



Online Data Sheet

엠펙루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (CON)

WDGA 58A 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 WDGA 58A PROFIBUS-DP (con) IndustrieROBUST
www.wachendorff-automation.com/wdga58apbs

Encoder WDGA 58A absolute PROFIBUS-DP magnetic, with EnDra® - Technology



EnDra®
Technologie

PROFI
BUS

PIV CERTIFIED
PROFIBUS • PROFINET

1. PROFIBUS-DP 인터페이스 절대형 로터리 엔코더

- 프로토콜 : PROFIBUS-DPV0/V2
- Baud rate : MAX 12M
- 노드설정 : 소프트웨어 조정

2. EnDra® 기술을 활용한 멀티턴 분해능

- 최대 39bit 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. 높은 축 강도의 견고한 엔코더

- Radial 220N, Axial 120N

4. IP67의 보호 기능 - 방수/방진 로터리 엔코더

- Shaft sealing - IP65 **IP67선택 가능

Mechanical Data	
Housing	
Flange	synchro flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature, approx. 1.416 in-ozf 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
Nominal 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	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data

Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV0/V2

Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	adjustable via software
Termination resistor:	non-existent
Code:	binary, CW default, programable
Programmable Parameter:	steps per revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder:	DUO-LED
Status bus:	DUO-LED

General Data

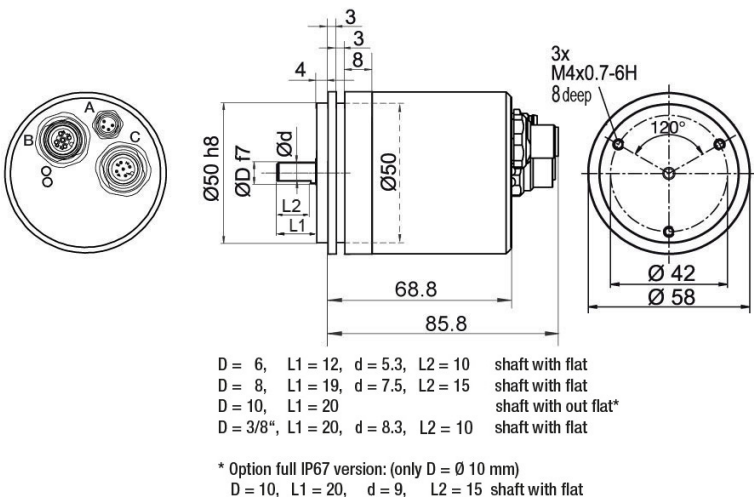
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

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

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

WDGA 58A PROFIBUS-DP with 1x M8, 2x M12, axial DB4



Description

DB4 axial, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin,

Assignments	
	DB4
connector (A)	M8x1, 4-pin
(+) Vcc	1
n. c.	2
GND	3
GND	4

Assignments	
	DB4
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
5 V DP	1
A	2
GND DP	3
B	4
n. c.	5

Assignments	
	DB4
connector (C)	M12x1, 4-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4

Options

Shafts sealed to IP67, only with 10 mm shaft with flat, not at D-SUB SD9/SE9

Order key

The encoder WDGA 58A PROFIBUS-DP (con) can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder	
WDGA 58A	WDGA 58A	WDGA 58A	
	Shaft	Order key	
06	Ø 6 mm Attention: No option AAS = full IP67 version	06	
	Ø 8 mm Attention: No option AAS = full IP67 version	08	
	Ø 10 mm	10	
	Ø 9.525 mm Ø 3/8" Attention: No option AAS = full IP67 version	4Z	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (without bus cover)	DP	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
DB4	Connector:		
	connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	DB4	
	Options	Order key	
	Without option	Empty	
	Shafts sealed to IP67, only with 10 mm shaft with flat, not at D-SUB SD9/SE9	AAS	

Example Order No.	WDGA 58A	06	13	12	DP	A	B	0	1	DB4	
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WDGA 58A											Example Order No.
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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

주식회사 크레켄

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Phone: 031) 608-3200 Fax: 031) 776-2320
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Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (COV) WDGA 58A 시리즈

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- Industrial rugged encoders to suit your application
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Encoder WDGA 58A absolute PROFIBUS-DP magnetic, with bus cover and with EnDra® - Technology



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1. PROFIBUS-DP 인터페이스 절대형 로터리 엔코더

- 프로토콜 : PROFIBUS-DPV0/V2
- Baud rate : MAX 12M
- 노드설정 : 하드웨어 설정
- 종단저항 설정
- Bus cover 설정

2. EnDra® 기술을 활용한 멀티턴 분해능

- 최대 39bit 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. IP67의 보호 기능 - 방수/방진 로터리 엔코더

- Shaft sealing - IP65 **IP67선택 가능

Mechanical Data	
Housing	
Flange	synchro 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, approx. 1.416 in-ozf 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
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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
Nominal 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	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data	
Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface	
Interface:	PROFIBUS-DP

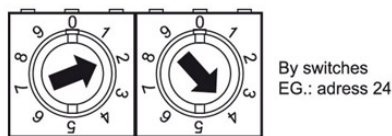
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programmable
Programmable Parameter:	steps per Revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder	DUO-LED in bus cover
Status Bus	DUO-LED in bus cover

Termination resistors:

