



Online Data Sheet

Encoder WDG 58S

www.wachendorff-automation.com/wdg58s

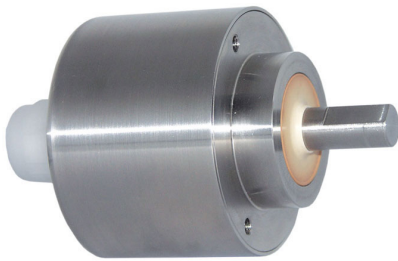
Wachendorff Automation

... systems and encoders

- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

Encoder WDG 58S (optical)

Salt mist IEC 60068-2-11



- Resistance to salt mist (IEC 60068-2-11) succeeded
- Up to 25000 PPR by use of high grad electronics
- High protection rating IP67 all around and IP69K (high pressure / steam cleaning)
- Radial shaft sealing ring with no dead-room (PTFE)
- Full connection protection with 10 VDC up to 30 VDC
- With light reserve warning
- Optional: -40 °C up to +80 °C

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Resolution

Pulses per revolution PPR up to 25000 PPR

Mechanical Data

Housing

Flange	clamping flange
Flange material	stainless steel, V4A
Housing cap	stainless steel, V4A
Housing	Ø 58 mm

Shaft(s)

Shaft material	stainless steel, V4A
Starting torque	approx. 1 Ncm at ambient temperature

Shaft	Ø 10 mm
Shaft length	L: 18 mm
Max. Permissible shaft loading radial	100 N
Max. Permissible shaft loading axial	100 N

Bearings

Bearings type	2 precision ball bearings
Nominale service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	3600 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	200 a
Mission time (TM)	25 a
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 3600 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 100 mA
Power supply/Current consumption	5 VDC up to 30 VDC: typ. 70 mA
Power supply/Current consumption	10 VDC up to 30 VDC: typ. 100 mA
Output circuit	TTL TTL, RS422 compatible, inv. HTL HTL, inv. 1 Vpp sin/cos

Pulse frequency	TTL 5000 ppr: max. 200 kHz HTL 5000 ppr: max. 200 kHz TTL more than 1200 ppr: max. 2 MHz HTL more than 1200 ppr: max. 600 kHz 1 Vpp sin/cos: max. 100 kHz
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Channels	AB ABN and inverted signals
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Load	max. 40 mA / channel @ 1 Vpp sin/cos: min. 120 Ohm
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Circuit protection	circuit type F24, G24, H24, I24, P24, R24 only
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Accuracy

Phase offset	90° ± max. 7.5 % of the period duration
pulse-/pause-ratio	5000 ppr: 50 % ± max. 7 % Output circuits F24, P24, F05, P05, 645: 50 % ± max. 10 %

General Data

Weight	approx. 600 g
Connections	cable outlet (TPE)
Protection rating (EN 60529)	IP67 all around and IP69K. Resistance to salt mist (IEC 60068-2-11) after 672 hours.
Operating temperature	-20 °C up to +80 °C 1 Vpp: -10 °C up to +70 °C
Storage temperature	-20 °C up to +80 °C

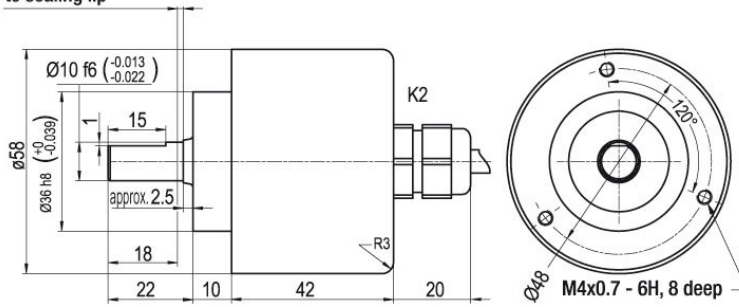
More Information

General technical data and safety instructions
<http://www.wachendorff-automation.com/gtd>

Options
<http://www.wachendorff-automation.com/acc>

Cable connection K2, L2 with 2 m cable

Minimum distance of 1.5
to sealing lip

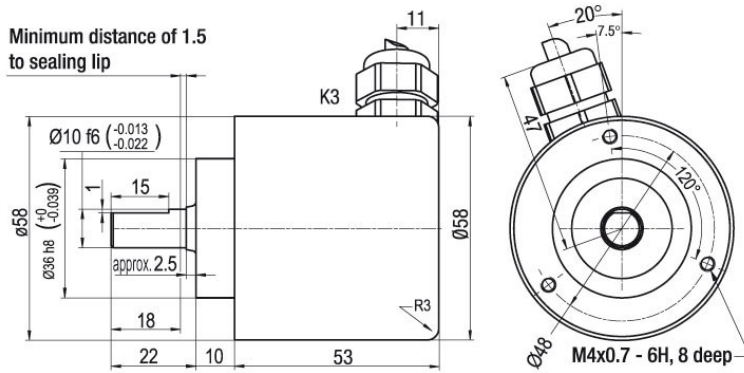


Description

ABN inv. poss.

