

Draw-wire system SZG93 - WDGA CANopen



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 WDGA36Z:

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

Interface: CANopen CiA 406
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: Glass fiber reinforced ABS plastic
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
Protocol: **CAN**
 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:

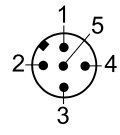
Supply voltage: 10 VDC up to 30 VDC
 max. 50 mA
Power consumption: max. 0.5 W

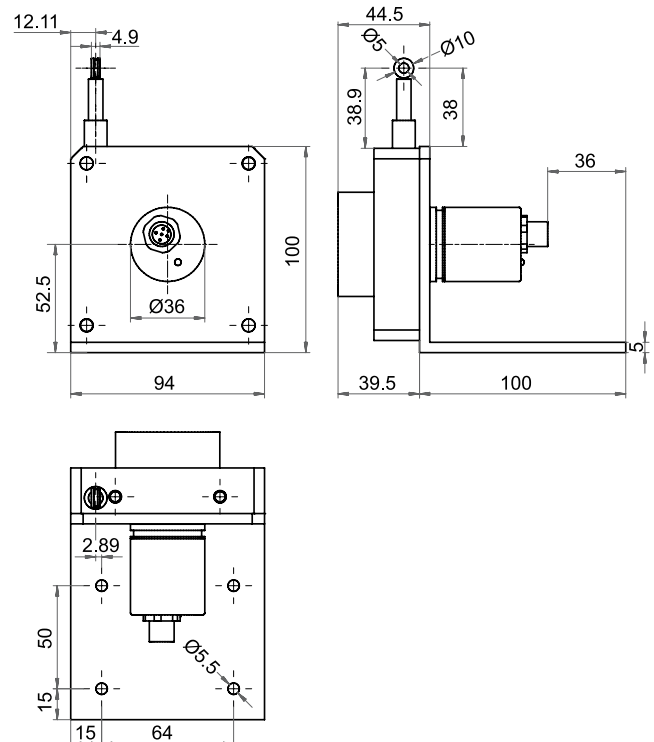
- Exceptionally rugged length sensor
- Measuring range: 0 - 2.500 mm
- Interface: CANopen CiA 406
- free configurable
- IP65 absolute encoder WDGA CANopen ready-mounted

www.wachendorff-automation.com/szg93wdgacan

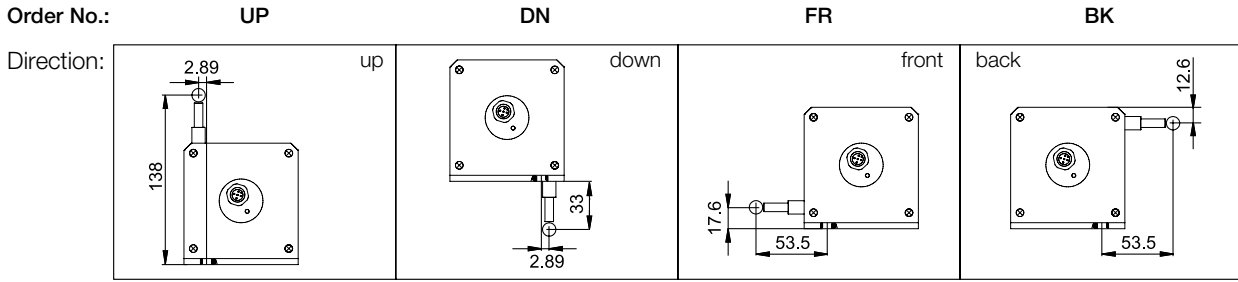
The draw-wire encoder SZG93 WDGA CANopen was developed for use in harsh environments. The various methods of installation mean high flexibility. It can be used even where space is tight, thanks to its compact dimensions. The SZG93 WDGA CANopen can be mounted quickly and with its highly precise mechanics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

Connection configuration for encoder WDGA CANopen:

Definition	connector pin (connector-encoder)	Sensor connector pin assignment 5-pin
U_B	2	
Ground (GND)	3	
CAN _{High}	4	
CAN _{Low}	5	
CAN _{GND} / shield	1	



All details in mm and dependent on the encoder configuration.



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

Single turn 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)

Multi turn resolution
18 = 18 bit example (4 bit up to 24 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

Example of your system

SZG93 2500 N UP 10 18 CO A B 0 0 CB5

Montageanleitung absolute Drehgeber WDGA EnDra®, CANopen,

Assembly instructions for WDGA EnDra®, CANopen absolute encoder, Instructions de montage, capteur angulaire WDGA EnDra®, CANopen, Istruzioni per l'uso trasduttore assoluto WDGA EnDra®, CANopen, Instrucciones de montaje codificador absoluto WDGA EnDra®, CANopen.