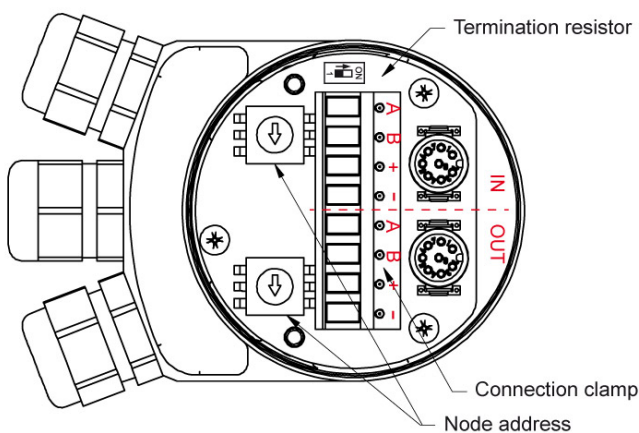


ON = last node
OFF = node X

Node adress:



View in bus cover:



General Data

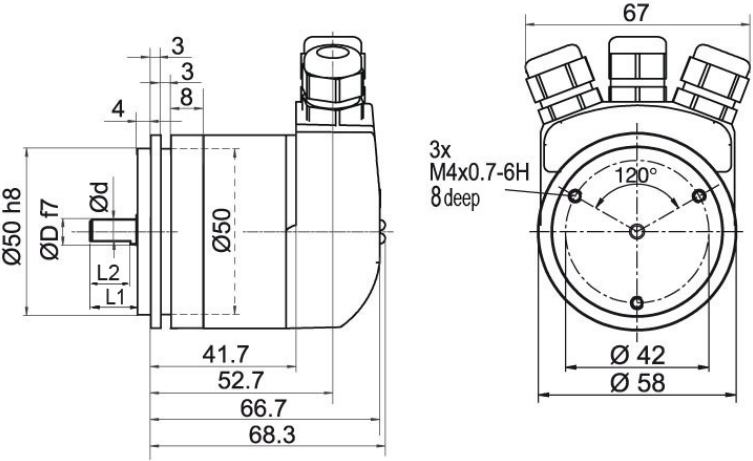
Weight	approx. 700 g, approx. 24.7 oz
Connections	bus cover

Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

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

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

WDGA 58A PROFIBUS-DP, BP1, bus cover with 3x PG cable glands

D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, d = 7.5, L2 = 15 shaft with flat
D = 10, L1 = 20 shaft with out flat*
D = 3/8", L1 = 20, d = 8.3, L2 = 10 shaft with flat

* Option full IP67 version: (only D = Ø 10 mm)
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

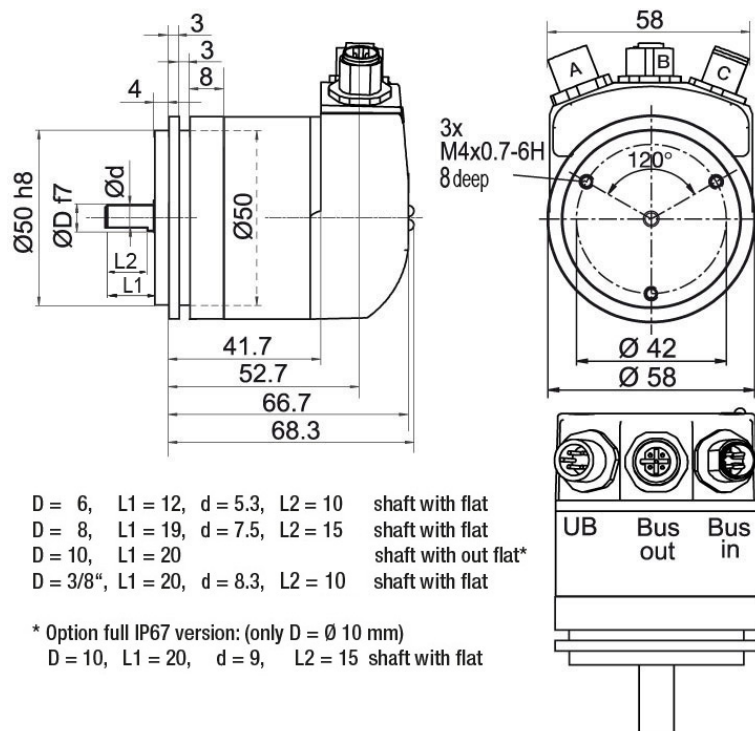
Description

BP1 Bus cover with connection clamps (PG cable glands)

Assignments	
	BP1
A	1
B	2
(+) Vcc	3
GND	4

Assignments	
	BP1
A	5
B	6
(+) Vcc	7
GND	8

WDGA 58A PROFIBUS-DP, BP2, bus cover with 3x M12x1



Description

BP2 Bus cover with 3x M12x1

Assignments	
	BP2
connector (A)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BP2
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Assignments	
	BP2
connector (C)	M12x1, 5-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Options

Shafts sealed to IP67 (shaft with flat: Ø 10 mm only)

Order key

The encoder WDGA 58A PROFIBUS-DP (cov) can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder
WDGA 58A	WDGA 58A	WDGA 58A
	Shaft	Order key
06	Ø 6 mm Attention: No option AAS = full IP67 version	06
	Ø 8 mm Attention: No option AAS = full IP67 version	08
	Ø 10 mm	10
	Ø 9.525 mm Ø 3/8" Attention: No option AAS = full IP67 version	4Z
	Single-turn Resolution	Order key
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12
	Multi-turn Resolution	Order key
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18
	Data protocol	Order key
DP	PROFIBUS-DP (with bus cover)	DP
	Software	Order key
A	up to date release	A
	Code	Order key
B	binary	B
	Power supply	Order key
0	10 V up to 32 V (standard)	0
	Galvanic isolation	Order key
1	yes	1
	Electrical connections	Order key
BP1	Connection cover:	
	Bus cover with connection clamps (PG cable glands)	BP1
	Bus cover with 3x M12x1	BP2
	Options	Order key
	Without option	Empty
	Shafts sealed to IP67 (shaft with flat: Ø 10 mm only)	AAS