K2	axial, shield not connected	•
L2	axial, shield connected to encoder housing	•

Assignments					
	K2, L2	K2, L2	K2, L2	K2, L2	L2
Circuit	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 645, R30	SIN
GND	WH	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN	BN
A	GN	GN	GN	GN	GN
B	YE	YE	YE	YE	GY
N	GY	GY	GY	GY	-
Light reserve warning	PK	-	PK	-	-
A inv.	-	-	RD	RD	YE
B inv.	-	-	BU	BU	PK
N inv.	-	-	VT	VT	-
Shield	flex	flex	flex	flex	flex

Cable connection K3, L3 with 2 m cable

Description
ABN inv. poss.
K3 radial, shield not connected

•

L3 radial, shield connected to encoder housing

•

Assignments

	K3, L3	K3, L3	K3, L3	K3, L3	L3
Circuit	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 645, R30	SIN
GND	WH	WH	WH	WH	WH
(+) Vcc	BN	BN	BN	BN	BN
A	GN	GN	GN	GN	GN
B	YE	YE	YE	YE	GY
N	GY	GY	GY	GY	-
Light reserve warning	PK	-	PK	-	-
A inv.	-	-	RD	RD	YE
B inv.	-	-	BU	BU	PK
N inv.	-	-	VT	VT	-
Shield	flex	flex	flex	flex	flex

Options

Low temperature

The encoder WDG 58S with the output circuit types F24, G24, H24, I24, P24, R24, F05, G05, I05, P05, 245, 524, 645 is also available with the extended temperature range -40 °C up to +80 °C (measured at the flange).

Order key

ACA

Cable length

The encoder WDG 58S can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see www.wachendorff-automation.com/atd

Please extend the standard order code with a three figure number, specifying the cable length in decimetres.

Example: 5 m cable = 050

Order key

XXX = Decimeter

Example Order No.	Type				Your encoder
WDG 58S	WDG 58S				WDG 58S
Pulses per revolution PPR:					
2	2, 10, 15, 20, 24, 25, 30, 36, 40, 48, 50, 60, 64, 72, 5, 87, 90, 100, 120, 125, 127, 128, 150, 160, 180, 200, 250, 256, 300, 314, 360, 400, 216, 236, 240, 254, 320, 512, 500, 571, 600, 625, 720, 750, 768, 800, 810, 900, 1000, 1024, 1200, 1250, 1270, 1440, 1500, 1800, 2000, 2048, 3000, 2400, 2500, 3600, 4000, 4096, 4685, 5000, 10000, 12500, 20000, 25000, 8192, 10240, 16384, 20480, 2880, 5760, 6000, 7200, 7500, 12000, 15000, 8000				
Channels:					
AB	AB, ABN				
Output circuit					
H30	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key
	up to 2500	5 - 30	HTL	-	H30
		5 - 30	HTL inverted	-	R30
	up to 5000	4.75 - 5.5	TTL	•	G05
		4.75 - 5.5	TTL	-	H05
		4.75 - 5.5	TTL, RS422 comp., inverted	•	I05
		4.75 - 5.5	TTL, RS422 comp., inverted	-	R05
		10 - 30	HTL	•	G24
		10 - 30	HTL	-	H24
		10 - 30	HTL inverted	•	I24
		10 - 30	HTL inverted	-	R24
		10 - 30	TTL, RS422 comp., inverted	•	524
		10 - 30	TTL, RS422 comp., inverted	-	F05
	(higher frequency) 1200 up to 25000	4.75 - 5.5	TTL	-	F05
		4.75 - 5.5	TTL, RS422 comp., inverted	-	P05
		10 - 30	HTL	-	F24
		10 - 30	HTL inverted	-	P24
	1024, 2048	4.75 - 5.5	TTL, RS422 comp., inverted	-	645
	1024, 2048	4.75 - 5.5	1 Vpp sin/cos	-	SIN
Electrical connections					
K2	Description			ABN inv. poss.	Order key
	Cable: length (2 m standard, WDG 58T: 1 m)				
	axial, shield not connected			•	K2
	axial, shield connected to encoder housing			•	L2
	radial, shield not connected			•	K3
radial, shield connected to encoder housing			•	L3	
Options					
	Description			Order key	
	Low temperature			ACA	
	Cable length			Cable length	
	Without option			Empty	

Example Order No.=	WDG 58S	2	AB	H30	K2		WDG 58S					Your encoder
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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
<https://www.wachendorff-automation.com/>



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