	-40 °C ... +80 °C (-40 °F ... +176 °F)	WDGA58V: -20 °C ... +80 °C (-4 °F ... 176 °F)
	-40 °C ... +100 °C (-40 °F ... +212 °F)	-20 °C ... +80 °C (-4 °F ... 176 °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

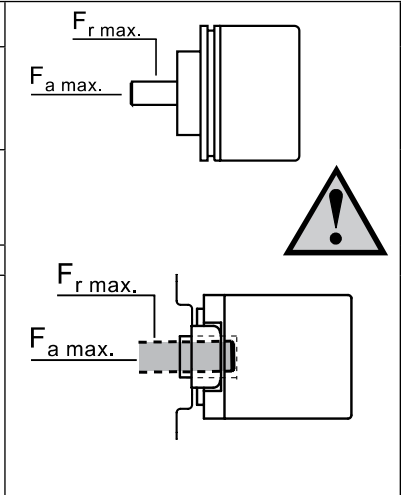
Sicherheitsmassnahmen/safety instructions:
 Die Produkte dürfen nur in industrieller Umgebung und im NICHT sicherheitsrelevanten Bereich eingesetzt werden. The products are only designed and produced for use in industrial environments and NOT for use in safety related applications.

WDGA58B WDGA58S WDGA58V		M3 (8.8) Ma = 1 Nm M4 (8.8) Ma = 2 Nm
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WDGA58A WDGA58B WDGA58S WDGA36A		M3 (8.8) Ma = 1 Nm M4 (8.8) Ma = 2 Nm
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WDGA58A WDGA58B WDGA58S WDGA58V WDGA36A		M3 (8.8) Ma = 1 Nm M4 (8.8) Ma = 2 Nm
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Standard	F _r max.	F _a max.
WDGA58A WDGA58B Ø 6 mm Ø 10 mm	125 N 220 N	120 N 120 N
WDGA58S WDGA58V Ø 10 mm	100 N	100 N
WDGA36A	80 N	50 N
WDGA36E WDGA58E	80 N 80 N	50 N 50 N



WDGA36E **Artikelnr., Item number, Numéro d'article, Número de artículo :** WDGDS10016

d/mm	Lmin.	Lmax.	D
WDGA 36E 6	8	17	42

M3 (8.8)
Ma = 1 Nm

WDGA58E **Artikelnr., Item number, Numéro d'article, Número de artículo :** WDGDS10001

d/mm	Lmin	Lmax	D
6, 6.35 (1/4"), 7, 8, 9.525 (3/8"), 10, 12, 14	11	15	56

M5 (8.8), Ma=3Nm
M3 (8.8), Ma=1Nm

Übertragungsrage	max. Buslänge	max. Stichleitungslänge
Transmission rate	Max. bus length	Max. stub line length
Taux de transfert	Longueur max du port	Longueur max de la ligne d'accord
Velocità di trasferimento	Lunghezza massima bus	Lunghezza massima linea derivata
Velocidad de transmisión	Longitud máx. de bus	Longitud máx. línea de empalme
20 kBit/s	1000 m	7,5 m
100 kBit/s	500 m	3,75 m
250 kBit/s	270 m	1,5 m
500 kBit/s	100 m	0,75 m
1000 kBit/s	40 m	0,3 m

Definition	Steckerpin, Plug pin, Connecteur points, Spinotto, Pin conector	Kabel, cable, Câble, Cable, cavo
U _B (10 VDC - 30 VDC)	2	bn bn
Ground (GND)	3	wh og
CAN _{High}	4	gn gn
CAN _{Low}	5	ye ye
CAN _{GND} /Schirm, Shield, Ecran, Pantalla, Schermo	1	gy gy

Bitte beachten Sie das Handbuch zum WDGA CANopen unter www.wachendorff-automation.de/handbuchwdga
 Please observe the handbook for WDGA CANopen under
 Veuillez consulter le manuel WDGA de CANopen sur
 Osservare il manuale del WDGA CANopen sotto
 Por favor, tengan en cuenta el manual WDGA CANopen en
www.wachendorff-automation.com/manualwdga

Die EDS-Datei finden Sie unter www.wachendorff-automation.de/eds
 You will find the EDS file under
 Vous trouverez le fichier EDS sur
 Il file EDS può essere trovato sotto
 Encontrará el archivo EDS en
www.wachendorff-automation.com/eds