

## Draw-wire system SZG93 - WDGA SSI



### Typical areas of application include:

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

**Measurement ranges:** 0 mm up to 2,500 mm

### Resolution measurement ranges:

Position per mm at 2500 mm	Bit per revolution
1.3	8
2.5	9
5.1	10
10.2	11
20.4	12
40.9	13

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

**Measuring wire:** 0.48 mm of thick nylon coated high-grade steel wire. (incl. coating)

**Wire connection:** eye, see drawing

**max. wire speed:** 7.5 m/sec.

**Pull out strength:** approx. 0.5 kg

**System-unit housing:** anodised aluminium/  
steel case chrome-plated

**Weight:** SZG incl. encoder 0,815 kg

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

**Operating temperature:** -20 °C up to +80 °C

**Storage temperature:** -30 °C up to +80 °C

### Interface

Clock input:  
Clock frequency:

Data output:  
Output code:

SSI output:  
Parity bit:

Angular-/position value  
optional (even/odd)

Error bit:  
optional

Turn on time:  
<1.5 s

Positive direction:  
DIR = +Ub ⇒ position configuration ~ length

Set to zero:  
Set: Preset = apply +Ub for 2 s

Deactivate: Preset = GND

### Electrical Data:

Supply voltage:  
10 VDC up to 30 VDC;  
4.75 VDC up to 5.5 VDC  
max. 80 mA

Power consumption:  
max. 0.8 W

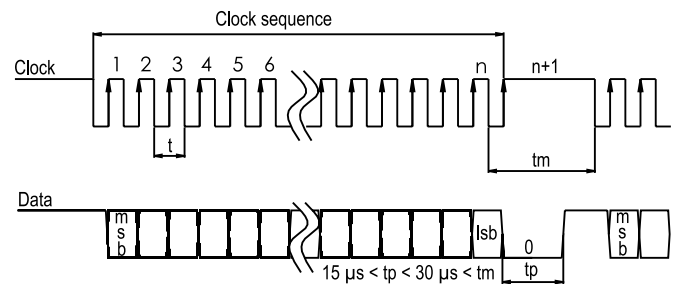
- Exceptionally rugged length sensor
- Measuring range: 0 - 2.500 mm
- Interface: SSI
- IP65 absolute encoder WDGA SSI ready-mounted

[www.wachendorff-automation.com/szg93wdgassi](http://www.wachendorff-automation.com/szg93wdgassi)

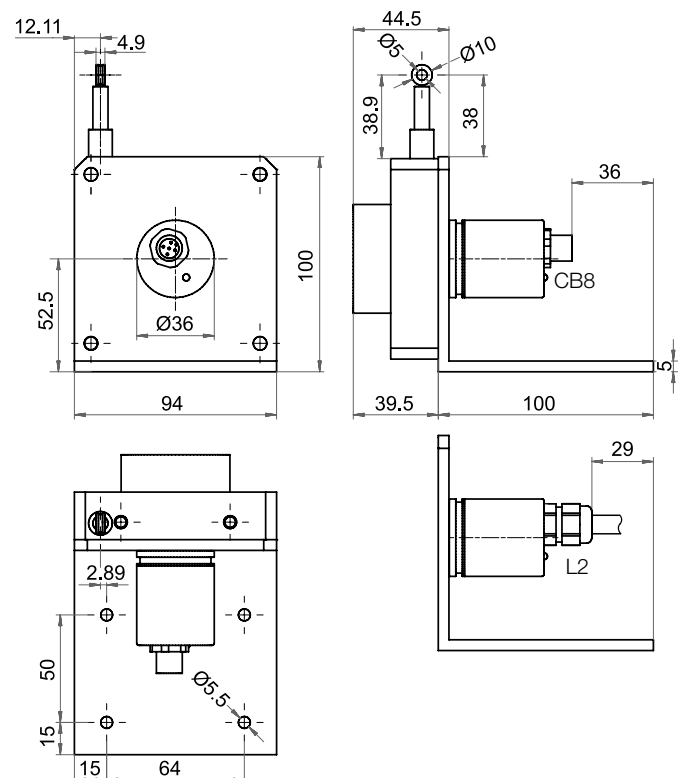
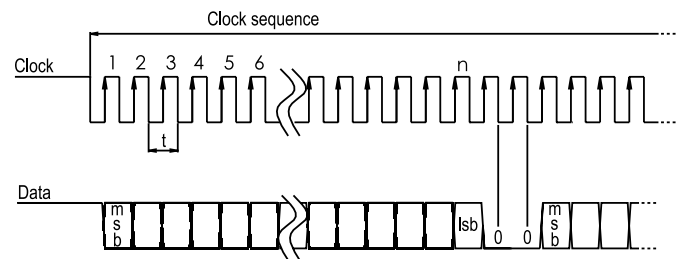
The draw-wire encoder SZG93 WDGA SSI was developed for use in harsh environments. The various methods of installation mean high flexibility. It can be used even where space is tight, thanks to its compact dimensions. The SZG93 WDGA SSI can be mounted quickly and with its highly precise mechanics provides 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.