Example Order No.	WDGA 58A	06	13	12	DP	A	B	0	1	BP1	
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WDGA 58A											Example Order No.
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CREKEN

주식회사 크레켄

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www.creken.co.kr



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E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de





Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (CON)

WDGA 58B 시리즈

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... systems and encoders

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- Standard range and customer versions
- Maximum permissible loads
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- Worldwide distributor network

Encoder WDGA 58B PROFIBUS-DP (con)

www.wachendorff-automation.com/wdga58bpbs

IndustrieROBUST

Encoder WDGA 58B absolute PROFIBUS-DP magnetic, with EnDra® - Technology



EnDra®
Technologie

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3. 높은 축 강도의 견고한 엔코더

- Radial 220N, Axial 120N

4. IP67의 보호 기능 - 방수/방진 로터리 엔코더

- Shaft sealing - IP65 **IP67선택 가능

Mechanical Data

Housing

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

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature, approx. 1.416 in-ozf 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
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
Nominal 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	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data

Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV0/V2

Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	adjustable via software
Termination resistor:	non-existent
Code:	binary, CW default, programable
Programmable Parameter:	steps per revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder:	DUO-LED
Status bus:	DUO-LED

General Data

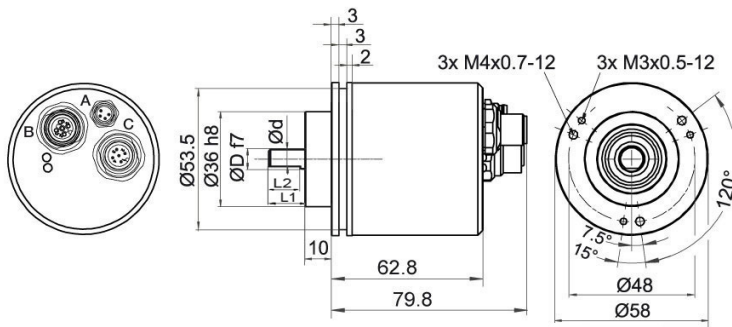
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

General technical data and safety instructions
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Options
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WDGA 58B PROFIBUS-DP with 1x M8, 2x M12, axial DB4



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, d = 7.5, L2 = 15 shaft with flat
D = 10, L1 = 20 shaft with out flat*
D = 3/8", L1 = 20, d = 8.3, L2 = 10 shaft with flat

* Option full IP67 version: (only D = Ø 10 mm)
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

Description

DB4 axial, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin,

Assignments	
	DB4
connector (A)	M8x1, 4-pin
(+) Vcc	1
n. c.	2
GND	3
GND	4

Assignments	
	DB4
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
5 V DP	1
A	2
GND DP	3
B	4
n. c.	5

Assignments	
	DB4
connector (C)	M12x1, 4-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4

Options

Shafts sealed to IP67, only with 10 mm shaft with flat, not at D-SUB SD9/SE9

Order key

The encoder WDGA 58B PROFIBUS-DP (con) can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder
WDGA 58B	WDGA 58B	WDGA 58B
	Shaft	Order key
10	Ø 6 mm Attention: No option AAS = full IP67 version	06
	Ø 8 mm Attention: No option AAS = full IP67 version	08
	Ø 10 mm	10
	Ø 9.525 mm Attention: No option AAS = full IP67 version	4Z
	Single-turn Resolution	Order key
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12
	Multi-turn Resolution	Order key
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18
	Data protocol	Order key
DP	PROFIBUS-DP (without bus cover)	DP
	Software	Order key
A	up to date release	A
	Code	Order key
B	binary	B
	Power supply	Order key
0	10 V up to 32 V (standard)	0
	Galvanic isolation	Order key
1	yes	1
	Electrical connections	Order key
DB4	Connector: connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	DB4
	Options	Order key
	Without option	Empty
	Shafts sealed to IP67, only with 10 mm shaft with flat, not at D-SUB SD9/SE9	AAS

Example Order No.	WDGA 58B	10	13	12	DP	A	B	0	1	DB4	
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WDGA 58B											Example Order No.
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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

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Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (COV)

WDGA 58B 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 WDGA 58B PROFIBUS-DP (cov) IndustrieROBUST

www.wachendorff-automation.com/wdga58bpbb

Encoder WDGA 58B absolute PROFIBUS-DP magnetic, with bus cover and with EnDra® - Technology



EnDra®
Technologie

PROFI®
BUS

PIV CERTIFIED
PROFIBUS • PROFINET

1. PROFIBUS-DP 인터페이스 절대형 로터리 엔코더

- 프로토콜 : PROFIBUS-DPV0/V2
- Baud rate : MAX 12M
- 노드설정 : 하드웨어 설정
- 종단저항 설정
- Bus cover 설정

2. EnDra® 기술을 활용한 멀티턴 분해능

- 최대 39bit 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. IP67의 보호 기능 - 방수/방진 로터리 엔코더

- Shaft sealing - IP65 **IP67선택 가능

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, approx. 1.416 in-ozf 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
Nominal 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	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data	
Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

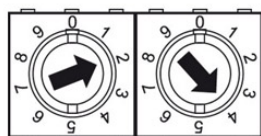
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface	
Interface:	PROFIBUS-DP

