



- Incremental and absolute encoders
- Motorfeedback
- Position Measurement Systems
- Digital shaft copying
- Made in Germany



**Industrie ROBUST** 



- Intelligent sensor technology for mechanical and plant engineering
- Sustainable innovative strength
- Value-increasing top quality
- Certified reliability

### For over 35 years we have viewed ourselves

... as your supplier of new technologies with intelligent sensors, as a competent contact for efficient solutions for your applications and as a long-term partner for joint and dynamic further development.

# Wachendorff

### Quality

- 5 year warranty
- DIN/ISO 9001, DIN/ISO 14001
- UL certification
- Inhouse environment simulation laboratory

# Flexibility

- A range of different connectors
- Useful accessories
- Intelligent systems
- Kanban
- Varieties for your application

• Practical system solutions Over 1000 customer solutions

# Innovation

- Joint successful construction
- Systematic development
- Key technology
- Path breaking

# Cooperation

- Intensive partnership
- 48 hour delivery
- Worldwide access
- Rapid repair service



### Reliability

- Selective component selection
- Long lifetime
- Traceability



# Your distributor

www.wachendorff-automation.com/distri



International sales Tel.: +49(0)6722/9965-25, wdg@wachendorff.de

www.wachendorff-automation.com/isa



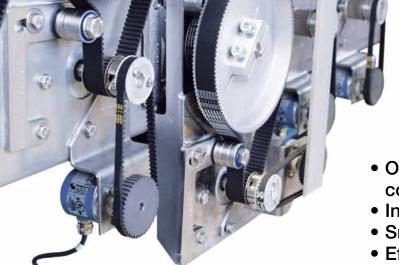
- Individual solutions
- Expert advice on-site
- Many years of experience for your application
- Create an advantage together

### We want to inspire you

As a medium-sized family business we live and work for optimal customer satisfaction and want to grow sustainably, together with you. Our high-performance sensors ensure that you obtain a worldwide technological advantage.

# From person to person





- Optimal solutions through construction kits
- Individual, yet still a serial product
- Smallest design for miniaturisation
- Efficient and functional
- Increased lifetimes

### Design innovation together

We develop customised solutions alongside our extensive standard range. If you have mechanical or electrical requirements tailored specifically to your systems or machines then you've come to the right place. Many crafty solutions have already been found in joint partnership with our customers.

# **Developed in Germany**



- Considerably shorter development times with our own testing laboratory
- Efficient detail tests during development
- Strong qualification and verification
- Longer operational stability through HALT chamber
- Comprehensive environment simulation





In-house qualification for harsh applications: 5 year warranty
During new development we consider more than 400 global
standards and guidelines and conduct more than 100 design tests
including HALT. We have also added 25 factory standards for the qualification and verification of our products. With over 35 years of experience you will receive the right solution for your application.

# **Qualified in Germany**





- High flexibility through one-piece-flow
- LeanQ production with supermarket,
   Poka Yoke, 5S and Kanban
- Systematic traceability
- KaiZen in all areas



# LeanQ: The modern manufacturing concept

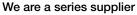
In the computer guided assembly of our encoders and systems we put great emphasis on efficiency, traceability and zero-defect tolerance. With a further developed one-piece-flow method, LeanQ is designed for both individual items and large production runs.

# **Manufactured in Germany**



- Individual in function, design and logistics yet still a serial product
- Over 35 years experience in customer solutions
- Variety for a practical solution
- Designed for the harsh everyday
- Efficiency in time and cost savings





... and at home in many industries. With our knowledge in technology and products we quickly and efficiently develop the optimal solution for your application. Our reference in series supply: More than 1000 longtime series customers worldwide.



# Worldwide in series





- Extremely robust
- High Protection Class IP67 outright and IP69K
- Especially for applications in the on/offshore area
- The 1st choice in the food, beverage and pharmaceutical industry

The state of the s



### The experience is in the details

We use our experience in environment simulation to develop targeted solutions for demanding applications. This has, for example, resulted in high-pressure / steam jet-proof and particularly corrosion resistant encoders. It's often the details that make the difference - and knowing how!

Where are the challenges of your application?





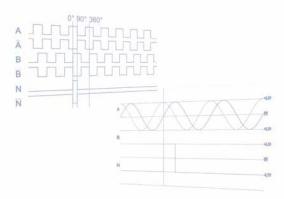
DIN 40050-9

- TTL, HTL, sin/cos
- High-performance LED or precise magnet technology
- High shaft load up to 500 N
- Preventive maintenance with early warning output
- Industry and automotive tough



# The right technology for every application

With the large selection of pulse numbers, output circuits, connector and cable varieties, protection classes and temperature resistances you will find precisely the right incremental encoder from our extensive range.



