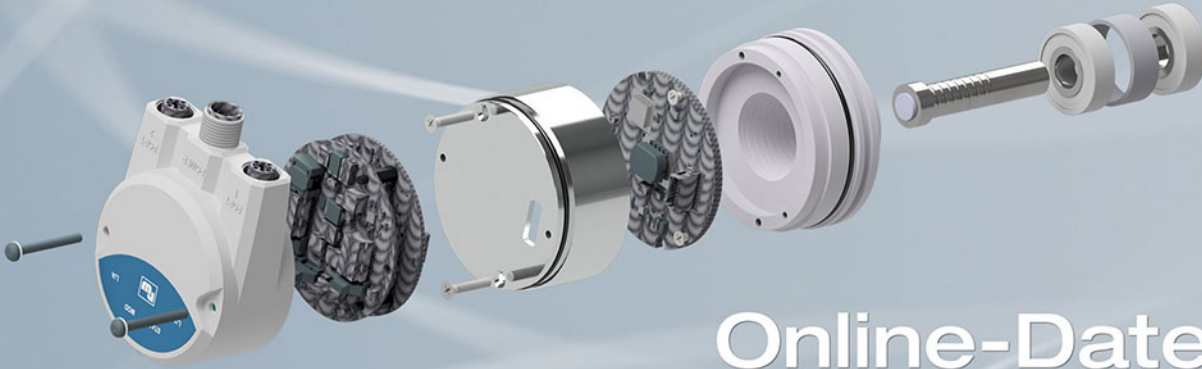




Online-Datenblatt

Encoder WDGR 58B redundant incremental

www.wachendorff-automation.com/wdgr58b

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 WDGR 58B incremental redundant, optical and magnetic, with bus cover



1. 한 개의 엔코더에 두 개의 독립된 엔코더
- 증분형 엔코더 (광학) + 증분형 엔코더 (자기)
2. 두 가지 측정 방식
- 광학식(optical) or 자기식(magnetic)
3. 광학식 (optical) : 최대 5000 PPR
자기식 (magnetic) : 최대 1024 PPR
4. 버스 커버를 포함한 컴팩트한 디자인
5. 높은 축 하중 : 220 N radial / 120 N axial

www.wachendorff-automation.com/wdgr58b

Mechanical Data

Housing

Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Connection cover	zinc-plated
Housing	Ø 58 mm

Shaft(s)

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

Shaft	Ø 6 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 8 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 9.525 mm, Ø 3/8"
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 20 mm, L: 0.787 in
Max. Permissible shaft loading radial	220 N, 22.434 kp
Max. Permissible shaft loading axial	120 N, 12.237 kp

Bearings

Bearings type	2 precision ball bearings
Nomiale 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	8000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	200 a
Mission time (TM)	20 a
Nomiale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Environmental data

ESD (DIN EN 61000-4-2)	8 kV
Burst (DIN EN 61000-4-4)	2 kV
Vibration (IEC 68-2-6)	tbd.
Schock (IEC 68-2-27)	tbd.

Design: according DIN VDE 0160

General Data

Weight	approx. 440.5 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C, 1 Vpp: -10 °C up to +70 °C
Storage temperature	Connector: -30 °C up to +85 °C, cable: -30 °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>

Optical sensor technology

Resolution

Max. pulses per revolution up to 5000 PPR
PPR

Electrical Data

Power supply/ Current consumption 4,75 VDC up to 5,5 VDC: typ. 100 mA
5 VDC up to 30 VDC: typ. 70 mA

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 ≤ 5000 ppr: max. 200 kHz
1 Vpp sin/cos: max. 100 kHz

Channels ABN
and inverted signals

Load max. 40 mA / channel
@ 1 Vpp sin/cos: min. 120 Ohm

Circuit protection 10 VDC up to 30 VDC, HTL only

Accuracy

Phase offset 90° ± max. 25% of the period duration
pulse-/pause-ratio ≤5000 ppr: 50 % ± max. 7 %

Magnetic sensor technology

Resolution

Max. pulses per revolution 1 PPR up to 128 PPR, 256 PPR,
PPR 512 PPR, 1024 PPR

Electrical Data

Power supply/ Current consumption 5 VDC up to 30 VDC: typ. 40 mA

Output circuit HTL (TTL at 5 VDC supply)
HTL, inv. (TTL inv. at 5 VDC supply)

