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Draw-wire system SZG122 WDGA SSI

- Exceptionally rugged length sensor
- Measuring range 0 cm up to 1000 cm to 0 cm up to 4300 cm
- Interface: SSI
- IP65 absolute encoder WDGA SSI ready-mounted

www.wachendorff-automation.com/szg122ssi

The draw-wire encoder SZG122 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 SZG122 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 lenght 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:
Lifts/elevators, lifting platforms, theatre stages, fork lifts and cranes.
Measurement ranges:
0 cm up to 1000 cm, 0 cm up to 1500 cm, 0 cm up to 2000 cm, 0 cm up to 2500 cm, 0 cm up to 3000 cm, 0 cm up to 3800 cm and 0 cm up to 4300 cm

Resolution measurement ranges:

Position per mm	Bit per revolution
0,83	8
1,65	9
3,31	10
6,62	11
13,23	12
26,47	13

Revolution = 309,59 mm

Deviation: Less than 0.02 % of the final value.
Measuring wire:
Wire connection: eye
max. wire speed: 1.5 m/sec.

Ø	Material	Measurement range
0.86 mm	thick nylon coated high-grade stainless steel wire	0 cm up to 1.000 cm, 0 cm up to 1.500 cm
0.48 mm	thick nylon coated high-grade stainless steel wire	0 cm up to 2.000 cm, 0 cm up to 2.500 cm, 0 cm bis 3.000 cm
0.38 mm	steel wire	0 cm up to 3.800 cm 0 cm up to 4.300 cm

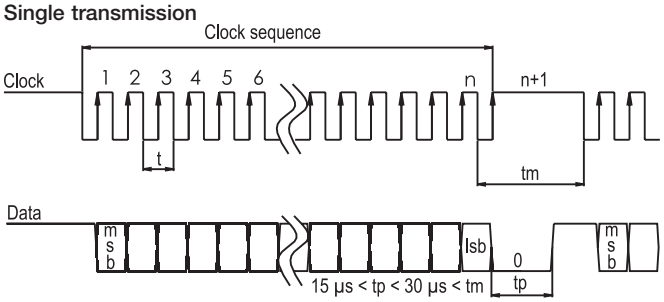
System-unit housing: anodised aluminium
Weight: SZG incl. encoder max. 6.5 kg.
Life expectancy: At least 10 million cycles.
Operating temperature: -20 °C up to +80 °C.
Storage temperature: -30 °C up to +80 °C.

Interface	**SSI**
Clock input:	via opto-coupler
Clock frequency:	100 kHz up to 500 kHz up to 2 MHz on request
Data output:	RS485/RS422 compatible
Output code:	gray or binary
SSI output:	Angular-/position value
Parity bit:	optional (even/odd)
Error bit:	optional
Turn on time:	<1.5 s
Positive direction length	DIR = +Ub ⇨ position configuration ~
Set to zero:	Set: Preset = apply +Ub for 2 s Deactivate: Preset = GND

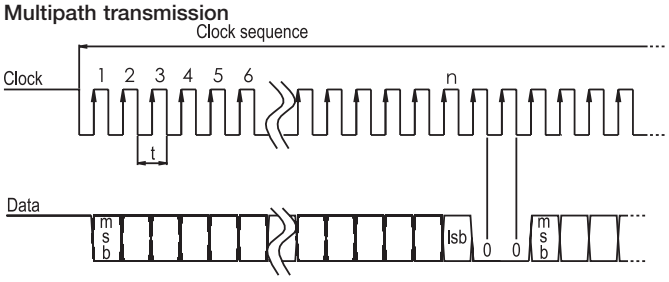
Electrical Data:

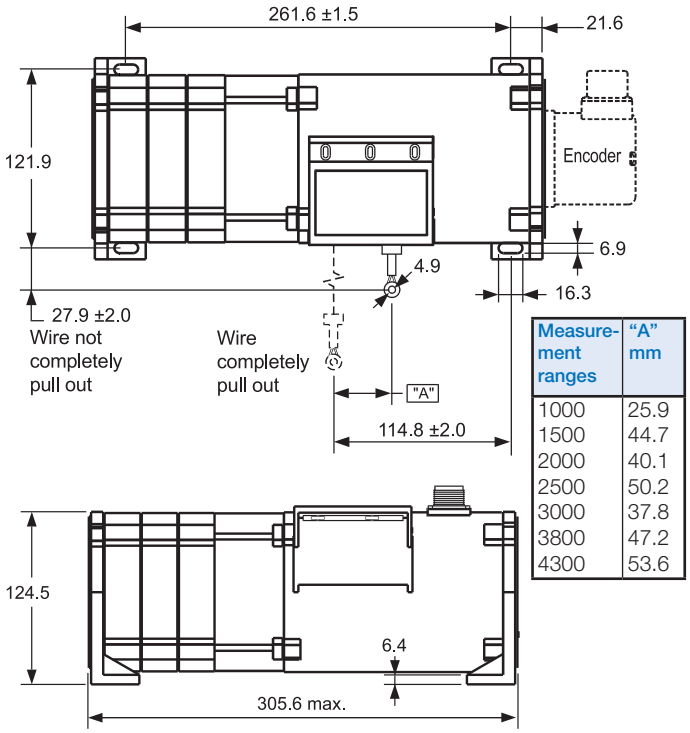
Power supply/Current consumption	10 VDC up to 32 VDC; max. 50 mA
Power consumption	max. 0.5 W
Power supply/Current consumption	4.75 VDC up to 5.5 VDC; max. 80 mA
Power consumption	max. 0.44

Protocol SSI:
Single transmission



Multipath transmission





Measurement ranges	"A" mm
1000	25.9
1500	44.7
2000	40.1
2500	50.2
3000	37.8
3800	47.2
4300	53.6

All details in mm and dependent on the encoder configuration.

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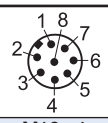
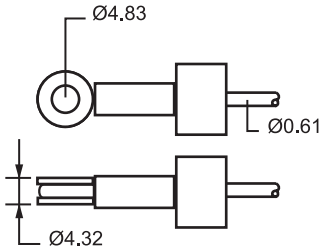
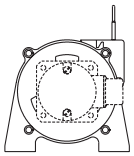
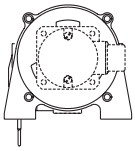
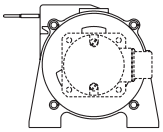
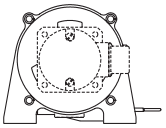
Connection configuration for encoder WDGA SSI:

		
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.



Order No.: **UP** **DN** **FR** **BK**

Direction:

up	down	front	back
			

Ordering information:

Measurement range:
1000 = 1.000 mm, 1500 = 1.500 mm, 2000 = 2.000 mm, 2500 = 2.500 mm,
3000 = 3.000 mm, 3800 = 3.800 mm, 4300 = 4.300 mm

Messseil:
N = Thick nylon coated high-grade stainless steel wire or stainless 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:
(measurement ranges page 1)
08 => 8 bit (= approx. 0.83 Position/mm)
09 => 9 bit (= approx. 1,65 Position/mm)
10 => 10 bit (= approx. 3,31 Position/mm)
11 => 11 bit (= approx. 6,62 Position/mm)
12 => 12 bit (= approx. 13,23 Position/mm)
13 => 13 bit (= approx. 26,47 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

SZG122	2500	N	UP	10	14	SI	A	B	0	1	CB8

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Montageanleitung Absolutgeber WDGA EnDra® SSI,

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

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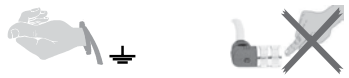
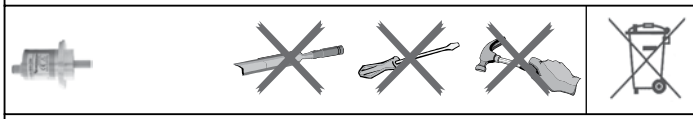
www.wachendorff-automation.de

°C (°F)	-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 pair qualifié personnel
Montaggio solo personale qualificato
Montaje solamente personal cualificado

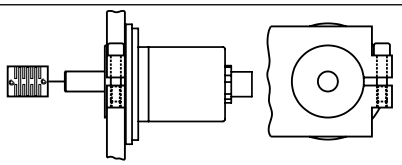
DIN EN 100015-1





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.

