** 10 kBaud up to 1 MBaud  
 with automatic bit rate detection

The standard settings as well as any customization in the software can be changed via LSS (CiA 305) and the SDO protocol, e. g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate, etc.

**It is recommend to configure object 6000 h resolution and direction to ccw.**

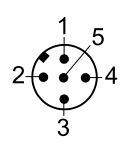
### Programmable CAN transmission modes

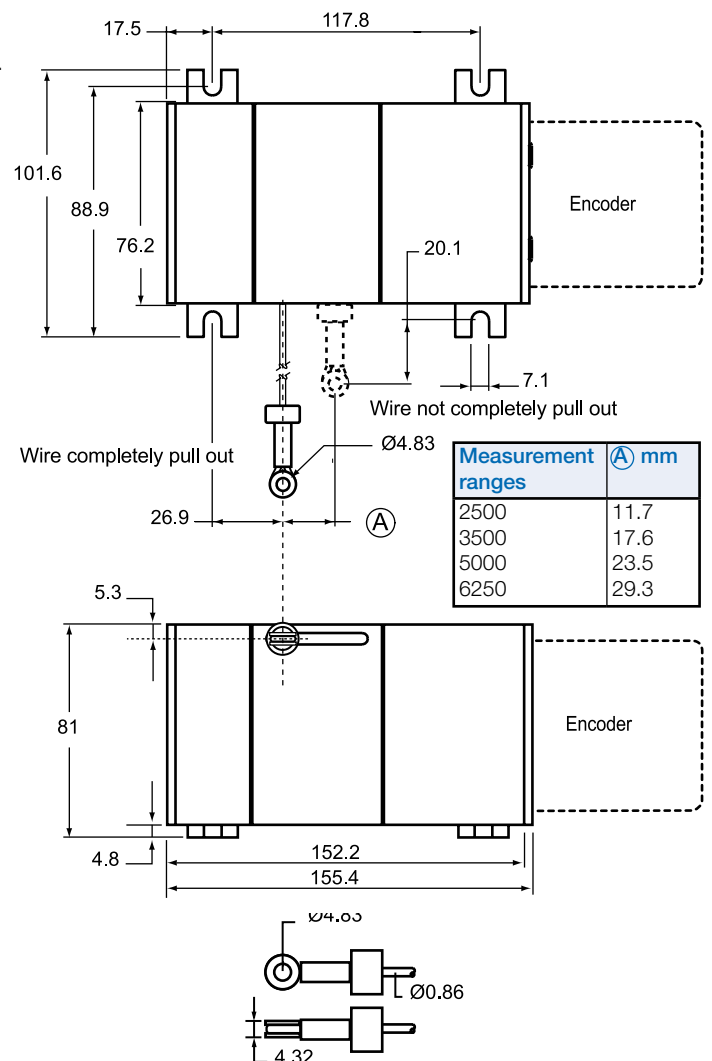
- **Synchronous mode:** when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently.
- **Asynchronous mode:** a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.)

### Electrical Data:

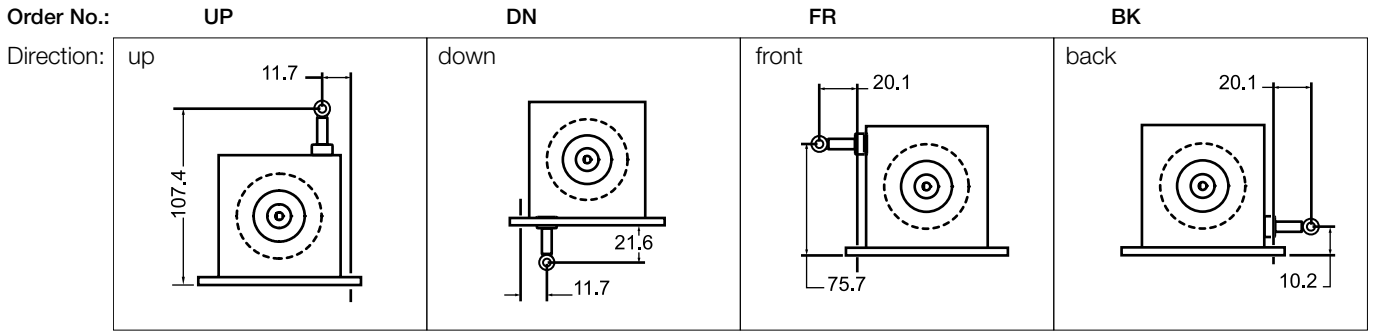
**Supply voltage:** 10 VDC up to 30 VDC  
 max. 50 mA  
**Power consumption:** max. 0.5 W

### Connection configuration for encoder WDGA CANopen:

Definition	connector pin (connector-encoder)	Sensor connector pin assignment 5-pin
U <sub>B</sub>	2	
Ground (GND)	3	
CAN <sub>High</sub>	4	
CAN <sub>Low</sub>	5	
CAN <sub>GND</sub> / shield	1	



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**  
 18 = 18 bit

**Interface**  
 CO = CANopen

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

**Code**  
 B = binary

**Power supply**  
 0 = 10 V up to 30 V

**Galvanic isolation**  
 0 = no

**Connection**  
 CB5 = connector, 5-pin, axial

Your system

SZG81 [ ] N [ ] [ ] 18 CO A B 0 0 CB5