

Encoders and systems



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





- **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

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

Experience and Competence

- Worldwide application
- more than 35 years of development and manufacture
- Practical system solutions
- Over 1000 customer solutions



Your distributor
www.wachendorff-automation.com/distri



International sales
Tel.: +49(0)67 22 / 99 65 -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

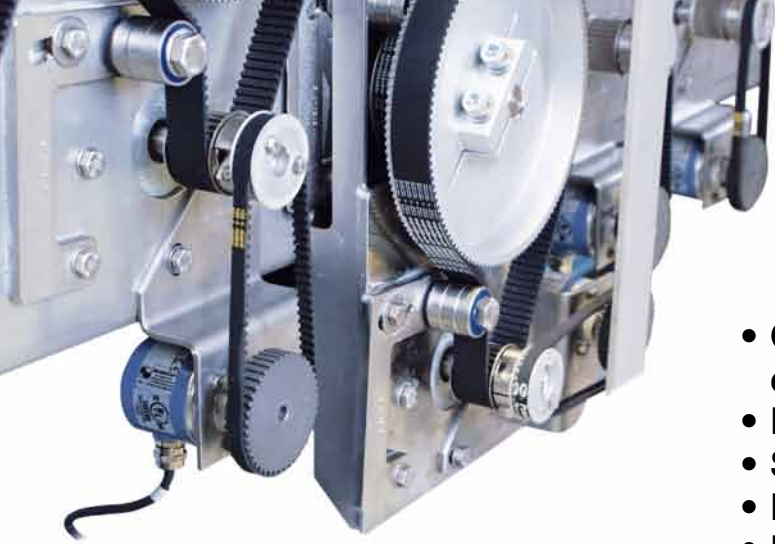
We want to inspire you

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



<http://www.wachendorff-automation.com/contact>

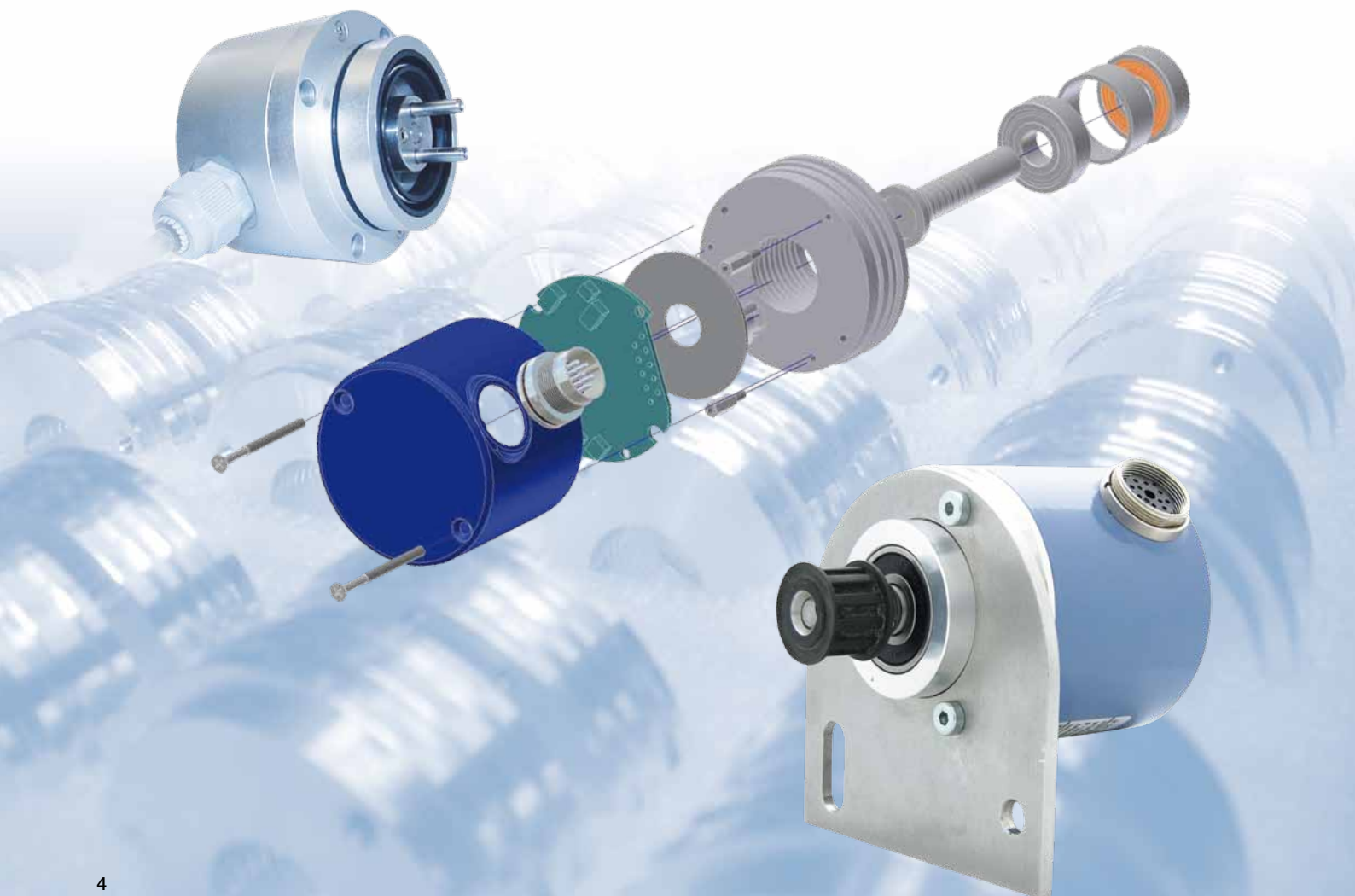