# Incremental encoders WDG



Incremental shaft encoders				
Туре	WDG 24C	WDG 40A	WDG 40S	WDG 50B
Flange	synchro flange	servo flange	screw flange	clamping flange
Resolution	up to 1,024 PPR		up to 2,500 PPR	
Material housing	aluminium		aluminium, powder coated	
Dimensions	Ø 24 mm,	Ø 40 mm,	Ø 40 mm,	Ø 50 mm,
housing	L 30 mm or	L 36 mm or	L 28 mm or	L 44 mm
	41 mm	41.5 mm	33.5 mm	
Material shaft		stainle	ss steel	
Dimensions shaft	Ø 6 mm, L 12 mm	Ø 6 mm, L 11.5 mm	Ø 6 mm, L 13 mm	Ø 8 mm, L 15 mm
Operating speed		max. 12	,000 rpm	
Permissible		max. 80 N radial,		max. 120 N radial,
shaft load		max. 50 N axial		max. 70 N axial
Output circuit			compatible, TL	
Output channels		AB, Al	3N and	
· ·		inverted	d signals	
Pulse frequency	up to 200 kHz		max. 200 kHz	
Power supply	4.75 VDC up to 5.5 VDC		4.75 VDC up to 5.5 VDC	
	10 VDC up to 30 VDC 5 VDC up to 30 VDC	10 VDC up to 30 VDC		
Operating	-40 °C up to +80 °C		-20 °C up to +80 °C	
temperature	·		(option: -40 °C up to +80 °C)	
Protection rating	IP65 outright	IP67, shaft s	ealed to IP65	IP67,
	(option: IP67 outright)	\ 1	67 outright)	shaft sealed to IP65
wachendorff-automation.com	/wdg24c	/wdg40a	/wdg40s	/wdg50b

		Incremental s	haft encoders	
	stainless steel	C. C	Service Control of the Control of th	SEA CHAIRMAN AND AND AND AND AND AND AND AND AND A
Туре	WDG 53V	WDGI 58A	WDGI 58B	WDGI 58C
Flange	screw flange	synchro flange	clamping flange	synchro flange
Resolution	up to 1,500 PPR		up to 25,000 PPR	
Material housing	stainless steel, V4A		aluminium, powder coated	
Dimensions	Ø 53 mm,		Ø 58 mm,	
housing	L 35.5 mm	L 42 mm		
Material shaft	stainless steel, V4A		stainless steel	
Dimensions shaft	Ø 6 mm, L 13 mm	Ø 6 mm, L 12 mm	Ø 10 mm, L 20 mm Ø 7, 8, 12 mm on request	Ø 10 mm, L 20 mm
Operating speed	max. 6,000 rpm	max. 10,000 rpm	max. 8,	000 rpm
Permissible shaft load	max. 20 N radial, max. 10 N axial	max. 125 N radial, max. 70 N axial	max. 220 N radial, max. 120 N axial	max. 200 N radial, max. 120 N axial
Output circuit	TTL, RS422 compatible, HTL		TTL, RS422 compatible, HTL, 1 Vpp sin/cos	
Output channels		AB, ABN and i	nverted signals	
Pulse frequency	max. 200 kHz		up to 2 MHz	
Power supply	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC 5 VDC up to 30 VDC		
Operating temperature	-20 °C up to +80 °C (option: -40 °C up to +80 °C)	connector: -20 °C up to +85 °C, cable: -20 °C up to +80 °C, (option: -40 °C up to +85 °C) 1 Vpp: -10 °C up to +70 °C		
Protection rating	IP68, outright	IP67, shaft sealed to IP65	IP67, shaft sealed to IP65 (option: IP67 outright)	IP67, shaft sealed to IP65
wachendorff-automation.com	/wdg53v	/wdgi58a	/wdgi58b	/wdgi58c