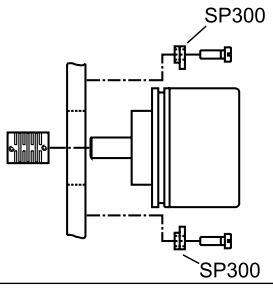
WDGA58B
WDGA58S
WDGA58V



M3 (8.8)
Ma = 1 Nm

M4 (8.8)
Ma = 2 Nm

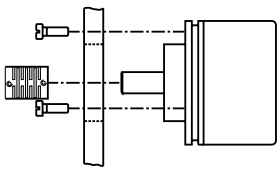
WDGA58A
WDGA58B
WDGA58S
WDGA36A



M3 (8.8)
Ma = 1 Nm

M4 (8.8)
Ma = 2 Nm

WDGA58A
WDGA58B
WDGA58S
WDGA58V
WDGA36A



M3 (8.8)
Ma = 1 Nm

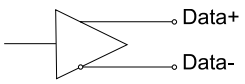
M4 (8.8)
Ma = 2 Nm

max. Kabellänge* max. cable length, Longueur max du Câble, Lunghezza massima Cable, Longitud máx. de cable	Übertragungsrate Transmission rate, Taux de transfert, Velocità di trasferimento, Velocidad de transmisión
20 m **	≤ 500 kHz

* 5 VDC max. 2 m

** **>20 m auf Anfrage,** on request, sur demande, su richiesta, a solicitud

Ausgangsschaltung
Output Circuit,
Couplage de sortie,
Circuito d'uscita,
Circuito de salida
RS485

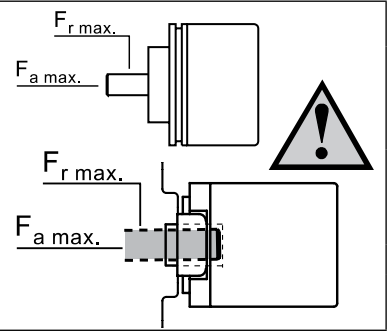


Eingangsschaltung, Input Circuit,
Couplage d'entrée, circuito d'ingresso,
Circuito de entrada

Einschaltzeit, System start-up Time,
Temps de commutation, Tempo di commutazione,
tiempo de conmutación: <1,5 s

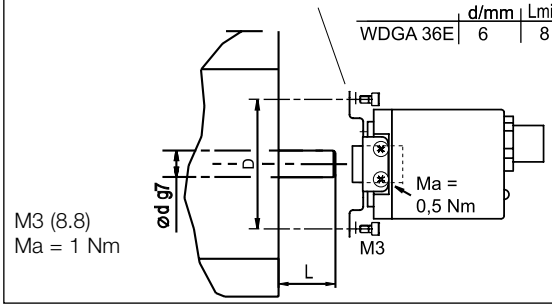
Positive Zählrichtung: (Blick auf Welle)
Complement = nc ⇨ cw
Complement = +Ub ⇨ ccw
Preset = +Ub für 2 s

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

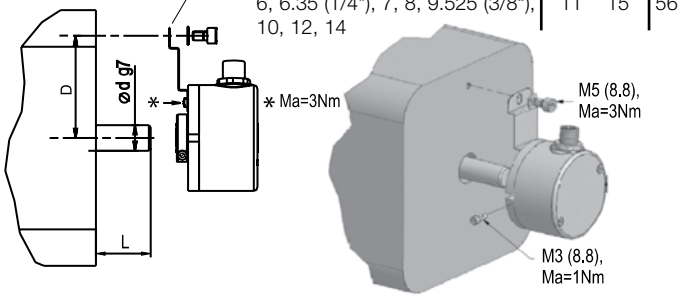
d/mm	Lmin.	Lmax.	D
WDGA 36E	6	8	17	42



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



	Stecker, connector, Fiche, Conector, spina			**Kabel,** cable, Câble,Cable, cavo	
	CB8/CC8 (M12, 8-pin)	**C5 (M23 12-pin)**	**CH8 (M16 8-pin)**	**K1/K6 L2/L3**	**L3 58V**
GND	1	12	2	wh	og
Plus U+	2	11	1	bn	bn
SSI CLK+	3	2	6	gn	gn
SSI CLK-	4	1	5	ye	ye
SSI DATA+	5	3	4	gy	gy
SSI DATA-	6	4	3	pk	pk
PRESET	7	9	8	bu	bu
DIR	8	8	7	rd	rd
Schirm Shield, Ecran, Pantalla, Schermo	Gehäuse housing, boîte, carcasa, contenitore	Gehäuse housing, boîte, carcasa, contenitore	Gehäuse housing, boîte, carcasa, contenitore	K1,K6: offen, open, ouvert, aperto, abierto L2/L3: Gehäuse, housing, boîte, carcasa, contenitore	

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