- Optimal solutions through construction kits
- Individual, yet still a serial product
- Smallest design for miniaturisation
- Efficient and functional
- Increased lifetimes

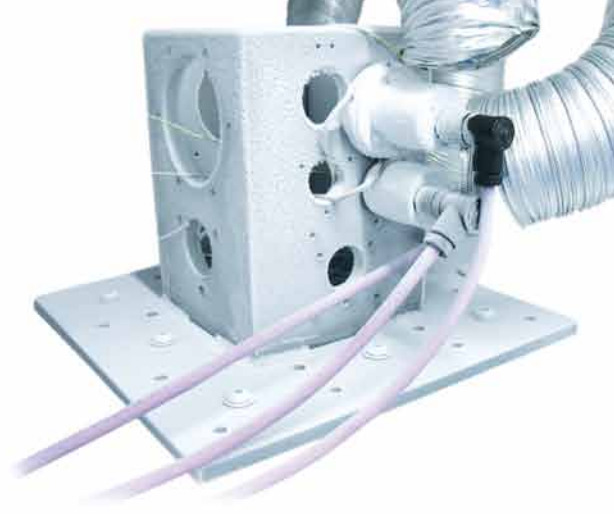
Design innovation together

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

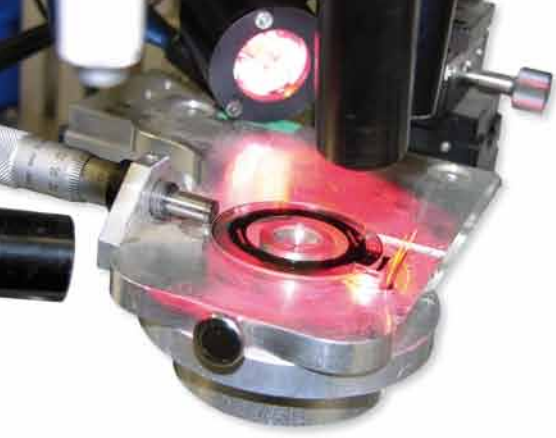


In-house qualification for harsh applications: 5 year warranty

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

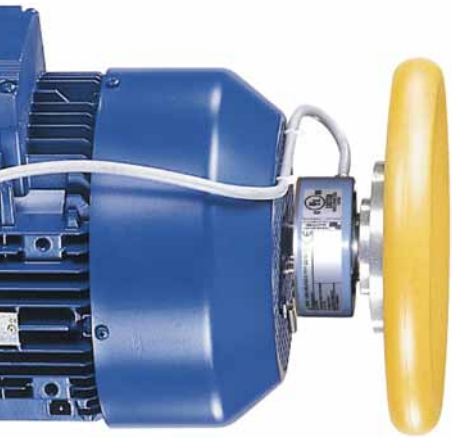
In the computer guided assembly of our encoders and systems we put great emphasis on efficiency, traceability and zero-defect tolerance. With a further developed one-piece-flow method, LeanQ is designed for both individual items and large production runs.