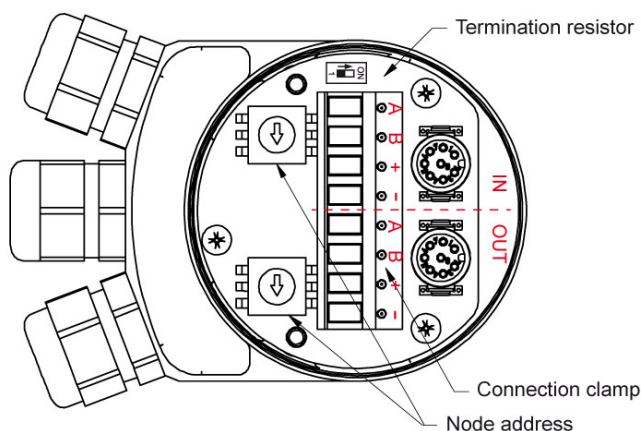
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programmable
Programmable Parameter:	steps per Revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder	DUO-LED in bus cover
Status Bus	DUO-LED in bus cover

Termination resistors:


ON = last node
OFF = node X

Node adress:


By switches
EG.: adress 24

View in bus cover:


Cable clamping value: Ø 4 mm - 9.5 mm

General Data

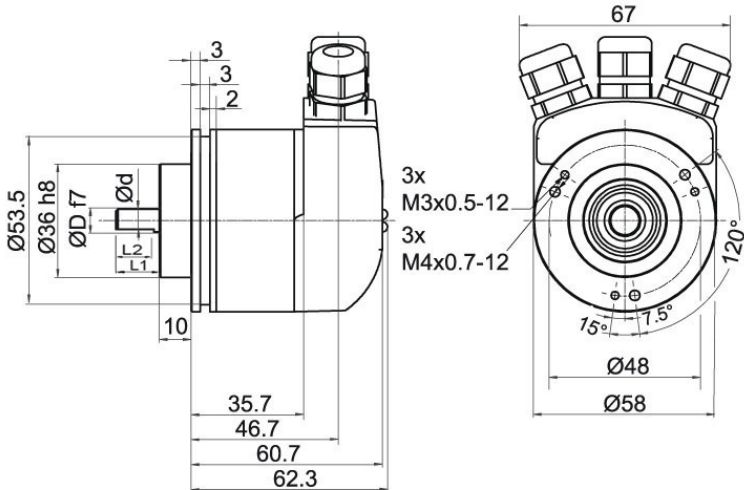
Weight	approx. 700 g, approx. 24.7 oz
Connections	bus cover

Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

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

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

WDGA 58B PROFIBUS-DP, BP1, bus cover with 3x PG cable glands

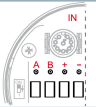
D = 6,	L1 = 12,	d = 5.3,	L2 = 10	shaft with flat
D = 8,	L1 = 19,	d = 7.5,	L2 = 15	shaft with flat
D = 10,	L1 = 20			shaft with out flat*
D = 3/8",	L1 = 20,	d = 8.3,	L2 = 10	shaft with flat

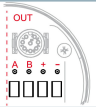
* Option full IP67 version: (only D = Ø 10 mm)

D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

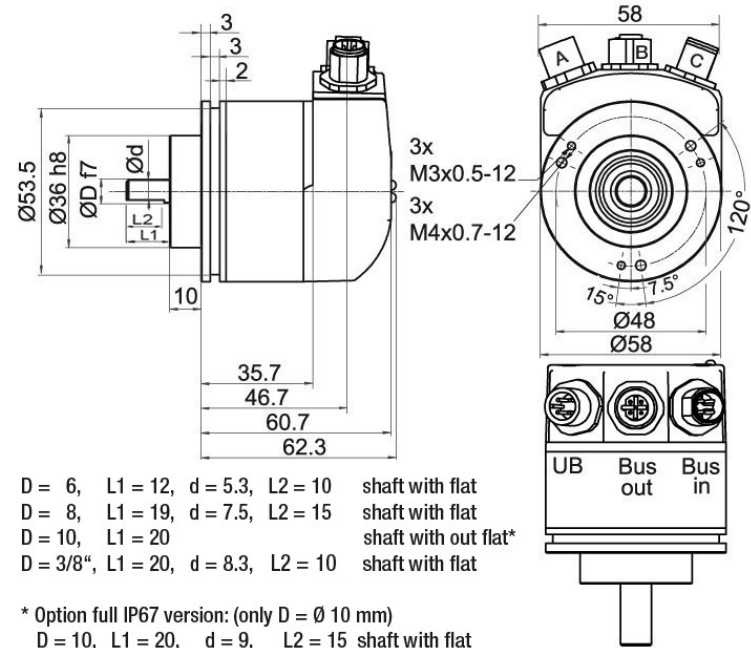
Description

BP1 Bus cover with connection clamps (PG cable glands)

Assignments	
	BP1
	
A	1
B	2
(+) Vcc	3
GND	4

Assignments	
	BP1
	
A	5
B	6
(+) Vcc	7
GND	8

WDGA 58B, PROFIBUS-DP, BP2, bus cover with 3x M12x1



Description

BP2 Bus cover with 3x M12x1

Assignments	
	BP2
connector (A)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BP2
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Assignments	
	BP2
connector (C)	M12x1, 5-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Options

