

## Draw-wire system SZG81



- Exceptionally rugged length sensor
- Measuring range 0 mm up to 2500 mm to 0 mm up to 6250 mm
- Output: incremental signals
- IP65 encoder ready-mounted

[www.wachendorff-automation.com/szg81](http://www.wachendorff-automation.com/szg81)

The draw-wire encoder SZG 81 was developed for use in harsh environments. With its 4 different lengths, it can be put into service very economically. The various methods of installation mean high flexibility. It can be used even where space is tight, thanks to its compact dimensions.

The SZG 81 can be mounted quickly and with its highly precise mechanics provides reliable accurate length measurement. The intelligent spring-suspension and the nylon-coated stainless-steel wire cable guarantee long-service life, even in difficult operating conditions. The mechanics have been perfectly matched to the encoder model WDG58A. The encoder is already installed.

### Typical areas of application include:

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

### Measurement ranges:

0 - 2500 mm, 0 - 3500 mm, 0 - 5000 mm and 0 - 6250 mm.  
Greater lengths up to 42000 mm on enquiry

### Resolution Measurement ranges:

Various, depending on encoder up to 100 pulses/mm at 4 x edge evaluation  
WDG 58A with 1000 PPR = Resolution: 5 pulses/mm  
WDG 58A with 2000 PPR = Resolution: 10 pulses/mm  
WDG 58A with 5000 PPR = Resolution: 25 pulses/mm

### Electrical Output:

2 channels (AB) are shifted by 90°. Pulses 10 Volt up to 30 Volt, push-pull, 40 mA and zero pulse per rotation = G24

2 channels (AB) are shifted by 90°. Pulses 4.75 Volt up to 5.5 Volt, push-pull, 40 mA and zero pulse per rotation + inverted signals = I05

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

### Measuring wire:

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

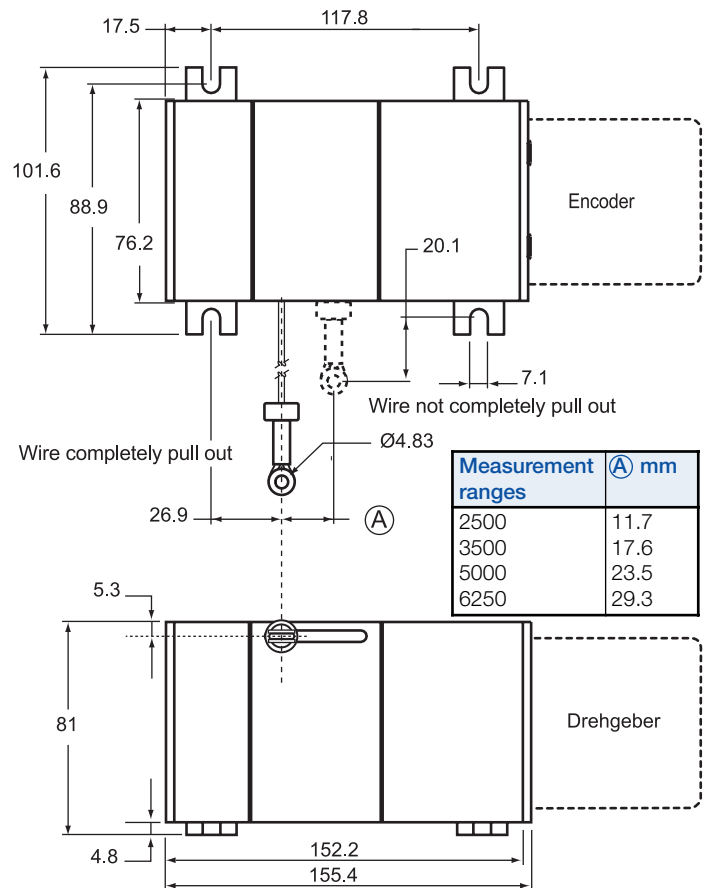
Wire connection: eye  
max. wire speed: 7.5 m/sec.  
Pull out strength: approx. 0.5 kg