### Protocol SSI:

#### Single transmission



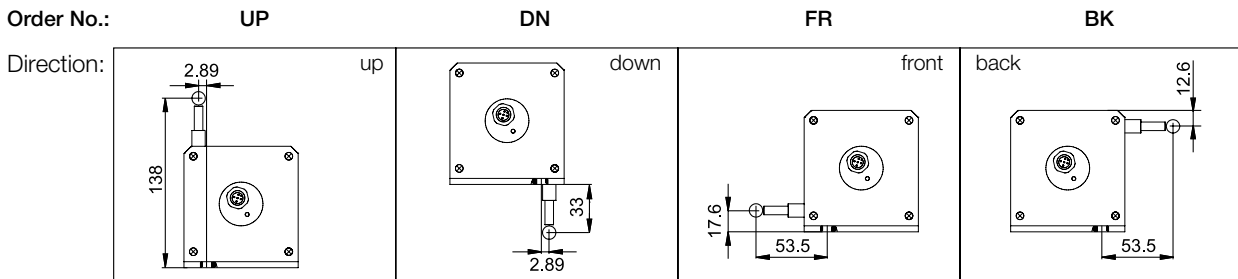
#### Multipath transmission



All details in mm and dependent on the encoder configuration.

Connection configuration for encoder WDGA SSI:

Connection / cable	M12 x1	cable outlet
Description	CB8 axial, 8-pin	L2, axial
GND	1	wh
Plus U+	2	bn
SSI CLK+	3	gn
SSI CLK-	4	ye
SSI DATA+	5	gy
SSI DATA-	6	pk
PRESET	7	bu
DIR	8	rd
Shield	housing	housing K1 n. c.



Ordering information:

Measurement range:

2500 = 2,500 mm

Measurement wire:

N = 0.48 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:

( 2500 mm measurement ranges)

8 => 8 bit (= approx. 1,3 Position/mm)  
9 => 9 bit (= approx. 2,5 Position/mm)  
10 => 10 bit (= approx. 5,1 Position/mm)  
11 => 11 bit (= approx. 10,2 Position/mm)  
12 => 12 bit (= approx. 20,4 Position/mm)  
13 => 13 bit (= approx. 40,9 Position/mm)

Multiturn resolution

14 (example) = 4 bit up to 24 bit

Interface

SI = SSI

Software:

A = up to date release

Code

B = binary  
G = gray

Power supply

0 = 10 V up to 30 V  
1 = 4,75 V up to 5,5 V

Galvanic isolation

1 = yes

Connection, axial

CB8 = connector, axial, 8-pin  
L2 = cable, IP65, 2 m, shield connected to encoder housing

Example of  
your system

SZG93 2500 N UP 10 14 SI A B 0 1 CB8