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

Order key

The encoder WDGA 58B PROFIBUS-DP (cov) can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder	
WDGA 58B	WDGA 58B	WDGA 58B	
	Shaft	Order key	
10	Ø 6 mm Attention: No option AAS = full IP67 version	06	
	Ø 8 mm Attention: No option AAS = full IP67 version	08	
	Ø 10 mm	10	
	Ø 9.525 mm Ø 3/8" Attention: No option AAS = full IP67 version	4Z	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (with bus cover)	DP	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
BP1	Connection cover:		
	Bus cover with connection clamps (PG cable glands)	BP1	
	Bus cover with 3x M12x1	BP2	
	Options	Order key	
	Without option	Empty	
	Shafts sealed to IP67, only with 10 mm shaft with flat	AAS	

Example Order No.	WDGA 58B	10	13	12	DP	A	B	0	1	BP1	
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WDGA 58B											Example Order No.
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Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (CON)

WDGA 58D 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 WDGA 58D absolute PROFIBUS-DP magnetic, with EnDra® - Technology



EnDra®
Technologie

PROFI®
BUS

PIV CERTIFIED
PROFIBUS • PROFINET

Heavy duty

1. **PROFIBUS-DP 인터페이스 절대형 로터리 엔코더**
- 프로토콜 : **PROFIBUS-DPV0/V2**
- Baud rate : **MAX 12M**
- 노드설정 : 소프트웨어 조정

2. **EnDra® 기술을 활용한 멀티턴 분해능**
- 최대 **39bit** 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. **고강도 축 하중의 견고한 엔코더**
- **Radial 400N, Axial 400N**

4. **IP67의 보호 기능 - 방수/방진 로터리 엔코더**
- **Shaft sealing - IP65 **IP67선택 가능**

Mechanical Data	
Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø 12 mm
Shaft length	L: 25 mm
Max. Permissible shaft loading radial	400 N
Max. Permissible shaft loading axial	400 N

Bearings	
Bearings type	2 precision ball bearings
Nominal 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	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data	
Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)

Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface	
Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 Mbaud
Function:	Multiturn
Nodeaddressing:	adjustable via software
Termination resistor:	non-existent
Code:	binary, CW default, programable
Programmable Parameter:	steps per revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder:	DUO-LED
Status bus:	DUO-LED

General Data

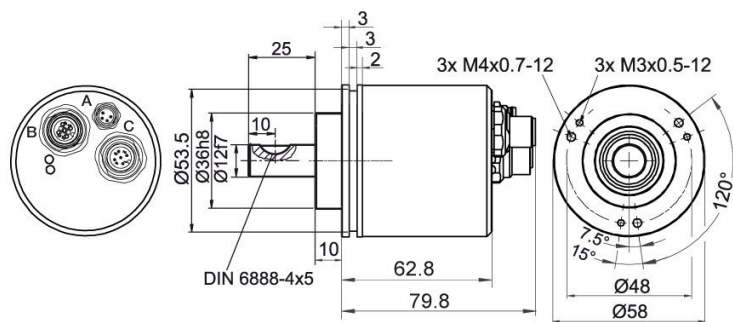
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

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

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

WDGA 58D PROFIBUS-DP with 1x M8x1, 2x M12x1, axial DB4



Description

DB4 axial, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin,

Assignments	
	DB4
connector (A)	M8x1, 4-pin
(+) Vcc	1
n. c.	2
GND	3
GND	4

Assignments	
	DB4
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
5 V DP	1
A	2
GND DP	3
B	4
n. c.	5

Assignments	
	DB4
connector (C)	M12x1, 4-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
	Shaft	Order key	
12	Ø 12 mm	12	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (without bus cover)	DP	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
DB4	Connector:		
	connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	DB4	

Example Order No.	WDGA 58D	12	13	12	DP	A	B	0	1	DB4
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WDGA 58D										Example Order No.
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Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (COV) WDGA 58D 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 WDGA 58D PROFIBUS-DP (cov) IndustrieROBUST
www.wachendorff-automation.com/wdga58dpbb

Encoder WDGA 58D absolute PROFIBUS-DP magnetic, with bus cover and with EnDra® - Technology



EnDra®
Technologie

PROFI
BUS

PI CERTIFIED
PROFIBUS • PROFINET

Heavy duty

1. PROFIBUS-DP 인터페이스 절대형 로터리 엔코더

- 프로토콜 : PROFIBUS-DPV0/V2
- Baud rate : MAX 12M
- 노드설정 : 하드웨어 설정
- 종단저항 설정
- Bus cover 설정

2. EnDra® 기술을 활용한 멀티턴 분해능

- 최대 39bit 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. 고강도 축 하중의 견고한 엔코더

- Radial 400N, Axial 400N

4. IP67의 보호 기능 - 방수/방진 로터리 엔코더

- Shaft sealing - IP65 **IP67선택 가능

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 12 mm
Shaft length	L: 25 mm
Max. Permissible shaft loading radial	400 N
Max. Permissible shaft loading axial	400 N

Bearings

Bearings type	2 precision ball bearings
Nominal 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	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data

Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 Mbaud
Function:	Multiturn
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programable
Programmable Parameter:	steps per Revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder	DUO-LED in bus cover

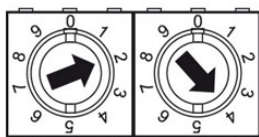
Status Bus DUO-LED in bus cover

Termination resistors:



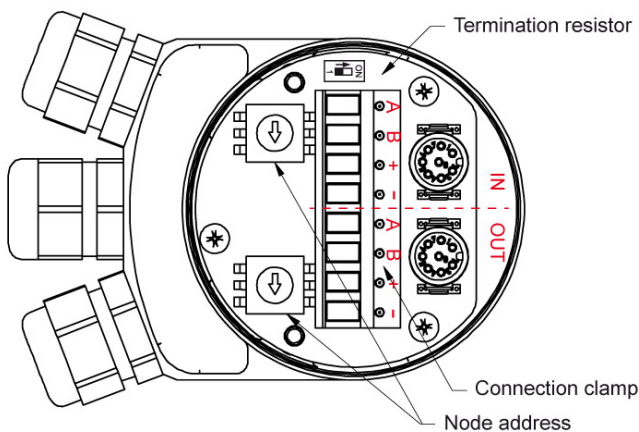
ON = last node
OFF = node X

Node address:



By switches
EG.: address 24

View in bus cover:



Cable clamping value: Ø 4 mm - 9.5 mm

General Data

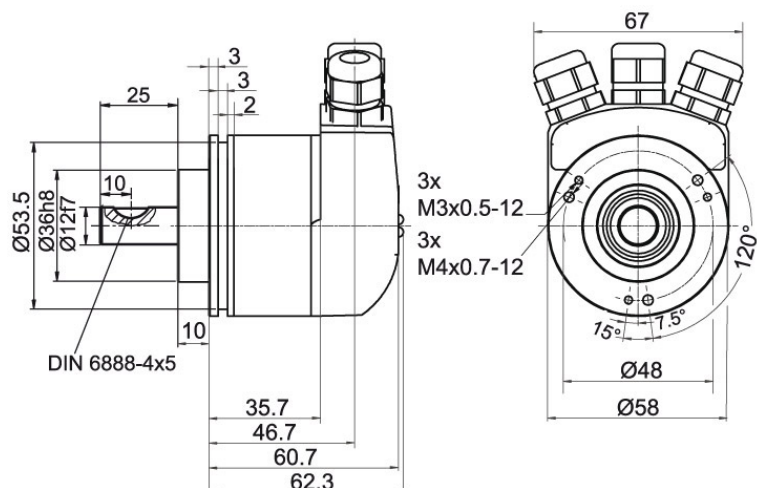
Weight	approx. 700 g
Connections	bus cover
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

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

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

WDGA 58D PROFIBUS-DP, BP1, bus cover with 3x PG cable glands



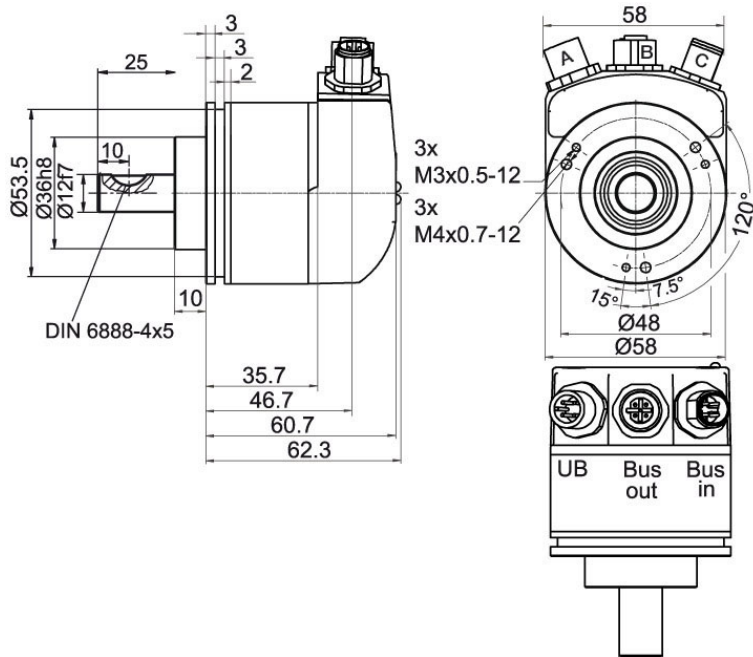
Description

BP1 Bus cover with connection clamps (PG cable glands)

Assignments	
	BP1
	
A	1
B	2
(+) Vcc	3
GND	4

Assignments	
	BP1
	
A	5
B	6
(+) Vcc	7
GND	8

WDGA 58D, PROFIBUS-DP, BP2, bus cover with 3x M12x1



Description

BP2 Bus cover with 3x M12x1

Assignments	
	BP2
connector (A)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BP2
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Assignments	
	BP2
connector (C)	M12x1, 5-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
	Shaft	Order key	
12	Ø 12 mm	12	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (with bus cover)	DP	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
BP1	Connection cover:		
	Bus cover with connection clamps (PG cable glands)	BP1	
	Bus cover with 3x M12x1	BP2	

Example Order No.	WDGA 58D	12	13	12	DP	A	B	0	1	BP1
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WDGA 58D										Example Order No.
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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

주식회사 크레켄

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Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (CON) WDGA 58E 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 WDGA 58E PROFIBUS-DP (con) IndustrieROBUST
www.wachendorff-automation.com/wdga58epbs

Encoder WDGA 58E absolute PROFIBUS-DP magnetic, with EnDra® - Technology



EnDra®
Technologie

PROFI
BUS

PI CERTIFIED
PROFIBUS • PROFINET

1. **PROFIBUS-DP 인터페이스 절대형 로터리 엔코더 - 중공축 타입**
- 프로토콜 : **PROFIBUS-DPV0/V2**
- **Baud rate : MAX 12M**
- 노드설정 : 소프트웨어 조정