**System-unit housing:** anodised aluminum

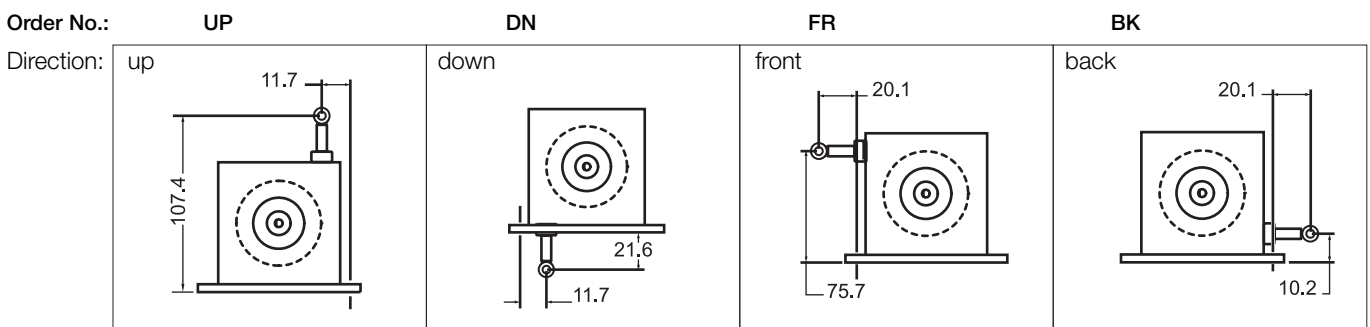
**Weight:** SZG incl. encoder max. 2.5 kg

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

Operating temperature: -20 °C up to +70 °C  
Storage temperature: -30 °C up to +80 °C



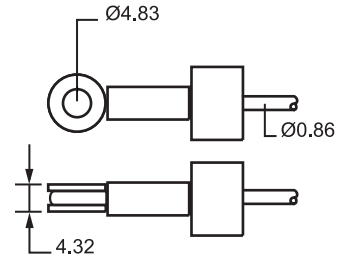
All details in mm and dependent on the encoder configuration.



**Example of the order of a Draw-wire system:**

SZG81 - 5.000 - N - UP - G24 - 25

- 5.000: Draw wire system with 5.000 mm measurement range;
- N: nylon coated high-grade steel wire
- UP: Wire exit up
- G24: Incl. incremental encoder 58A with channels  
ABN, signal output G24
- Connections: Connector 7-pin, radial
- 25: Resolution 25 pulses/mm



**Order number:** SZG81 - 5.000 - N - UP - G24 - 25  
**Position:** 1 2 3 x yyy zz

Short description	Position	Part of order number	Description
<b>Type</b>	1	SZG81	Draw wire system, housing 81 mm.
<b>Measurement range (MB)</b>	2	2500 3500 5000 6250	Measurement range 2500 mm Measurement range 3500 mm Measurement range 5000 mm Measurement range 6250 mm
<b>Measurement wire</b>	3	N	0.86 mm of thick nylon coated high-grade steel wire
<b>Mounting direction</b>	xx	UP DN FR BK	Wire exit up Wire exit down Wire exit front Wire exit back
<b>Output</b>	yyy	G24 = 10 VDC - 30 VDC, HTL I05 = 4.75 VDC - 5.5 VDC, TTL, RS422 comp.	Channels: ABN, signal output Channels: ABN, ABN, signal output
<b>Solution *1</b>	zz	05 10 25 zz*	5 pulses/mm 10 pulses/mm 25 pulses/mm You specify another encoder, please, use the order number of the WDG 58 A type This encoder is assembled by us

zz\* mounted Encoder WDG 58A - zzzz - ABN - yyy - S3/5 (ppr):

For resolution of 5 pulses/mm = 1000, 10 pulses/mm = 2000 und 25 pulses/mm = 5000, with the following qualities:

Channels: ABN: 2 channels shifted by 90° plus inverted signals

Output: G24: 10-30 Volt, 40 mA push-pull. I05: 5 VDC, 40 mA push-pull.

Connections: Connector 7-pin, radial = S3 (PIN-arrangement: A=3, B=4, N=5, 0V=1, 10-30VDC=2)

Connector 12-pin, radial = S5 (PIN-arrangement: A=5, B=8, N=3, A inv.=6, B inv.=1, N inv.=4, 0V=10, 5 VDC=12)

If you like to specify your individual encoder, please enter at the order number zz and define from the data sheet WDG 58 your special encoder.

**Ordering information:**

**Mounting direction**

Wire exit up = UP  
 Wire exit down = DN  
 Wire exit front = FR  
 Wire exit back = BK

**Output circuit:**

G24 = 10 VDC up to 30 VDC, HTL  
 I05 = 4.75 VDC up to 5.5 VDC, TTL, RS422 comp.

**Measuring wire:**

0.86 mm of thick nylon coated high-grade steel wire = N

**Resolution:**

05 = 5 pulses/mm  
 10 = 10 pulses/mm  
 25 = 25 pulses/mm

You specify another encoder, please use the order number of the WDG 58 A type = zz

**Measurement range:**

2500 mm = 2500  
 3500 mm = 3500  
 5000 mm = 5000  
 6250 mm = 6250

Example      SZG81   2500   N   UP   G24   05

Your system   SZG81