Pulse frequency ≤ 1024 ppr: max. 200 kHz

Channels ABN
and inverted signals

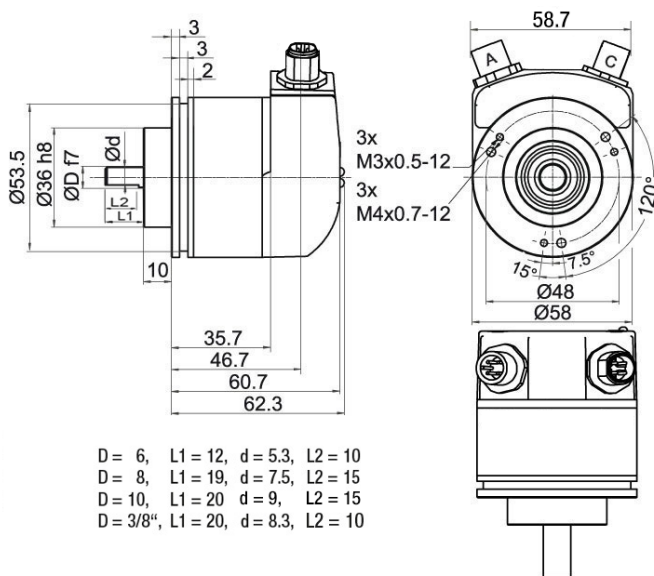
Load max. 40 mA / channel

Circuit protection no

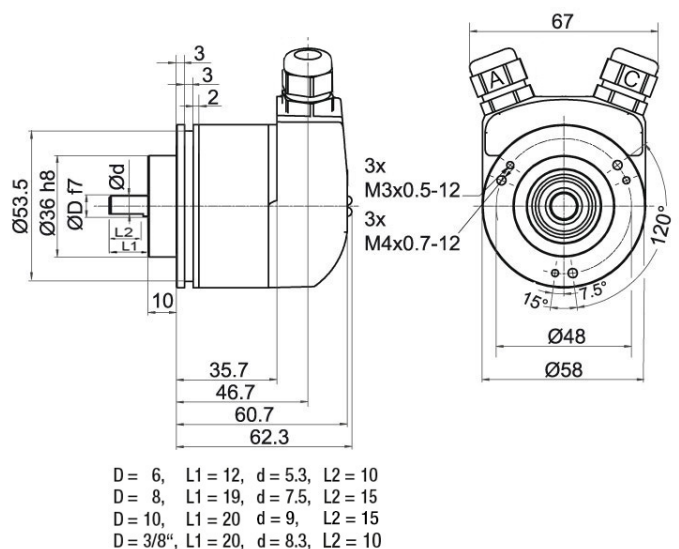
Accuracy

Phase offset 90° ± max. 25% of the period duration
pulse-/pause-ratio at 1 ppr up to 128 ppr:
50 % ± max. 7 %
at 256 ppr: 50 % ± max. 9 %
at 512 ppr: 50 % ± max. 13 %
at 1024 ppr: 50 % ± max. 18 %

WDGR 58B, redundant, bus cover with 2x M12x1



WDGR 58B, redundant, bus cover with 2x PG cable glands



WDGR 58B: Sensor-connector optical (M12x1) SC, radial, 5-, 8-, 12-pin (PORT A)

Description	ABN inv. poss.
SC5 radial, 5-pin, connector connected to encoder housing	-
SC8 radial, 8-pin, connector connected to encoder housing	•
SC12 radial, 12-pin, connector connected to encoder housing	•

Assignments								
	SC5	SC8	SC8	SC8	SC12	SC12	SC12	SC12
	5-pin	8-pin	8-pin	8-pin	12-pin	12-pin	12-pin	12-pin
								
Circuit	H05, H24, H30	H05, H24, H30	R05, R24, R30, 245,	SIN	G05, G24	H05, H24, H30	I05, I24, 524	R05, R24, R30, 245,
GND	3	1	1	1	3	3	3	3
+UB	1	2	2	2	1	1	1	1
A	4	3	3	3	4	4	4	4
B	2	4	4	5	6	6	6	6
N	5	5	5	-	8	8	8	8
Light reserve warning	-	-	-	-	5	-	5	-
A inv.	-	-	6	4	-	-	9	9
B inv.	-	-	7	6	-	-	7	7
N inv.	-	-	8	-	-	-	10	10
n.	-	6, 7, 8	-	7, 8	2, 7, 9, 10, 11, 12	2, 5, 7, 9, 10, 11, 12	2, 11, 12	2, 5, 11, 12
Shield	-	-	-	-	-	-	-	-

WDGR 58B: Sensor-connector magnetic (M12x1) SC, radial, 5-, 8-, 12-pin (PORT C)

Description	ABN inv. poss.
SC5 radial, 5-pin, connector connected to encoder housing	-
SC8 radial, 8-pin, connector connected to encoder housing	•
SC12 radial, 12-pin, connector connected to encoder housing	•

Assignments					
	SC5	SC8	SC8	SC12	SC12
	5-pin	8-pin	8-pin	12-pin	12-pin
					
Circuit	N35	N35	M35	N35	M35
GND	3	1	1	3	3
+UB	1	2	2	1	1
A	4	3	3	4	4
B	2	4	4	6	6
N	5	5	5	8	8
Light reserve warning	-	-	-	-	-
A inv.	-	-	6	-	9
B inv.	-	-	7	-	7
N inv.	-	-	8	-	10
n.	-	6, 7, 8	-	2, 5, 7, 9, 10, 11, 12	2, 5, 11, 12
Shield	-	-	-	-	-

WDGR 58B: Cable connection optical K3, L3, radial, mit 2 m Kabel

Description

ABN inv. poss.

