

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

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.

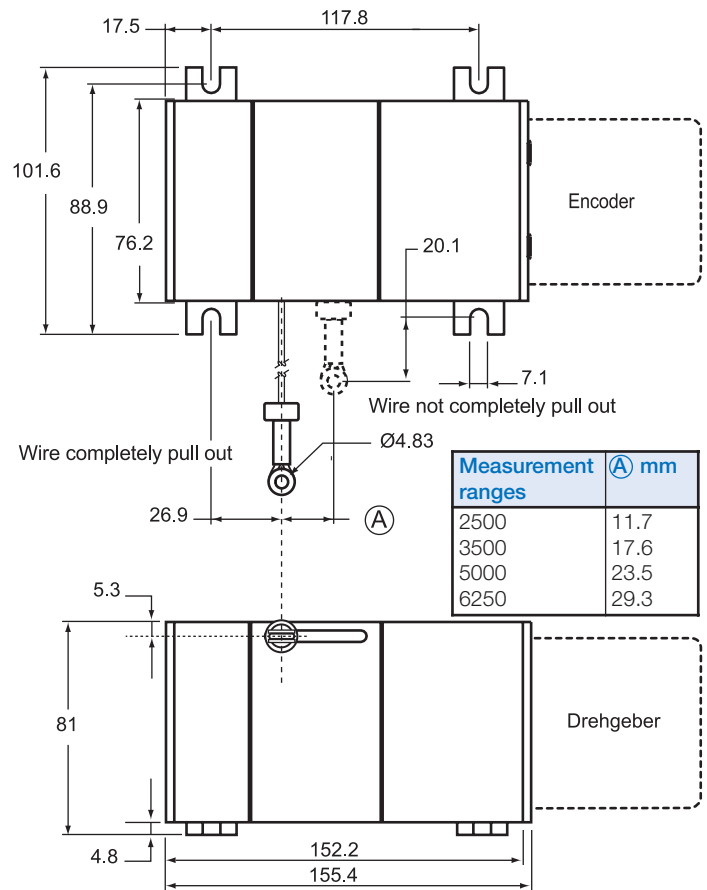
Wire connection: eye
max. wire speed: 7.5 m/sec.
Pull out strength: approx. 0.5 kg

System-unit housing: anodised aluminum

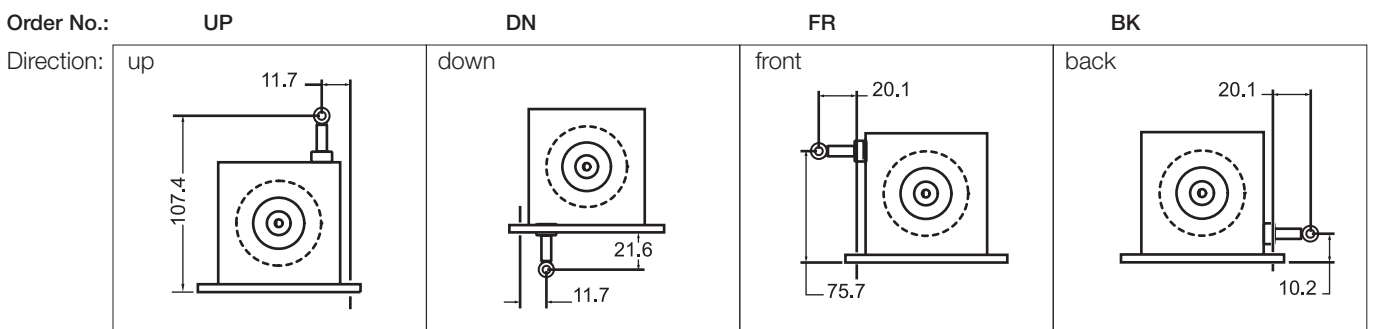
Weight: SZG incl. encoder max. 2.5 kg

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.

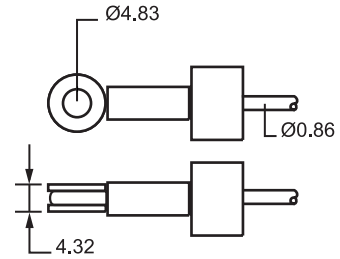


Example of the order of a Draw-wire system:

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 yy zz**



Short description	Position	Part of order number	Description
Type	1	SZG81	Draw wire system, housing 81 mm.
Measurement range (MB)	2	2500 3500 5000 6250	Measurement range 2500 mm Measurement range 3500 mm Measurement range 5000 mm Measurement range 6250 mm
Measurement wire	3	N	0.86 mm of thick nylon coated high-grade steel wire
Mounting direction	xx	UP DN FR BK	Wire exit up Wire exit down Wire exit front Wire exit back
Output	yyy	G24 = 10 VDC - 30 VDC, HTL IO5 = 4.75 VDC - 5.5 VDC, TTL, RS422 comp.	Channels: ABN, signal output Channels: ABN, ABN, signal output
Solution *1	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. IO5: 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	Measuring wire: 0.86 mm of thick nylon coated high-grade steel wire = N	Measurement range: 2500 mm = 2500 3500 mm = 3500 5000 mm = 5000 6250 mm = 6250	Output circuit: G24 = 10 VDC up to 30 VDC, HTL IO5 = 4.75 VDC up to 5.5 VDC, TTL, RS422 comp.	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		
Example	SZG81	2500	N	UP	G24	05
Your system	SZG81					

Montageanleitung Vollwellengeber,

Assembly instructions shaft encoder, Notice de montage codeur rotatif à arbre plein,
Instrucciones de montaje encoder ad albero pieno, istruzioni di montaggio encoders de eje saliente.

°C (°F)	-20 °C ... +80 °C / 1Vss: -10 °C ... +70 °C (-4 °F ... +176 °F / 1 Vss: 14 °F ... +158 °F) 58T: -10 °C ... +70 °C (58T: +14 °F ... +158 °F) Option: -40 °C ... +80 °C (-40 °F ... +176 °F)	-30 °C ... +80 °C (-22 °F ... +176 °F)	R1	R2
Montage nur qualifiziertes Personal Assembly only qualified personnel Montage par qualifié personnel Montaggio solo personale qualificato Montaje solamente personal cualificado				
DIN EN 100015-1				

Kabel ø cable, Câble, Cable, cavo	R1	R2	Temperatur Temperature, Température, Temperatura, Temperatura
≤ 7 mm	31,5 mm	94,5 mm	T > -20 °C (-4 °F)
> 7 mm	41,5 mm	124,5 mm	T > -20 °C (-4 °F)
≤ 7 mm	46,5 mm	139,5 mm	T > -40 °C (-40 °F)
> 7 mm	62,3 mm	186,9 mm	T > -40 °C (-40 °F)

WDG58B
WDG58D
WDG58K
WDG58S
WDG58T
WDG58V
WDG63B
WDG90B

WDG40A
WDG50B
WDG58A
WDG58B
WDG58C
WDG58D
WDG58K
WDG58T
WDG63B

WDG24A
WDG24C
WDG40A
WDG50B
WDG58A
WDG58B
WDG58C
WDG58D
WDG58K
WDG58S
WDG58T

WDG40S
WDG53S
WDG53V

WDG40A
WDG58B
WDG58D
WDG58K
WDG58S
WDG58T
WDG58V

WDG63Q
WDG67Q
WDG115T
WDG115M

WDG58A + MG58A

Standard (no IP67)	F _r max.	F _a max.
WDG24A/C, WDG40A/S, WDG58K	80 N	50 N
WDG50B	120 N	70 N
WDG53S, WDG53V	20 N	10 N
WDG58A	125 N	70 N
WDG58B, WDG58T, WDG63B/Q	220 N	120 N
WDG58D	400 N	400 N
WDG90B	200 N	150 N
WDG115T/M, WDG58C	200 N	120 N
WDG58S, WDG58V	100 N	100 N

Gewinde (8.8) Screw thread, Filet, Rosca, filetto	Empfohlenes Anzugsdrehmoment Recommended starting torque Moment de rotation recommandé appliqué à l'écrou Par de apriete recomendado coppia di spunto consigliata
M3	1 Nm
M4	2 Nm
M5	3 Nm
M6	6 Nm
Mutter, Screw nut, écrou, Tuerca, dado, M20x1,5	8 Nm

Frühwarnausgang Early-warning output Sortie d'alerte Salida de advertencia prematura uscita di preavvertimento	IRLED	IRLED
Schaltung Circuit Couplage Commutación collegamento	G24, I24, G05, 105, 245	high low

Abstand zu Störquellen!
Distance to sources of interference!
Distance aux source des parasites!
Distancia a las fuentes de interferencias!
Distanza dalle fonti di disturbo!

***Nur, only, seulement, solamente, soltanto**
hat Verpolschutz, ist kurzschlussfest; Protection against polarity reversal, short circuit protection; Protección contro l'inversione di polarità Protection court-circuit; Protegido contra inversión de polaridad, protección contra cortocircuito; protezione contro inversione di polarità, protezione contro corto circuito

L ≤ L _{MAX}	L _{MAX}
100m	100m
150m	150m