		Incremental s	haft encoders		
	A STATE OF THE STA		Available ex-stock	high pressure/ corrosion resistance	Especially for food and beverage industry
	611311	GIG	9	stainless steel	stainless steel
Туре	WDGI 58D	WDGI 58K	WDG 58T	WDG 58S	WDG 58V
Flange			clamping flange		
Resolution	up to 25	,000 PPR	360 PPR, 500 PPR, 1,024 PPR	up to 25	,000 PPR
Material housing	aluminium, p	owder coated	aluminium	stainless	steel, V4A
Dimensions		Ø 58 mm,		Ø 58	mm,
housing		L 42 mm		L 42 mm or 53 mm	
Material shaft		stainless steel		stainless steel, V4A	
Dimensions shaft	Ø 12 mm, L 25 mm Ø 6 mm, L 20 mm		Ø 10 mm, L 20 mm	Ø 10 mm, L 18 mm	
Operating speed		max. 8,000 rpm	,	max. 3,	600 rpm
Permissible	max. 500 N radial,	max. 80 N radial,	max. 220 N radial,	max. 100 N radial,	
shaft load	max. 500 N axial	max. 50 N axial	max. 120 N axial	max. 100 N axial	
Output circuit	TTL, RS422	compatible,	HTL	TTL, RS422	compatible,
	H <sup>-</sup>	ΓL,		HTL,	
	1 Vpp	sin/cos		1 Vpp	sin/cos
Output channels		AE	B, ABN and inverted sign	als	
Pulse frequency	up to	2 MHz	max. 150 kHz	up to	2 MHz
Power supply	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC 5 VDC up to 30 VDC		5 VDC up to 30 VDC	10 VDC up	p to 5.5 VDC o to 30 VDC to 30 VDC
Operating temperature	connector: -20 °C up to +85 °C, cable: -20 °C up to +80 °C, (option: -40 °C up to +85 °C) 1 Vpp: -10 °C up to +70 °C		-10 °C up to +70 °C	-20 °C up to +80 °C (opt.: -40 °C up to +80 °C) 1 Vpp: -10 °C up to +70 °C	
Protection rating	IP67, shaft sealed to IP65	IP67, shaft sealed to IP65 (option: IP67 outright)	IP50, shaft sealed to IP54	resistance to salt m	nt and IP69K; nist IEC 60068-2-11
wachendorff-automation.com	/wdgi58d	/wdgi58k	/wdg58t	/wdg58s	/wdg58v

	Incremental shaft encoders				
				- C	(B)
Туре	WDGI 63B	WDGI 63Q	WDGI 67Q	WDGI 70B	WDGI 115M/T
Flange	clamping flange	square	e flange	clamping flange	tacho flange
Resolution			up to 25,000 PPR		
Material housing		a	luminium, powder coate	d	
Dimensions	Ø 63,5 mm, 2.5",	□63.5 mm, 2.5",	□67.3 mm, 2.65",	Ø 70 mm,	Ø 115 mm,
housing	L 45 mm, 1.772"	L 45 mm, 1.772"	L 45 mm, 1.772"	L 47 mm	L 49 mm
Material shaft			stainless steel		
Dimensions shaft	Ø 7, 8 mm on request L 26 mm T: Ø 10 mm, l T: Ø 7, 8, 1			M: Ø 11 mm, L 33 mm T: Ø 10 mm, L 25 mm T: Ø 7, 8, 12 mm on request	
Operating speed			max. 8,000 rpm		
Permissible		max. 220 N radial,		max. 200 N radial,	max. 200 N radial,
shaft load		max. 120 N axial		max. 150 N axial	max. 120 N axial
Output circuit		TTL, RS422 compatible, HTL, 1 Vpp sin/cos			
Output channels		AE	B, ABN and inverted sign	als	
Pulse frequency	up to 2 MHz				
Power supply	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC 5 VDC up to 30 VDC				
Operating			up to +85 °C, cable: -20		
temperature		(option: -40 °C up to +85 °C), 1 Vpp: -10 °C up to +70 °C			
Protection rating		I	P67, shaft sealed to IP6 (option: IP67 outright)	5	
wachendorff-automation.com	/wdgi63b	/wdgi63q	/wdgi67q	/wdgi70b	/wdgi115m /wdgi115t