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



We are a series supplier

... 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



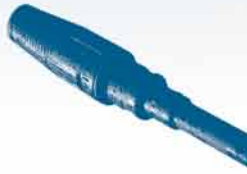


- Extremely robust
- High Protection Class IP67 outright and IP69K
- Especially for applications in the on/offshore area
- The 1st choice in the food, beverage and pharmaceutical industry

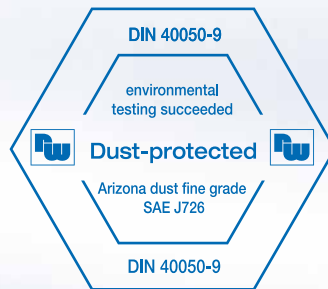
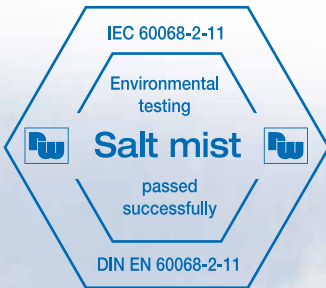


The experience is in the details

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?



Environment-resistant

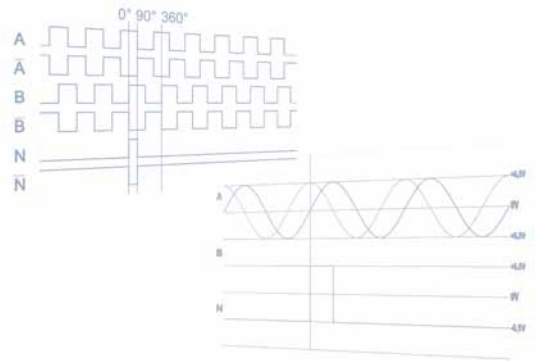


- TTL, HTL, sin/cos
- High-performance LED or precise magnet technology
- High shaft load up to 500 N
- Preventive maintenance with early warning output
- Industry and automotive tough







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				
				
Type	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 housing	Ø 24 mm, L 30 mm or 41 mm	Ø 40 mm, L 36 mm or 41.5 mm	Ø 40 mm, L 28 mm or 33.5 mm	Ø 50 mm, L 44 mm
Material shaft	stainless 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 shaft load	max. 80 N radial, max. 50 N axial			max. 120 N radial, max. 70 N axial
Output circuit	TTL, RS422 compatible, HTL			
Output channels	AB, ABN and inverted signals			
Pulse frequency	up to 200 kHz	max. 200 kHz		
Power supply	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC 5 VDC up to 30 VDC	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC		
Operating temperature	-40 °C up to +80 °C	-20 °C up to +80 °C (option: -40 °C up to +80 °C)		
Protection rating	IP65 outright (option: IP67 outright)	IP67, shaft sealed to IP65 (option: IP67 outright)		IP67, shaft sealed to IP65
wachendorff-automation.com	/wdg24c	/wdg40a	/wdg40s	/wdg50b

Incremental shaft encoders				
				
	stainless steel			
Type	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 housing	Ø 53 mm, L 35.5 mm	Ø 58 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 inverted 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 shaft encoders					
			Available ex-stock 	high pressure/ corrosion resistance  stainless steel	Especially for food and beverage industry  stainless steel
Type	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, powder coated		aluminium	stainless steel, V4A	
Dimensions housing	Ø 58 mm, L 42 mm			Ø 58 mm, L 42 mm or 53 mm	
Material shaft	stainless steel				
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 shaft load	max. 500 N radial, max. 500 N axial	max. 80 N radial, max. 50 N axial	max. 220 N radial, max. 120 N axial	max. 100 N radial, max. 100 N axial	
Output circuit	TTL, RS422 compatible, HTL, 1 Vpp sin/cos		HTL	TTL, RS422 compatible, HTL, 1 Vpp sin/cos	
Output channels	AB, ABN and inverted signals				
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	4.75 VDC up to 5.5 VDC 10 VDC up to 30 VDC 5 VDC up 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	-20 °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	IP67 outright and IP69K; resistance to salt mist IEC 60068-2-11	
wachendorff-automation.com	/wdgi58d	/wdgi58k	/wdg58t	/wdg58s	/wdg58v

