



Online Data Sheet

인크리멘탈 옵티컬 로터리 엔코더 - Ø50mm

WDG 50B 시리즈

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 50B

www.wachendorff-automation.com/wdg50b

IndustrieROBUST

Encoder WDG 50B



1. 다양한 전원 전압 설정 가능
 - 4.75VDC ~ 5.5VDC
 - 10VDC ~ 30VDC
2. 옵티컬(Optical)방식으로 고 분해능 구현 가능
 - 4~2500PPR
3. 완전 방수로 열악한 환경에서 사용 가능
 - Shaft IP65, Housing IP67
4. CE 및 UL 인증 제품

www.wachendorff-automation.com/wdg50b

Resolution	
Max. pulses per revolution PPR	up to 2500 PPR

Mechanical Data	
Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	aluminum, powder coated
Housing	Ø 50 mm
Cam mounting	pitch 61 mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm at ambient temperature
Shaft	Ø 8 mm
Shaft length	L: 15 mm
Max. Permissible shaft loading radial	120 N
Max. Permissible shaft loading axial	70 N

Bearings	
Bearings type	2 precision ball bearings
Nominal service life	2 x 10 ⁸ revs. at 100 % rated shaft load 3 x 10 ⁹ revs. at 40 % rated shaft load 2 x 10 ¹⁰ revs. at 20 % rated shaft load
Max. operating speed	12000 rpm

Machinery Directive: basic data safety integrity level	
MTTF _d	200 a
Mission time (TM)	25 a
Nominal service life (L10h)	2 x 10 ¹⁰ revs. at 20 % rated shaft load and 12000 rpm
Diagnostic coverage (DC)	0 %

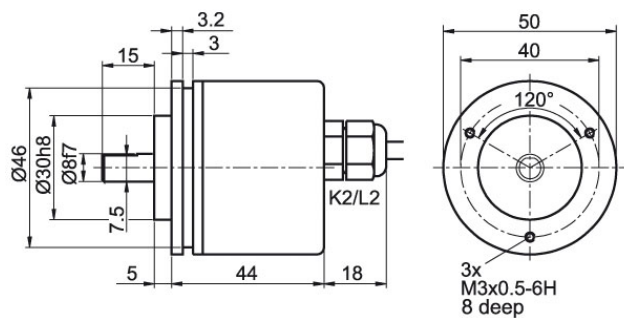
Electrical Data	
Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 70 mA
Power supply/Current consumption	10 VDC up to 30 VDC: typ. 70 mA
Output circuit	TTL, RS422 compatible, inv. HTL

Pulse frequency	TTL ≤ 2500 ppr: max. 200 kHz HTL ≤ 2500 ppr: max. 200 kHz
Channels	AB ABN and inverted signals
Load	max. 40 mA / channel
Circuit protection	circuit type H24 and R24 only
Accuracy	
Phase offset	90° ± max. 7.5 % of the pulse length
pulse-/pause-ratio	50 % ± max. 7 %

General Data	
Weight	approx. 160 g
Connections	cable or connector outlet
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	-20 °C up to +80 °C
Storage temperature	-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	

Cable connection K2, L2 with 2 m cable



Description

ABN inv. poss.

K2 axial, shield not connected

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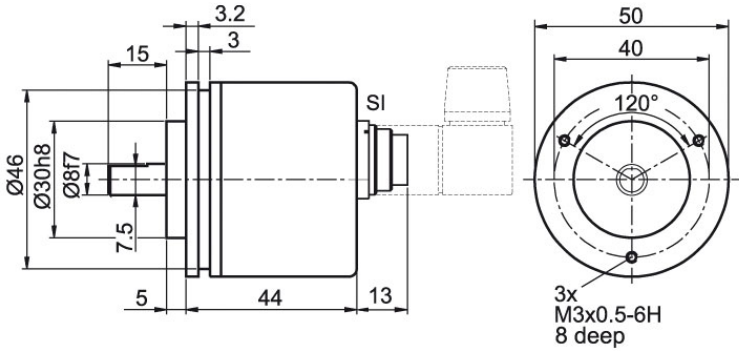
L2 axial, shield connected to encoder housing

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Assignments

	K2, L2	K2, L2
Circuit	H05, H24	R05, R24
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
Light reserve warning	-	-
A inv.	-	RD
B inv.	-	BK, (BU at ACA)
N inv.	-	VT
Shield	flex	flex

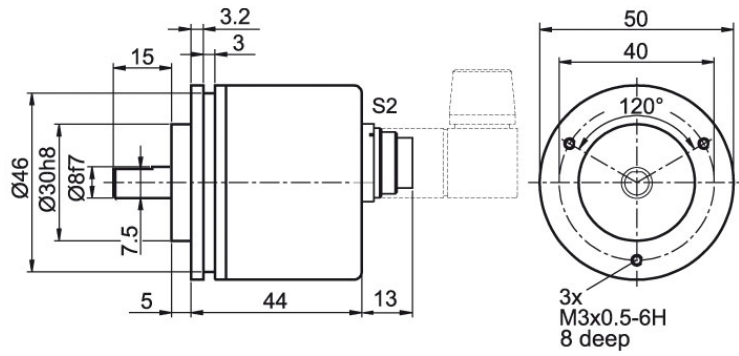
Cable connection (M16x0.75) SI, 5-, 6-, 8-, 12-pin