	Incremental hollow shaft encoders				
			# CO.	O	
Туре	WDG 40E	WDGI 58E	WDGI 58H	WDG 80H	
Housing type	hollow st	naft (blind)	hollov	v shaft	
Resolution	up to 2,500 PPR	up to 25	,000 PPR	up to 3,840 PPR	
Material housing		aluminium, p	owder coated		
Dimensions	Ø 40 mm,	Ø 58	mm,	Ø 80 mm,	
housing	L 32 mm or 37.5 mm	L 38	3 mm	L 40 mm	
Material shaft		stainle	ss steel		
Dimensions shaft	Ø 6 mm	Ø 8, 10, 12, 15 mm	Ø 8, 10, 12, 14 mm	Ø 10, 12, 15, 18, 20, 25, 27 mm	
Operating speed	max. 12,000 rpm	max. 6,	000 rpm	max. 3,500 rpm	
Permissible	max. 100 N radial,		N radial,	max. 100 N radial,	
shaft load	max. 50 N axial	max. 60	O N axial	max. 100 N axial	
Output circuit	TTL, RS422 compatible, HTL		TTL, RS422 compatible, HTL, 1 Vpp sin/cos		
Output channels		AB, ABN and i	inverted signals		
Pulse frequency	max. 200 kHz	up to	2 MHz	up to 200 kHz	
Power supply	4.75 VDC up to 5.5 VDC, 10 VDC up to 30 VDC	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC 5 VDC up to 30 VDC			
Operating	-20 °C up to +80 °C				
temperature	(option: -40 °C up to +80 °C)	(option: -40 °C up to +85 °C), -40 °C up to +80 °C) 1 Vpp: -10 °C up to +70 °C 1 Vpp: -10 °C up to +70		1 Vpp: -10 °C up to +80 °C	
Protection rating	IP67, shaft s	sealed to IP65		65	
wachendorff-automation.com	,	/wdgi58e	/wdgi58h	/wdg80h	
			-	-	

Incremental hollow shaft encoders				
	Inc	cremental nollow snaπ el	ncoders	
	TO THE PARTY OF TH			
Туре	WDG 100G	WDG 100H		WDG 145H
Housing type		hollov	w shaft	
Resolution	up to 20,480 PPR	up to 20,480 PPR	up to 20,480 PPR	up to 2,500 PPR
Material housing	aluminium		iinium, r coated	aluminium
Dimensions housing	Ø 100 mm, L 37 mm	Ø 100 mm, L 37 mm	Ø 100 mm, L 37 mm	Ø 145 mm, L 50 mm
Material shaft		stainle	ess steel	
Dimensions shaft	Ø 25, 1 Z (=25.4), 28, 30, 32, 35, 36, 38, 40, 42, 45 mm		Ø 45 mm + insulating sleeve Ø 25, 30, 32, 38, 40, 42 mm	Ø 45, 48, 50, 55, 60, 65, 72 mm
Operating speed	max. 1,500 rpm	max. 3,500 rpm	max. 3,500 rpm	max. 1,600 rpm
Permissible shaft load			0 N radial, 00 N axial	
Output circuit		TTL, RS422 comp., HTL,1 Vpp sin/cos		TTL, RS422 comp., HTL
Output channels		AB, ABN and	inverted signals	
Pulse frequency		up to 2 MHz		max. 200 kHz
Power supply				4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC
Operating temperature	-20 °C up to +80 °C (opt.: -40 °C up to +80 °C) 1 Vpp: -10 °C up to +70 °C			-20 °C up to +80 °C
Protection rating	IP50		P54 P55 outright)	IP54 (option: IP64 outright)
wachendorff-automation.com	/wdg100g	/wdg100h	/wdg100i	/wdg145h

- EnDra® Multiturn technology: No gear box, no battery
- Single/Multiturn (14 / 39 bit)
- Absolute encoder with integrated I/O technology
- High shaft load up to 400 N
- Protection class up to IP67 and IP69K





# Single or multiturn: Latest technology

Whether you realise your application with a singleturn or multiturn, you can expect practical innovations in either case. The unique and distinguished EnDra® multiturn technology reduces construction space and is extremely environmentally friendly; it operates without batteries or gear boxes.



### The WDGA-I/O, a 2in1 sensor

Wachendorff has integrated the I/O technology into the encoder while still maintaining the compact installation space of the encoder and all advantages of the EnDra® technology.





