



Online Data sheet

Encoder WDGA 58A PROFINET-IO (cov)

www.wachendorff-automation.com/wdga58apnb

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 absolute PROFINET-IO, with bus cover and with EnDra®- Technology



Illustration similar

EnDra®
Technologie

PROFI
NET

PIV CERTIFIED
PROFIBUS • PROFINET

- EnDra®: maintenance-free and environmentally friendly
- PROFINET-IO, Single-/Multiturn
- Compact design with bus cover
- Single-turn/Multi-turn (max. 16 bit/43 bit)
- Forward-looking technology
- 2 colour-duo LED's as indicator for operating condition and bus status and 2 L/A LED's
- High shaft load up to 220 N [22.433 kp] radial, 120 N [12.236 kp] axial
- Device Profile switchable, Class 3, 4

www.wachendorff-automation.com/

Mechanical Data

Flange	synchro flange
Flange material	aluminum
Housing material	die cast aluminum, powder coated
Intermediate piece	Chrome-plated steel housing, magnetic shielding
Flange diameter	Ø 58 mm [Ø 2.283"]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature

Shaft	Ø 6 mm [Ø 0.236"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 8 mm [Ø 0.315"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 19 mm [0.748"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

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	8000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	300 a
Mission time (TM)	20 a
Nominale 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. 125 mA
Power consumption	typ. 3 W
Operating principle	magnetic

Sensor data

Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (12 bit)
Single-turn repeat accuracy	± 0.0878° (12 bit)
Internal cycle time	50 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	43 bit

Integrated web server:

Configurable	IP address Subnet mask Gateway address
Readable	Encoder parameters
Update	Firmware

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)	200 m/s ² (10 Hz up to 1000 Hz)

Shock: (DIN EN 60068-2-27)	5000 m/s ² (6 ms)
Electrical Safety:	according DIN VDE 0160
Turn on time:	<1,5 s

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

Interface

Interface:	Industrial Ethernet
Protocol:	PROFINET-IO (CC-C)
Device Profile:	V4.2, Class 3, 4
Data Transfer:	100BASE-TX
Cycle time:	250 µs, applicable for up to 125 µs
Function:	Multiturn
Code:	binary, CW default, programable
Programmable Parameter:	steps per revolution counts of revolution preset scale counting direction MRPD MRP LLDP IRT
Diagnostics: (LED)	Traffic and connection management: L/A1: Port 1 L/A2: Port 2
Status LED:	STAT, MOD: status of encoder and bus

General Data

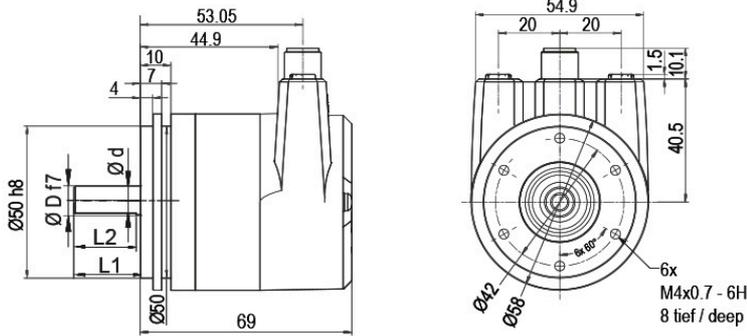
Weight	approx. 700 g [24.691 oz]
Connections	bus cover
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C [-40 °F up to 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

More Information

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

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

WDGA 58A PROFINET-IO, BI2, bus cover with 3x M12x1



D = 6, L1 = 12, d = 5.3, L2 = 10
 D = 8, L1 = 19, d = 7.5, L2 = 15
 D = 10, L1 = 20, d = 9, L2 = 15
 D = 3/8", L1 = 20, d = 8.3, L2 = 10

Option AIX:

D = 6, L1 = 10, d = 5.3, L2 = 8

Description

BI2 Bus cover with 3x M12x1

Assignments	
	BI2
Female connector (Port1)	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Assignments	
	BI2
connector (Power)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BI2
Female connector (Port2)	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Options

Low-friction bearings

Order key

The encoder WDGA 58A PROFINET-IO (cov) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.

AAC

Shafts sealed to IP67, only with shaft Ø 10 mm

Order key

The encoder WDGA 58A PROFINET-IO (cov) 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

AAO

Shaft length 10 mm (Ø 6 mm)

Order key

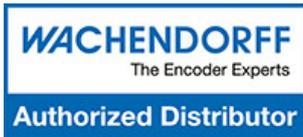
The encoder WDGA 58A PROFINET-IO shaft: Ø 6 mm is also available with a shortened shaft L = 10 mm.

AIX

Example Order No.	Type	Your encoder
WDGA 58A	WDGA 58A	WDGA 58A
	Shaft	Order key
06	Ø 6 mm [Ø 0.236"] Attention: No option AAO = full IP67 version	06
	Ø 8 mm [Ø 0.315"] Attention: No option AAO = full IP67 version	08
	Ø 10 mm [Ø 0.394"]	10
	Ø 9.525 mm [Ø 3/8"] Order No: 4Z Attention: No option AAO = full IP67 version	4Z
	Single-turn Resolution	Order key
13	Single-turn resolution 1 up to 16 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
PN	PROFINET-IO (with bus cover)	PN
	Software	Order key
W	up to date release	W
	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
BI2	Intermediate piece:	
	Bus cover with 3x M12x1	BI2
	Options	Order key
	Without option	Empty
	Low-friction bearings	AAC
	Shafts sealed to IP67, only with shaft Ø 10 mm	AAO
	Shaft length 10 mm (Ø 6 mm)	AIX

Example Order No.	WDGA 58A	06	13	12	PN	W	B	0	1	BI2	
--------------------------	----------	----	----	----	----	---	---	---	---	-----	--

WDGA 58A											Example Order No.
----------	--	--	--	--	--	--	--	--	--	--	--------------------------



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

WACHENDORFF

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

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