Incremental shaft encoders					
					
Type	WDGI 63B	WDGI 63Q	WDGI 67Q	WDGI 70B	WDGI 115M/T
Flange	clamping flange	square flange		clamping flange	tacho flange
Resolution	up to 25,000 PPR				
Material housing	aluminium, powder coated				
Dimensions housing	Ø 63,5 mm, 2.5", L 45 mm, 1.772"	□ 63.5 mm, 2.5", L 45 mm, 1.772"	□ 67.3 mm, 2.65", L 45 mm, 1.772"	Ø 70 mm, L 47 mm	Ø 115 mm, L 49 mm
Material shaft	stainless steel				
Dimensions shaft	Ø 9.525 mm, 3/8", 10 mm, L 22.2 mm, 0.874" Ø 7, 8 mm on request			Ø 12 mm, L 26 mm	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 shaft load	max. 220 N radial, max. 120 N axial			max. 200 N radial, max. 150 N axial	max. 200 N radial, max. 120 N axial
Output circuit	TTL, RS422 compatible, HTL, 1 Vpp sin/cos				
Output channels	AB, ABN and inverted signals				
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 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				
Protection rating	IP67, shaft sealed to IP65 (option: IP67 outright)				
wachendorff-automation.com	/wdgi63b	/wdgi63q	/wdgi67q	/wdgi70b	/wdgi115m /wdgi115t

Incremental hollow shaft encoders				
				
Type	WDG 40E	WDGI 58E	WDGI 58H	WDG 80H
Housing type	hollow shaft (blind)		hollow shaft	
Resolution	up to 2,500 PPR	up to 25,000 PPR		up to 3,840 PPR
Material housing	aluminium, powder coated			
Dimensions housing	Ø 40 mm, L 32 mm or 37.5 mm	Ø 58 mm, L 38 mm		Ø 80 mm, L 40 mm
Material shaft	stainless 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 shaft load	max. 100 N radial, max. 50 N axial	max. 80 N radial, max. 60 N axial		max. 100 N radial, max. 100 N axial
Output circuit	TTL, RS422 compatible, HTL	TTL, RS422 compatible, HTL, 1 Vpp sin/cos		
Output channels	AB, ABN and 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 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		-20 °C up to +80 °C (option: -40 °C up to +80 °C) 1 Vpp: -10 °C up to +70 °C
Protection rating	IP67, shaft sealed to IP65		IP65	
wachendorff-automation.com	/wdg40e	/wdgi58e	/wdgi58h	/wdg80h

Incremental hollow shaft encoders				
				
Type	WDG 100G	WDG 100H		WDG 145H
Housing type	hollow 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	aluminium, powder 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	stainless 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	max. 200 N radial, max. 100 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 5 VDC up to 30 VDC			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	IP54 (option: IP55 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



EnDra®
Technologie

2 in 1
WDGA-I/O

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.

CANopen®

CANopen® LIFT

Absolute encoders WDGA






SSI
Synchronous Serial Interface



RS-485

SAE J1939

PROFI
BUS







Absolute shaft encoders					
					
Type	WDGA 36A	WDGA 58A	WDGA 58B	WDGA 58S	WDGA 58V
Interfaces	CANopen, CAN SAE J1939, SSI, RS485		CANopen, CANopen Lift, CAN SAE J1939, SSI, RS485	CANopen, CAN SAE J1939, SSI, RS485	
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy	up to 14 bit < ± 0,35° < ± 0,20°				
Multiturn (number of revolution)	up to 39 bit				
Code	binary or gray				
Flange	synchro flange		clamping flange		
Material housing	steel case chrome-plated, magnetic shielding				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	stainless steel				stainless steel, V4A
Dimensions shaft	Ø 6 mm, 6.3 mm, 1/4" L 11.5 mm	Ø 6 mm, L 12 mm or Ø 10 mm, 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	125 N radial (Ø 6 mm), 120 N axial 220 N radial (Ø 10 mm), 120 N axial		100 N radial, 100 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	IP67, shaft sealed to IP65, cable: K1: IP40		IP67 outright and IP69K; resistance to salt mist IEC 60068-2-11	
Operating temperature	-40 °C up to +85 °C				-20 °C up to +80 °C
wachendorff-automation.com	/wdga				