# **Absolute encoders WDGA**



	Absolute shaft encoders				
	(§(e)		(A) C	high pressure/corrosion resistance	Especially for food and beverage industry
Туре	WDGA 36A	WDGA 58A	WDGA 58B	WDGA 58S	WDGA 58V
Interfaces	CAN SA	open, E J1939, RS485	CANopen, CANopen Lift, CAN SAE J1939, SSI, RS485	CAN SA	open, E J1939, RS485
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy	up to 14 bit < ± 0,35° < ± 0,20°				
Multiturn (number of revolution)	up 39 bit				
Code			binary or gray		
Flange	synchr	o flange		clamping flange	
Material housing		steel case chrome-pla	ted, magnetic shielding	9	stainless steel, V4A
Dimensions housing	Ø 36 mm, L 36 mm or 44 mm	Ø 58 mm, L 54 mm o. 60.5 mm	Ø 58 mm, L 48 mm o. 54.5 mm	Ø 58 mm, L 48 mm	Ø 58 mm, L 53 mm
Material shaft		stainle	ss steel		stainless steel, V4A
Dimensions shaft	Ø 6 mm, 6.3 mm, 1/4" L 11.5 mm		ı, L 12 mm m, L 20 mm	Ø 10 mm, L 20 mm	Ø 10 mm, L 18 mm
Permissible shaft load max.	80 N radial, 50 N axial	, , , , , , , , , , , , , , , , , , , ,		/	
Operating speed	max. 12,000 rpm	max. 8,	000 rpm	max. 3,	600 rpm
Power supply	4.75 VDC up to 5.5 VDC, 10 VDC up to 30 VDC, 10 VDC up to 32 VDC				
Protection rating	IP67, shaft sealed to IP65, cable: K1: IP40, K6: IP20	65, shaft sealed to IP65, resistance to salt mist IEC 60068- 1: IP40, cable: K1: IP40		, , , , , , , , , , , , , , , , , , ,	
Operating temperature		-40 °C up	to +85 °C		-20 °C up to +80 °C
wachendorff-automation.com			/wdga		

	Absolute hollow shaft encode	ers	
Туре	WDGA 36E	WDGA 58E	
Interfaces	CANopen, CANopen, CANopen CAN SAE J1939, CAN SAE J1939, SSI, RS485 SSI, RS485		
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy	up to 14 Bit < ± 0,35° < ± 0,20°		
Multiturn (number of revolution)		39 bit	
Code	binary	or gray	
Flange	hollow s	haft (blind)	
Material housing	steel case chrome-pla	tted, magnetic shielding	
Dimensions housing	Ø 36 mm, L 30 mm or 43 mm	Ø 58 mm, L 38 mm	
Material shaft	stainle	ess steel	
Dimensions shaft	Ø 6 mm Ø 12 mm, Ø 14 mm, Ø 15 mm, 1/4" Ø 6, 6.35 (1/4"), 7, 8, 9.525 with adapter slee		
Permissible shaft load max.	80 N radia	ll, 50 N axial	
Operating speed	max. 12,000 rpm	max. 6,000 rpm	
Power supply	4.75 VDC up to 5.5 VDC, 10 VDC (	up to 30 VDC, 10 VDC up to 32 VDC	
Protection rating	IP67, shaft sealed to IP65,		
Operating temperature	-40 °C up	to +85 °C	
wachendorff-automation.com	/w	dga	

Absolut	Absolute encoders CANopen, CANopen LIFT and SAE J1939 galvanic isolated			
	Call Co	I C	Call Co	
Туре	WDGA 58A	WDGA 58B	WDGA 58D	WDGA 58E
Interfaces		CANopen, CANopen	Lift, CAN SAE J1939,	
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy		up to 14 bit < ± 0,35° < ± 0,20°		
Multiturn (number of revolution)		up 3	9 bit	
Code		binary	or gray	
Flange	synchro flange	clampin	ig flange	hollow shaft (blind)
Material housing		steel case chrome-pla	ted, magnetic shielding	
Dimensions housing	Ø 58 mm, L 63.8 mm	Ø 58 L 57.	mm, 8 mm	Ø 58 mm, L 66.3 mm
Material shaft		stainle	ss steel	
Dimensions shaft	Ø 8 mm, Ø 10 mm, Ø 3/8", L: 20 mm Ø 6, 6.35 (1/4"), 7, 9.525 (3/8"), 10 mm v			Ø 12 mm, Ø 14 mm; Ø 6, 6.35 (1/4"), 7, 8, 9.525 (3/8"), 10 mm with adapter sleeve
Permissible shaft load max.	125 N radial (Ø 6 mm, Ø 8 mm), 120 N axial 400 N radial, 220 N radial (Ø 10 mm, Ø 3/8"), 120 N axial 400 N axial			80 N radial, 50 N axial
Operating speed		max. 8,000 rpm		max. 6,000 rpm
Power supply	10 VDC up to 32 VDC			
Protection rating	IP67, shaft sealed to IP65			
Operating temperature		-40 °C up	to +85 °C	
wachendorff-automation.com		/we	dga	