Description	ABN inv. poss.
SI5 axial, 5-pin, Connector connected to encoder housing	-
SI6 axial, 6-pin, Connector connected to encoder housing	-
SI8 axial, 8-pin, Connector connected to encoder housing	•
SI12 axial, 12-pin, Connector connected to encoder housing	•

Assignments						
	SI5	SI6	SI8	SI8	SI12	SI12
	5-pin	6-pin	8-pin	8-pin	12-pin	12-pin
Circuit	H05, H24	H05, H24	H05, H24	R05, R24	H05, H24	R05, R24
GND	1	6	1	1	K, L	K, L
(+) Vcc	2	1	2	2	M, B	M, B
A	3	2	3	3	E	E
B	4	4	4	4	H	H
N	5	3	5	5	C	C
Light reserve warning	-	-	-	-	-	-
A inv.	-	-	-	6	-	F
B inv.	-	-	-	7	-	A
N inv.	-	-	-	8	-	D
n. c.	-	5	6, 7, 8	-	A, D, F, G, J	G, J
Shield	-	-	-	-	-	-

Connector (M16x0.75) S2, 7-pin

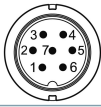


Description

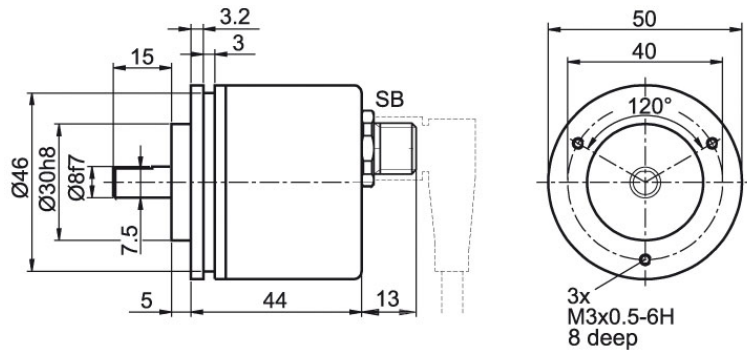
ABN inv. poss.

S2 axial, 7-pin, Connector connected to encoder housing

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Assignments	
	S2
	7-pin
	
Circuit	H05, H24
GND	1
(+) Vcc	2
A	3
B	4
N	5
Light reserve warning	-
A inv.	-
B inv.	-
N inv.	-
n. c.	6, 7
Shield	-

Sensor-connector (M12x1) SB, 4-, 5-, 8-, 12-pin



Description	ABN inv. poss.
SB4 axial, 4-pin, Connector connected to encoder housing	-
SB5 axial, 5-pin, Connector connected to encoder housing	-
SB8 axial, 8-pin, Connector connected to encoder housing	•
SB12 axial, 12-pin, Connector connected to encoder housing	•

Assignments						
	SB4	SB5	SB8	SB8	SB12	SB12
	4-pin	5-pin	8-pin	8-pin	12-pin	12-pin
Circuit	H05, H24	H05, H24	H05, H24	R05, R24	H05, H24	R05, R24
GND	3	3	1	1	3	3
(+) Vcc	1	1	2	2	1	1
A	2	4	3	3	4	4
B	4	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. c.	-	-	6, 7, 8	-	2, 5, 7, 9, 10, 11, 12	2, 5, 11, 12
Shield	-	-	-	-	-	-

Options

Low-friction bearings

The encoder WDG 50B is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to ≤ 0.25 Ncm and the protection class at the shaft input to IP50.

Order key

AAC

Low temperature

The encoder WDG 50B with the output circuit types H24, R24 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 50B 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 50B	WDG 50B										WDG 50B	
	Pulses per revolution PPR:											
2048	4, 9, 10, 15, 20, 25, 28, 30, 36, 40, 50, 60, 90, 100, 120, 125, 128, 150, 160, 180, 200, 235, 250, 300, 314, 318, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500, 1800, 2000, 2048, 2500 Other PPRs on request											
	Channels:											
ABN	AB, ABN bis 2048 I/U											
	Output circuit											
H24	Resolution PPR	Power supply VDC	Output circuit				Light reserve warning	Order key				
	up to 2500	4.75 - 5.5	TTL				-	H05				
		4.75 - 5.5	TTL, RS422 comp., inverted				-	R05				
		10 - 30	HTL				-	H24				
		10 - 30	HTL inverted				-	R24				
	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				
	Connector: (shield connected to encoder housing)											
	connector, M16x0.75, 5-pin, axial						-	SI5				
	connector, M16x0.75, 6-pin, axial						-	SI6				
	connector, M16x0.75, 8-pin, axial						•	SI8				
	connector, M16x0.75, 12-pin, axial						•	SI12				
	connector, M16x0.75, 7-pin, axial						-	S2				
	sensor-connector, M12x1, 4-pin, axial						-	SB4				
	sensor-connector, M12x1, 5-pin, axial						-	SB5				
	sensor-connector, M12x1, 8-pin, axial						•	SB8				
	sensor-connector, M12x1, 12-pin, axial						•	SB12				
	Options											
	Description						Order key					
	Low-friction bearings						AAC					
	Low temperature						ACA					
	Without option						Empty					
	Cable length						XXX = Decimeter					
Example Order No.=	WDG 50B	2048	ABN	H24	K2		WDG 50B					Your encoder

Example Order No. =	WDG 50B	2048	ABN	H24	K2		WDG 50B					Your encoder
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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
http://www.wachendorff-automation.com/distributors_worldwide.html

CREKEN

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