Absolute hollow shaft encoders		
		
Type	WDGA 36E	WDGA 58E
Interfaces	CANopen, CAN SAE J1939, SSI, RS485	CANopen, CANopen Lift, CAN SAE J1939, SSI, RS485
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy	up to 14 Bit < ± 0,35° < ± 0,20°	
Multiturn (number of revolution)	up to 39 bit	
Code	binary or gray	
Flange	hollow shaft (blind)	
Material housing	steel case chrome-plated, magnetic shielding	
Dimensions housing	Ø 36 mm, L 30 mm or 43 mm	Ø 58 mm, L 38 mm
Material shaft	stainless steel	
Dimensions shaft	Ø 6 mm 6.3 mm, 1/4"	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.	80 N radial, 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, cable: K1: IP40, K6: IP20	IP67, shaft sealed to IP65, cable: K1: IP40
Operating temperature	-40 °C up to +85 °C	
wachendorff-automation.com	/wdga	

Absolute encoders CANopen, CANopen LIFT and SAE J1939 galvanic isolated

				
Type	WDGA 58A	WDGA 58B	WDGA 58D	WDGA 58E
Interfaces	CANopen, CANopen Lift, CAN SAE J1939,			
Singleturn	Resolution (steps/revolution) up to 14 bit Accuracy $< \pm 0,35^\circ$ Repeat accuracy $< \pm 0,20^\circ$			
Multiturn (number of revolution)	up 39 bit			
Code	binary or gray			
Flange	synchro flange	clamping flange		hollow shaft (blind)
Material housing	steel case chrome-plated, magnetic shielding			
Dimensions housing	\varnothing 58 mm, L 63.8 mm	\varnothing 58 mm, L 57.8 mm		\varnothing 58 mm, L 66.3 mm
Material shaft	stainless steel			
Dimensions shaft	\varnothing 6 mm, L: 12 mm; \varnothing 8 mm, \varnothing 10 mm, \varnothing 3/8", L: 20 mm		\varnothing 12 mm, L: 25 mm	\varnothing 12 mm, \varnothing 14 mm; \varnothing 6, 6.35 (1/4"), 7, 8, 9.525 (3/8"), 10 mm with adapter sleeve
Permissible shaft load max.	125 N radial (\varnothing 6 mm, \varnothing 8 mm), 120 N axial 220 N radial (\varnothing 10 mm, \varnothing 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			
Protection rating	IP67, shaft sealed to IP65			
Operating temperature	-40 °C up to +85 °C			
wachendorff-automation.com	/wdga			

Absolute encoders PROFIBUS

				
Type	WDGA 58A	WDGA 58B	WDGA 58D	WDGA 58E
Interfaces	PROFIBUS			
Singleturn	Resolution (steps/revolution) up to 14 bit Accuracy $< \pm 0,35^\circ$ Repeat accuracy $< \pm 0,20^\circ$			
Multiturn (number of revolution)	bis 39 Bit			
Code	binary			
Flange	synchro flange	clamping flange		hollow shaft (blind)
Material housing	steel case chrome-plated, magnetic shielding			
Dimensions housing	\varnothing 58 mm, L 63.8 mm	\varnothing 58 mm, L 57.8 mm		\varnothing 58 mm, L 66.3 mm
Material shaft	stainless steel			
Dimensions shaft	\varnothing 6 mm, L: 12 mm; \varnothing 8 mm, \varnothing 10 mm, \varnothing 3/8", L: 20 mm		\varnothing 12 mm, L: 25 mm	\varnothing 12 mm, \varnothing 14 mm, \varnothing 15 mm; \varnothing 6, 6.35 (1/4"), 7, 8, 9.525 (3/8"), 10 mm with adapter sleeve
Permissible shaft load max.	125 N radial (\varnothing 6 mm, \varnothing 8 mm), 120 N axial 220 N radial (\varnothing 10 mm, \varnothing 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	/profibus			