Absolute encoders PROFIBUS					
	ADSOIL	ite encoders PROFIBU	5	<b>50</b>	
		THE COLOR			
Туре	WDGA 58A	WDGA 58B	WDGA 58D	WDGA 58E	
Interfaces		PROF	IBUS		
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy	up to 14 bit < ± 0,35° < ± 0,20°				
Multiturn (number of revolution)		bis 39 Bit			
Code		bin	ary		
Flange	synchro flange	clampin	g flange	hollow shaft (blind)	
Material housing		steel case chrome-plat	ted, magnetic shielding		
Dimensions housing	Ø 58 mm, L 63.8 mm	Ø 58 L 57.8	•	Ø 58 mm, L 66.3 mm	
Material shaft		stainles	ss steel		
Dimensions shaft	Ø 8 mm, Ø 10 mm, Ø 3/8", L: 20 mm Ø 6, 6.35 (1, 9.525 (3/8"), 1		Ø 12 mm, Ø 14 mm, Ø 15 mm; Ø 6, 6.35 (1/4"), 7, 8, 9.525 (3/8"), 10 mm with adapter sleeve		
Permissible shaft load max.		, Ø 8 mm), 120 N axial m, Ø 3/8"), 120 N axial	400 N radial, 400 N axial	80 N radial, 50 N axial	
Operating speed		max. 8,000 rpm		max. 6,000 rpm	
Power supply		10 VDC up	to 32 VDC		
Connections	Bus cover: connection clamps (PG cable glands) or 3x M12-connector Connector connections: 2x M12 and 1x M8 or D-SUB-connector female, 9-pin (axial or radial)				
Protection rating	IP67, shaft sealed to IP65				
Operating temperature		-40 °C up	to +85 °C		
wachendorff-automation.com		/pro	fibus		

	Absolute en	coders WDGA-I/O on I	request	
Туре	WDGA 58A	WDGA 58B	WDGA 58D	WDGA 58E
Interfaces		CANopen + 3 m	ultifunction inputs	
Device Profile			406 V3.2 class C2 controller CiA 404	
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy Multiturn (number of revolution)		- < ± ( < ± (	14 bit 0,35° 0,20° 18 bit	
Sensor types multifunction inputs	Voltage ±10 V,  Current 4 mA up to 20 mA,  Current 0 mA up to 20 mA,  Type J, K thermocouple,  Pt100,			
Code		Pres	ssure	
Flange	synchro flange		nary ng flange	hollow shaft (blind)
Material housing	Syricino nange	· · · · · · · · · · · · · · · · · · ·	ted, magnetic shielding	Hollow Shart (billio)
Dimensions housing	Ø 58 mm, L 69.8 mm	Ø 58	mm, 8 mm	Ø 58 mm, L 72.3 mm
Material shaft		stainle	ss steel	
Dimensions shaft	Ø 8 mm, Ø 10 mm, Ø 3/8", L: 20 mm Ø 6, 6.35 (1/4"), 7, 9.525 (3/8"), 10 m			Ø 12 mm, Ø 14 mm; Ø 6, 6.35 (1/4"), 7, 8, 9.525 (3/8"), 10 mm with adapter sleve
Permissible shaft load max.	125 N radial (Ø 6 mm, Ø 8 mm), 120 N axial 400 N radial, 220 N radial (Ø 10 mm, Ø 3/8"), 120 N axial 400 N axial			80 N radial, 50 N axial
Operating speed		max. 8,000 rpm		max. 6,000 rpm
Power supply		10 VDC up	to 32 VDC	
Connections	Connection cover: 2x PG (PG cable glands) with 3 terminal inputs for I/O and 1x M12x1 for CAN			
Protection rating		IP67, shaft s	ealed to IP65	
Operating temperature		-40 °C up	to +80 °C	
wachendorff-automation.com		/wd	gaio	

# The innovation: Two become one

WDGA-I/O absolute encoder offers all the functionalities of the encoder for CANopen via a CAN node and the information on digital or analog values via a further node.

The intelligent, modular concept allows the adminstration of all possible I/O combinations in a confined space value.

# The WDGA-I/O, a 2in1 sensor

The multi-functional WDGA-I/O absolute encoder enables machine and system manufacturers to reduce the cost of installation and wiring significantly and for the first time to connect analog/digital sensors to the CAN bus in a simple and cost-effective way.