2. **EnDra® 기술을 활용한 멀티턴 분해능**
- 최대 **39bit** 대응
- 위치 기억을 위한 **배터리**, 기어 불필요

3. 다양한 축 설정 가능 - **6mm, 1/4", 7mm ~ 15mm**

4. **IP67의 보호 기능 - 방수/방진 로터리 엔코더**
- **Shaft sealing - IP65 **IP67선택 가능**

Mechanical Data	
Housing	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10019
- 1. Spring plate compensation	axial: ±1.2 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +80 °C
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature, approx. 2.226 in-ozf at ambient temperature
Fixing	permanently attached clamping ring
Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 6.35 mm, Ø 1/4"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp
Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
Shaft	Ø 8 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 9.525 mm, Ø 3/8"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp
Shaft	Ø 10 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 12 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 14 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
Shaft	Ø 15 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Bearings

Bearings type	2 precision ball bearings
Nominal 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	6000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn

Node addressing:	adjustable via software
Termination resistor:	non-existent
Code:	binary, CW default, programmable
Programmable Parameter:	steps per revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder:	DUO-LED
Status bus:	DUO-LED

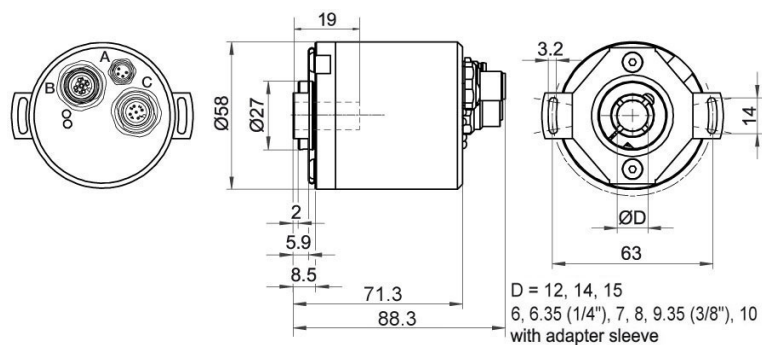
General Data

Weight	approx. 410 g, approx. 14.462 oz
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

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

WDGA 58E PROFIBUS-DP with 1x M8, 2x M12, axial DB4



Description

DB4 axial, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin,

Assignments	
	DB4
connector (A)	M8x1, 4-pin
(+) Vcc	1
n. c.	2
GND	3
GND	4

Assignments	
	DB4
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
5 V DP	1
A	2
GND DP	3
B	4
n. c.	5

Assignments	
	DB4
connector (C)	M12x1, 4-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4

Example Order No.	Type	Your encoder
WDGA 58E	WDGA 58E	WDGA 58E
	Shaft	Order key
12	Ø 6 mm with adapter sleeve	06
	Ø 6.35 mm Ø 1/4" with adapter sleeve	2Z
	Ø 7 mm with adapter sleeve	07
	Ø 8 mm with adapter sleeve	08
	Ø 9.525 mm Ø 3/8" with adapter sleeve	4Z
	Ø 10 mm with adapter sleeve	10
	Ø 12 mm	12
	Ø 14 mm	14
	Ø 15 mm	15
	Single-turn Resolution	Order key
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12
	Multi-turn Resolution	Order key
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18
	Data protocol	Order key
DP	PROFIBUS-DP (without bus cover)	DP
	Software	Order key
A	up to date release	A
	Code	Order key
B	binary	B
	Power supply	Order key
0	10 V up to 32 V (standard)	0
	Galvanic isolation	Order key
1	yes	1
	Electrical connections	Order key
DB4	Connector:	
	connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	DB4

Example Order No.	WDGA 58E	12	13	12	DP	A	B	0	1	DB4
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WDGA 58E										Example Order No.
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http://www.wachendorff-automation.com/distributors_worldwide.html

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Phone: 031) 608-3200 Fax: 031) 776-2320
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www.creken.co.kr



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





Online Data Sheet

엠플루트 PROFIBUS 통신 마그네틱 로터리 엔코더 (COV)

WDGA 58E 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 WDGA 58E PROFIBUS-DP (cov) IndustrieROBUST
www.wachendorff-automation.com/wdga58epbb

Encoder WDGA 58E absolute PROFIBUS-DP magnetic, with EnDra® - Technology



EnDra®
Technologie

PROFI
BUS

PI CERTIFIED
PROFIBUS • PROFINET

1. PROFIBUS-DP 인터페이스 절대형 로터리 엔코더 - 중공축 타입
- 프로토콜 : PROFIBUS-DPV0/V2
- Baud rate : MAX 12M
- 노드설정 : 하드웨어 설정
- 종단저항 설정
- Bus cover 설정

2. EnDra® 기술을 활용한 멀티턴 분해능
- 최대 39bit 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. 다양한 축 설정 가능 - 6mm, 1/4", 7mm ~ 15mm

4. IP67의 보호 기능 - 방수/방진 로터리 엔코더
- Shaft sealing - IP65 **IP67선택 가능

Mechanical Data	
Housing	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Connection cover	zinc-plated
Torque supports	incl. 1 torque support WDGD510019
- 1. Spring plate compensation	axial: ±1.2 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +80 °C
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature, approx. 2.226 in-ozf at ambient temperature
Fixing	permanently attached clamping ring
Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 6.35 mm, Ø 1/4"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp
Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
Shaft	Ø 8 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 9.525 mm, Ø 3/8"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp
Shaft	Ø 10 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 12 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 14 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
Shaft	Ø 15 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Bearings

Bearings type	2 precision ball bearings
Nominal 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	6000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data

Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn

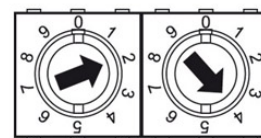
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programable
Programmable Parameter:	steps per Revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder	DUO-LED in bus cover
Status Bus	DUO-LED in bus cover

Termination resistors:



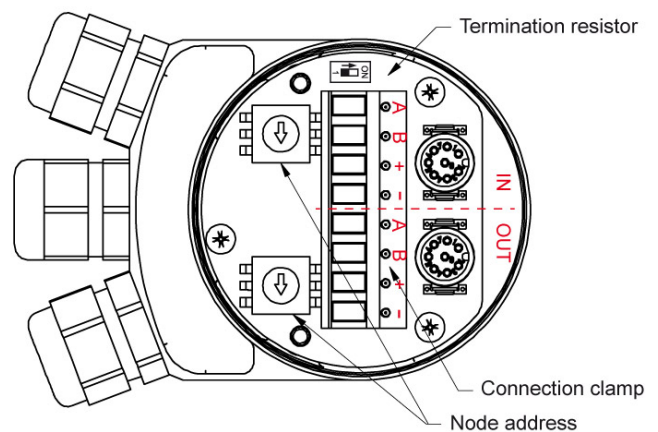
ON = last node
OFF = node X

Node adress:



By switches
EG.: adress 24

View in bus cover:



Cable clamping value: Ø 4 mm - 9.5 mm

General Data

Weight	approx. 410 g, approx. 14.462 oz
Connections	bus cover
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

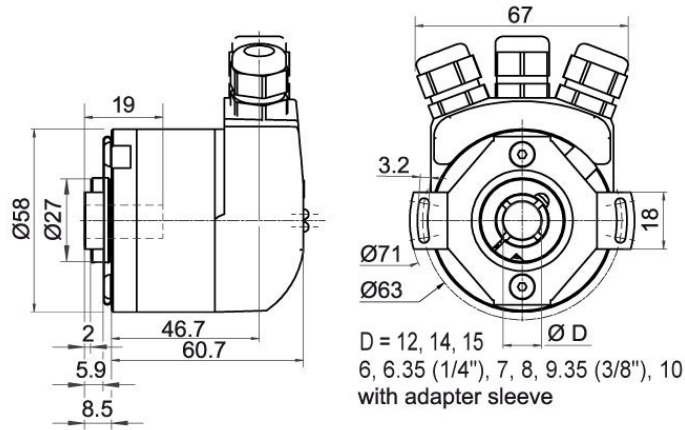
General technical data and safety instructions

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

Options

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

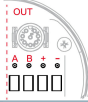
WDGA 58E PROFIBUS-DP, BP1, bus coverf with 3x cable gland



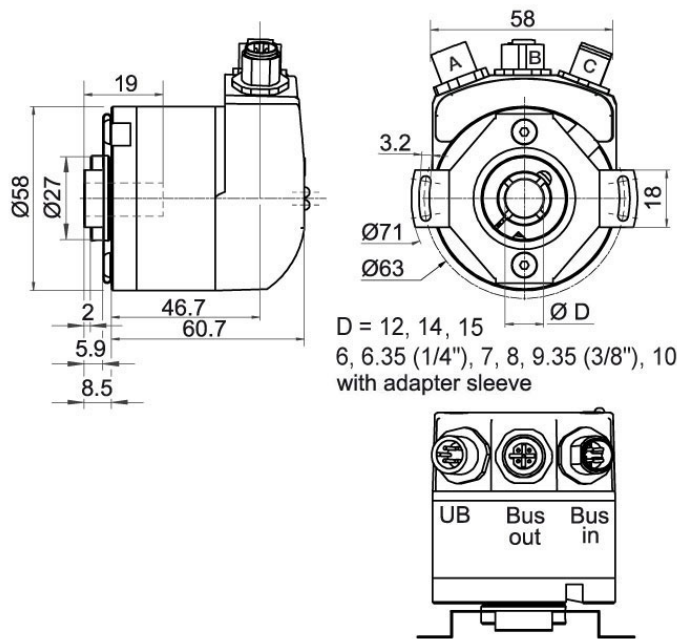
Description

BP1 Bus cover with connection clamps (PG cable glands)

Assignments	
	BP1
	
A	1
B	2
(+) Vcc	3
GND	4

Assignments	
	BP1
	
A	5
B	6
(+) Vcc	7
GND	8

WDGA 58E PROFIBUS-DP, BP2, bus cover with 3x M12x1



Description

BP2 Bus cover with 3x M12x1

Assignments	
	BP2
connector (A)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BP2
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Assignments	
	BP2
connector (C)	M12x1, 5-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Example Order No.	Type	Your encoder	
WDGA 58E	WDGA 58E	WDGA 58E	
	Shaft	Order key	
12	Ø 6 mm with adapter sleeve	06	
	Ø 6.35 mm Ø 1/4" with adapter sleeve	2Z	
	Ø 7 mm with adapter sleeve	07	
	Ø 8 mm with adapter sleeve	08	
	Ø 9.525 mm Ø 3/8" with adapter sleeve	4Z	
	Ø 10 mm with adapter sleeve	10	
	Ø 12 mm	12	
	Ø 14 mm	14	
	Ø 15 mm	15	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (with bus cover)	DP	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
BP1	Connection cover:		
	Bus cover with connection clamps (PG cable glands)	BP1	
	Bus cover with 3x M12x1	BP2	

Example Order No.	WDGA 58E	12	13	12	DP	A	B	0	1	BP1
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WDGA 58E										Example Order No.
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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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