Absolute encoders WDGA-I/O on request				
				
Type	WDGA 58A	WDGA 58B	WDGA 58D	WDGA 58E
Interfaces	CANopen + 3 multifunction inputs			
Device Profile	for encoders CiA 406 V3.2 class C2 for sensors and controller CiA 404			
Singleturn Resolution (steps/revolution) Accuracy Repeat accuracy	up to 14 bit < ± 0,35° < ± 0,20°			
Multiturn (number of revolution)	up to 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, Pressure			
Code	binary			
Flange	synchro flange	clamping flange		hollow shaft (blind)
Material housing	steel case chrome-plated, magnetic shielding			
Dimensions housing	Ø 58 mm, L 69.8 mm	Ø 58 mm, L 63.8 mm		Ø 58 mm, L 72.3 mm
Material shaft	stainless steel			
Dimensions shaft	Ø 6 mm, L: 12 mm; Ø 8 mm, Ø 10 mm, Ø 3/8", L: 20 mm		Ø 12 mm, L: 25 mm	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 220 N radial (Ø 10 mm, 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	Connection cover: 2x PG (PG cable glands) with 3 terminal inputs for I/O and 1x M12x1 for CAN			
Protection rating	IP67, shaft sealed to IP65			
Operating temperature	-40 °C up to +80 °C			
wachendorff-automation.com	/wdgaio			

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 administration 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



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 Motorfeedback WDGf	
Type	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 Move light		Silent Move Twin		Cable
Belt/Cable	 nubbed belt		 tooth belt		 tooth belt		 Kevlar cable
Description	 circumferential	 guided	 circumferential	 guided	 circumferential	 guided	 guided
System Unit	WDGMSUN WDGMEUN	WDGMSMN WDGMEMN	WDGMSUZ WDGMEUZ	WDGMSMZ WDGMEMZ	WDGMSUZR WDGMSMZR	WDGMSMZR	WDGMS
Max. height	70 m	120 m	70 m	120 m	55 m	120 m	53 m
Speed	up to 4 m/s				up to 4 m/s		up to 1 m/s
Resolution	Incremental max. 0.08 mm/pulse at 5,000 pulses Absolute < 0,024 mm at 14 Bit < 0,097 mm at 12 Bit				max. 0.072 mm/pulse at 5,000 pulses < 0,022 mm at 14 Bit < 0,087 mm at 12 Bit		< 0.03 mm/ pulse at 2,500 pulses
Interfaces	incremental, absolute CANopen, CANopen LIFT, SSI, RS485				incremental, absolute CANopen LIFT, SSI		incremental
Encoders	 Incremental encoder WDG I 58B		 Absolute, magnetic encoder WDG A 58B		 Incremental encoder WDG 40S		
wachendorff-automation.com	/silentmove		/silentmovelight		/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-wire systems SZG WDG incremental and SZG WDG absolute				
				
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	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
Incremental				
Absolute	Bit/rev. Position/mm 8 2.5 9 5.1 10 10.2 11 20.4 12 40.9	Bit/rev. Position/mm 8 1.3 9 2.5 10 5.1 11 10.2 12 20.4 13 40.9	Bit/rev. Position/mm 8 1.26 9 2.52 10 5.04 11 10.08 12 20.17	Bit/rev. Position/mm 8 0.83 9 1.65 10 3.31 11 6.62 12 13.23 13 26.47
Mounting direction	wire exit up, down, front or back			
Operating temperature				
Incremental	-20 °C up to +80 °C		-20 °C up to +80 °C	-20 °C up to +80 °C
Absolute	-20 °C up to +80 °C		-40 °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.



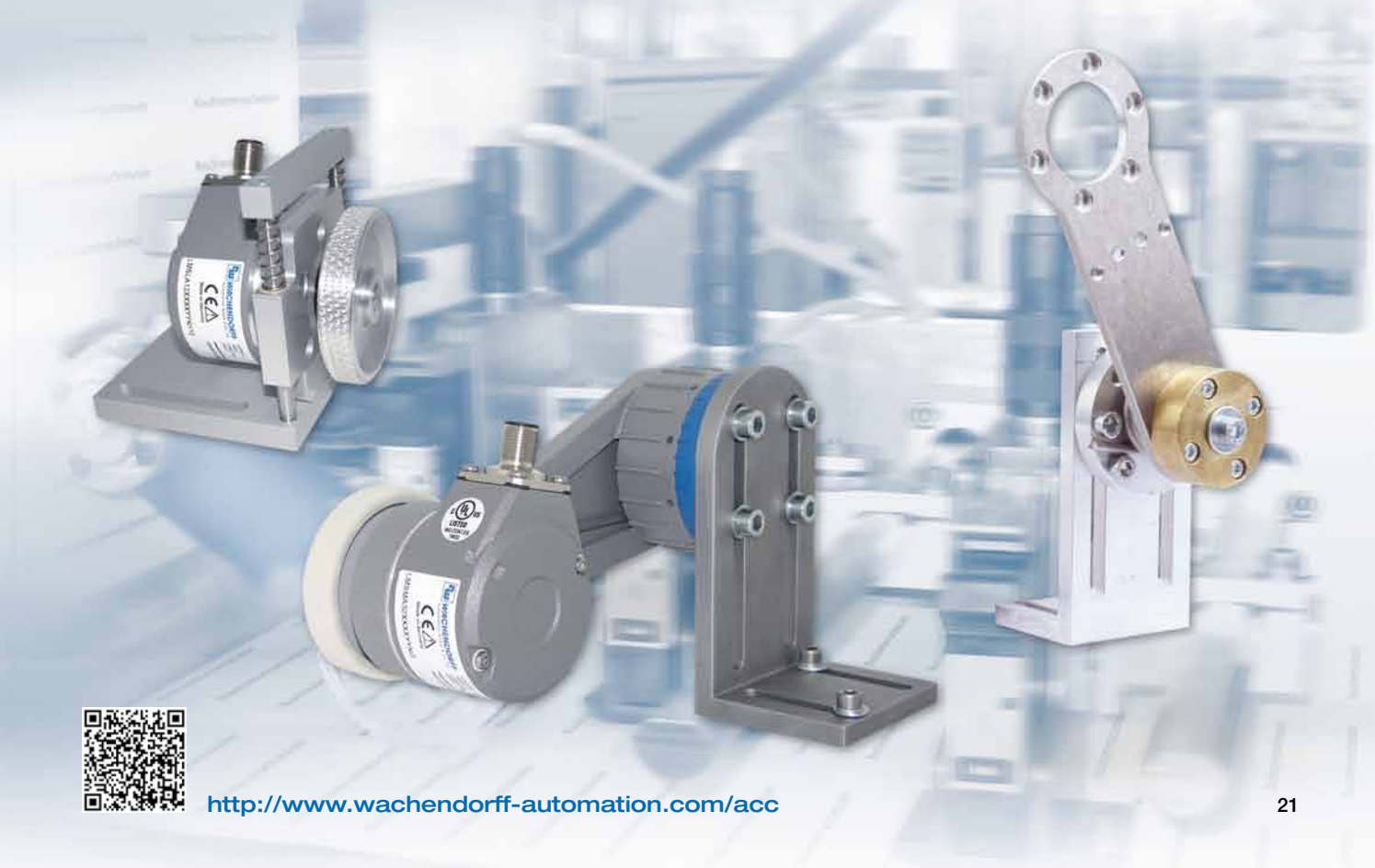
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- Couplings for every application
- Mounting accessories for quicker installation
- Pre-assembled cable and connector
- Torque supports and shaft adapters



Our accessories complete your solution
You will recognise our many years of experience in the large selection of useful accessories. Nothing is left to chance. Here, you will find everything you need for efficient encoder installation. If you can't find something at first glance give us a call and we will be happy to help.



Accessories



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



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CANopen

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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



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- Attractive for good employees
- Outstanding quality
- Technology leader
- Environmental protection
- Profitable growth

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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.

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