The highly accurate I/O ports can be configured and scaled quickly and easily for a specific type of sensor by using software.



- Highest precision during highly dynamic movement
- Compact construction: Ø 58 mm
- BISS-C, SSI with 19 bit singleturn and up to 2,048 sin/cos
- Incremental up to 25,000 ppr
- Electronic ID label

0110010100001011 001011100101000

10001101011107

1110101010111



### Highest precision during highly dynamic movement

The WDGF was developed for the most demanding applications. It operates reliably and supplies high-precision signals for a rapid regulation of synchronous motors even under extreme environmental conditions. The optical principle guarantees rapid and precise transmission and the robust design ensures a high operational stability.

**Motorfeedback WDGF** 

Encoder Motor	Encoder Motorfeedback WDGF			
Туре	58M			
Interface for Singleturn	BISS-C, SSI			
Clock frequency SSI/BISS-C	4/10 MHz			
Functions	inversion of the direction, preset, status LED			
Resolution singleturn absolute	max. 19 bit			
Resolution sin/cos	512, 1,024, 2,048 PPR			
Output circuit	sin/cos, 1 Vpp, 120 Ohm			
Output channels	AB			
Limit frequency (-3 dB)	400 kHz			
Dimensions housing	Ø 58 mm, L 40 mm			
Dimensions shaft	cone 1/10, Ø 9.25 mm, L 16.5 mm			
Operating speed	max. 12,000 rpm			
Permissible shaft load	max. 80 N radial, max. 60 N axial			
Power supply	4.75 VDC up to 5.5 VDC 3.5 VDC up to 30 VDC			
Operating temperature	-40 °C up to +115 °C			
Protection rating	IP67 outright, shaft sealed to IP65			
Connection	cable output, 2 m, tangential			
wachendorff-automation.com	/wdgf58m			







- Up to 4 m/s and up to 120 m high
- Precise measuring of position and speed
- Very easy assembly in 20 to 45 minutes
- Pre-mounted assembly kits for every installation situation
- Incremental, CANopen, CANopen Lift, SSI

# Silent Move, the most accomplished belt system in the world

Whether hydraulic or motor driven elevators, we always supply the right system. The maintenance-free copyings are available as circumferential or guided, with the unique nubbed belt or a quality tooth belt, as a complete assembly kit or measuring unit. It leaves nothing to be desired.

### With redundancy - Silent Move twin

Silent Move twin redundantly measures the absolute position in the shaft with 2 encoders. A safety switch monitors the belt for any tears.

Both incremental as well as absolute encoders (with CANopen, CANopen Lift or SSI) can be fitted.



# Digital shaft copying



System	Silent	Move	Silent M	ove light	Silent Move Twin		Cable
	(01110 (0010111) (101000		(01110 (0010111 010100		Ready  10110 1001011 10100 1001011		
Belt/Cable	nubbed belt		tooth belt		tooth belt		Kevlar cable
			et l				1
Description	circumferential	guided	circumferential	guided	circumferential	guided	guided
System	WDGMSUN	WDGMSMN	WDGMSUZ	WDGMSMZ	WDGMSUZR	WDGMSMZR	WDGMS
Unit	WDGMEUN	WDGMEMN	WDGMEUZ	WDGMEMZ			
Max. height	70 m	120 m	70 m	120 m	55 m	120 m	53 m up to 1 m/s
Speed Resolution	up to 4 m/s					up to 4 m/s	
Incremental	max. 0.08 mm/pulse at 5,000 pulses					max. 0.072 mm/pulse at 5,000 pulses	
Absolute	< 0,024 mm at 14 Bit < 0,097 mm at 12 Bit < 0,087 mm at 12 Bit < 0,087 mm at 12 Bit						2,500 pulses
Interfaces	incremental, incremental, absolute absolute CANopen, CANopen LIFT, SSI, RS485 CANopen LIFT, SSI						incremental
Encoders	Control of the contro						
		Incrementa encoder WDGI 58B		magnetic 3	Incremental encoder WDG 40S		
wachendorff-automation.com	/silent	move	/silentm	ovelight	/twin		/wdgms





- Robust and compact up to 43 m
- High-precision mechanics with high linearity
- Long lifetime in harsh environment
- Quick assembly
- Incremental and absolute

# Large measuring range in compact design

The series of draw-wire systems is equipped with incremental or absolute encoders. The extremely robust and precise mechanics, in combination with a nylon coated stainless steel wire, has a very high life-expectancy of at least 10 million cycles.