L3 radial, shield connected to encoder housing

•

Assignments					
	L3	L3	L3	L3	L3
Circuit	G05, G24	H05,H24, H30	I05, I24, 524	R05, R24 R30, 245,	SIN
GND	WH	WH	WH	WH	WH
+UB	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.	-	-	BK	BK	PK
N inv.	-	-	VT	VT	-
Shield	flex	flex	flex	flex	flex

WDGR 58B: Cable connection magnetic K3, L3, radial, mit 2 m Kabel

Description

ABN inv. poss.

L3 radial, shield connected to encoder housing

•

Assignments		
	L3	L3
Circuit	N35	M35
GND	WH	WH
+UB	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
Light reserve warning	-	-
A inv.	-	RD
B inv.	-	BK
N inv.	-	VT
Shield	flex	flex

Options

Shafts sealed to IP67, only with 10 mm shaft with flat

Order key

The encoder WDGR 58B redundant can be supplied in a full IP67 version.
Max. RPM: 3500 min⁻¹
Permitted Shaft-Loading: axial 100 N; radial 110 N
Starting-torque: approx. 4 Ncm at ambient temperature

AAS

Cable length

Order key

The encoder WDGR 58B 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

XXX = Decimeter

Example Order No.	Type					Your encoder
WDGR 58B	WDGR 58B					WDGR 58B
	Shaft	Order key				
10	Ø 6 mm Attention: No option AAS = IP67 all around possible	06				
	Ø 8 mm Attention: No option AAS = IP67 all around possible	08				
	Ø 10 mm	10				
	Ø 9,525 mm Ø 3/8" Attention: No option AAS = IP67 all around possible	4Z				
	Pulses per revolution PPR optical:					
05000	2, 5, 10, 15, 20, 24, 25, 30, 36, 40, 48, 50, 60, 64, 72, 87, 90, 100, 120, 125, 127, 128, 150, 160, 180, 200, 216, 236, 240, 250, 254, 256, 300, 314, 320, 360, 400, 500, 512, 571, 600, 625, 720, 750, 768, 800, 810, 900, 1000, 1024, 1200, 1250, 1270, 1440, 1500, 1800, 2000, 2048, 2400, 2500, 2880, 3000, 3600, 4000, 4096, 4685, 5000 1 Vpp Sin/Cos only 1024, 2048					
	Pulses per revolution PPR magnetic:					
0002	2, 10, 15, 20, 24, 25, 30, 36, 40, 48, 50, 60, 64, 72, 92, 93, 1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 21, 22, 23, 26, 27, 28, 29, 31, 32, 33, 34, 35, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 65, 66, 67, 68, 69, 70, 71, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 256, 512, 1024					
Output circuit optical						
G24	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	-	H05	
		4,75 - 5,5	TTL, RS422 comp., inverted	-	R05	
		10 - 30	HTL	-	H24	
		10 - 30	HTL inverted	-	R24	
		10 - 30	TTL, RS422 comp., inverted	-	245	
1024, 2048		4,75 - 5,5	1 Vpp sin/cos	-	SIN	
Output circuit magnetic						
M35	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key	
	up to 1024	5 - 30	HTL inverted	-	M35	
		5 - 30	HTL	-	N35	
Electrical connections optical						
SC8	Description	ABN inv. poss.		Order key		
	Cable: length (2 m standard)					
	radial, shield connected to encoder housing	•		L3		
	Connector: (connector connected to encoder housing)					
	Sensor-connector, M12x1, 5-pin, radial	-		SC5		
	Sensor-connector, M12x1, 8-pin, radial	•		SC8		
Sensor-connector, M12x1, 12-pin, radial	•		SC12			
Electrical connections magnetic						
SC8	Description	ABN inv. poss.		Order key		
	Cable: length (2 m standard)					
	radial, shield connected to encoder housing	•		L3		
	Connector: (connector connected to encoder housing)					
	Sensor-connector, M12x1, 5-pin, radial	-		SC5		
	Sensor-connector, M12x1, 8-pin, radial	•		SC8		
Sensor-connector, M12x1, 12-pin, radial	•		SC12			
Options						
	Description	Order key				
	Without option	Empty				
	IP67	AAS				
	Cable length	XXX = Decimeter				

Example Order No	WDGR 58B	10	05000	0002	G24	M35	SC8	SC8			WDGR 58B									Your encoder
------------------	----------	----	-------	------	-----	-----	-----	-----	--	--	----------	--	--	--	--	--	--	--	--	--------------



For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
<https://www.wachendorff-automation.com/>

CREKEN
(주)크레켄

주식회사 크레켄

경기도 성남시 중원구 사기막골로 124
SKn테크노파크 메가동 514호 우편번호:13207

Phone: 031) 608-3200 Fax: 031) 776-2320
E-Mail: sales@creken.co.kr
www.creken.co.kr



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

Phone: +49 67 22 / 99 65 25
Fax: +49 67 22 / 99 65 70
E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de