# **Draw-wire systems SZG**

	Draw-wi	re systems SZ	G WDG	incremental and	d SZG W	/DGA absolute			
	4								
Type	SZG65		SZG93		SZG81		SZG122		
Interfaces			incremental, CANopen, SSI				incremental		
Measurement range	up to 1.25 m		up to 2.5 m		up to 2.5 m up to 3.5 m up to 5.0 m up to 6.25 m		up to 10 m up to 15 m up to 20 m up to 25 m up to 30 m up to 38 m up to 43 m		
Resolution Incremental	500 PPR: 5 pulses/mm 1,000 PPR: 10 pulses/mm 1,250 PPR: 12.5 pulses/mm 2,500 PPR: 25 pulses/mm		200 PPR: 1 pulses/mm 1,000 PPR: 5 pulses/mm 1,250 PPR: 10 pulses/mm 2,500 PPR: 12.5 pulses/mm		1,000 PPR: 5 pulses/mm 2,000 PPR: 10 pulses/mm 5,000 PPR: 25 pulses/mm		1,000 PPR: 3.23 pulses/mm 2,000 PPR: 6.46 pulses/mm 5,000 PPR: 16.13 pulses/mm		
Absolute	Bit/rev. I 8 9 10 11 12	Position/mm 2.5 5.1 10.2 20.4 40.9	Bit/rev. 8 9 10 11 12 13	Position/mm 1.3 2.5 5.1 10.2 20.4 40.9	Bit/rev. 8 9 10 11 12	Position/mm 1.26 2.52 5.04 10.08 20.17	Bit/rev. 8 9 10 11 12 13	Position/mm 0.83 1.65 3.31 6.62 13.23 26.47	
Mounting direction	wire exit up, down, front or back								
Operating temperature Incremental Absolute	-20 °C up to +80 °C -20 °C up to +80 °C			-20 °C up to +80 °C -40 °C up to +80 °C		-20 °C up to +80 °C			



- Virtually slip-free
- Any assembly
- Adjustable preload force for material protection
- Optimal surfaces for every material

### Virtually slip-free measurement of velocities

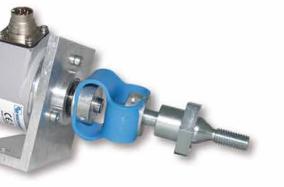
With the spring levers, our encoders and the right measuring wheels for the respective surface (wood, plastic, foil, cardboard, textiles, rubber, metal) they measure the exact speed for your application. We are happy to advise you on the right solution.



www.wachendorff-automation.com/measuring-wheels

# Spring lever/Measuring wheels





- Couplings for every application
- Mounting accessories for quicker installation
- Pre-assembled cable and connector
- Torque supports and shaft adapters







- Counter, preset counter and tachometer
- SSI- and CAN-Bus-displays
- Extensive range of proximity switches
- Converters and gateways for all cases







### Automation equipment for your application

For processing signals and other sensor tasks we offer an extensive range of industrial electronics with which you can comfortably and efficiently capture, convert, monitor, process, evaluate and visualise the data.

# **Automation equipment**



# automation.com

# www.wachendorff



# The Wachendorff Group

- Delighted customers
- Corporate responsibility
- Attractive for good employees
- Outstanding quality
- Technology leader
- Environmental protection
- Profitable growth

We are a medium-sized owner-managed corporate group based in the beautiful Rheingau district, situated to the west of Wiesbaden.

Competent, personal, face-to-face advice and long-term collaboration with our business partners are the cornerstones of our continual growth. We are certified according to DIN ISO 9001 and DIN ISO 14001.

### Wachendorff Automation GmbH & Co. KG

The development and manufacturing of rotary encoders, engine feedback devices and complete measuring systems for use in a wide range of serial production applications in mechanical and plant engineering. An extensive standard range featuring numerous options and efficient development of customised solutions.

### Wachendorff Prozesstechnik GmbH & Co. KG

A reliable supplier since 1978 of robust, high quality industrial devices for visualizing, communicating and processing data in the areas of mechanical, plant and building automation.



Wachendorff Automation GmbH & Co. KG Industriestrasse 7 • D-65366 Geisenheim

Tel.: +49 (0) 67 22 / 99 65 - 25 Fax: +49 (0) 67 22 / 99 65 - 70 E-Mail: wdg@wachendorff.de www.wachendorff-automation.com



1/	415 44 Albanda 41 Albanda
Your	distributor: