



Online Data sheet

Encoder WDGA 58A IO-Link

www.wachendorff-automation.com/wdga58a-io-link

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 IO-Link, with EnDra®-Technology



EnDra®
Technologie

IO-Link

- EnDra®: maintenance-free and environmentally friendly
- IO-Link, Single-turn and Multi-turn
- Device Profile for encoder Smart Sensor Profile (SSP)
- Single-turn/Multi-turn (16 bit / 43 bit)
- Forward-looking technology with 32 Bit processor
- LED as indicator for operating condition and Error message
- Monitoring the power supply
- Cam switches for position and velocity with hysteresis
- High shaft load up to 220 N radial, 120 N axial

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Mechanical Data

Housing

Flange	synchro flange
Flange material	aluminum
Housing cap	stainless steel
Housing	Ø 58 mm
Cam mounting	pitch 65 mm

Shaft(s)

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

Shaft	Ø 6 mm
Advice	Attention: No option AAO = 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 AAO = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 9.525 mm, Ø 3/8"
Advice	Attention: No option AAO = 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

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

Bearings

Bearings type	2 precision ball bearings
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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	1300 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	18 VDC up to 30 VDC: typ. 20 mA
Power consumption	max. 0.5 W
Operating principle	magnetic

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (12 bit)
Single-turn repeat accuracy	± 0.0878° (12 bit)
Internal cycle time	250 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 32 bit with high precision value up to 43 bit.

Environmental data

ESD (DIN EN 61000-4-2):	4 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61326-2-3 DIN EN 61131-9
Vibration: (DIN EN 60068-2-6)	300 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1 s

Duty information

Customs tariff number:	90318020
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Country of origin:	Germany
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Interface

Interface:	IO-Link
Smart Sensor Profile (SSP):	<ul style="list-style-type: none">• 2.8 Adjustable Switching Sensor, multi channel• 4.2.1 Measuring and Switching Sensor, high resolution, 1 channel• 4.2.2 Measuring and Switching Sensor, high resolution, 2 channel
Baud rate:	COM 3 230.4 kBit/s
Advice:	The standard settings and customer-specific adjustments in the parameterisation can be set using ISDUs, e.g. scaling, direction of rotation, etc.

General Data

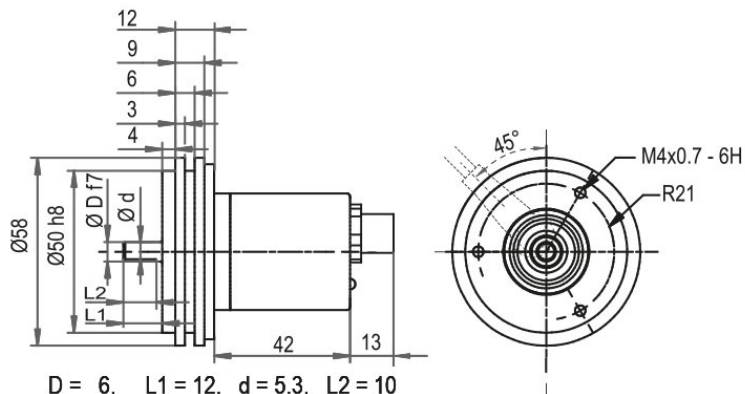
Weight	approx. 224 g
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

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

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

Connector, M12x1 IB5, 5-pin



- 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:

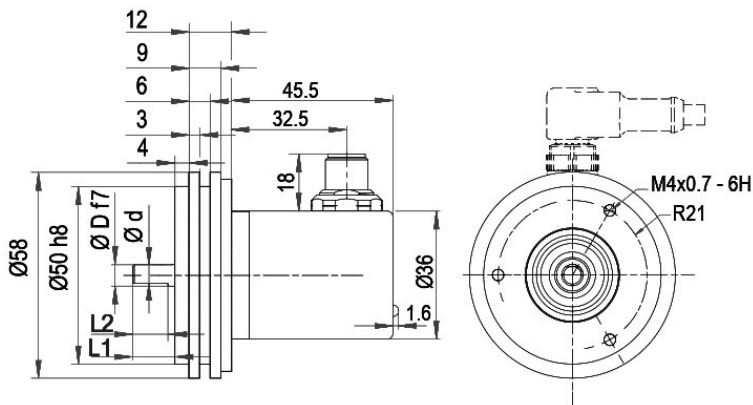
- D = 6, L1 = 10, d = 5.3, L2 = 8

Description

IB5 axial, 5-pin, shield connected to encoder housing

Assignments	
	IB5
L+	1
L-	3
C/Q	4
I	2
n. c.	5

Connector, M12x1 IC5, 5-pin



- 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

IC5 radial, 5-pin, shield connected to encoder housing

Assignments	
L+	1
L-	3
C/Q	4
I	2
n. c.	5

Options**Shafts sealed to IP67, only with Ø 10 mm shaft****Order key**

The encoder WDG 58A IO-Link can be supplied in a IP67 version.

AAO

Max. RPM: 3500 min⁻¹

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

Starting-torque: approx. 4 Ncm at ambient temperature

Shaft length 10 mm (Ø 6 mm)**Order key**

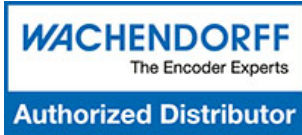
The encoder WDGA 58A IO-Link shaft: Ø 6 mm is also available with a shortened shaft L = 10 mm.

AIX

Example Order No.	Type	Your encoder
WDGA 58A	WDGA 58A	WDGA 58A
	Shaft	Order key
06	Ø 6 mm Attention: No option AAO = full IP67 version	06
	Ø 8 mm Attention: No option AAO = full IP67 version	08
	Ø 9.525 mm Ø 3/8" Attention: No option AAO = full IP67 version	4Z
	Ø 10 mm	10
	Single-turn Resolution	Order key
16	Single-turn resolution 1 bit up to 16 bit: (e. G. 6 bit)	16
	Multi-turn Resolution	Order key
43	Multi-turn resolution: (examples) 6 bit = 6 43 bit = 43 no Multiturn = 00	16
	Data protocol	Order key
IL	IO-Link	IL
	Software	Order key
A	up to date release	A
	Code	Order key
B	binary	B
	Power supply	Order key
3	18 V up to 30 V (standard)	3
	Galvanic isolation	Order key
0	no	0
	Electrical connections	Order key
IB5	Connector:	
	sensor-connector, M12x1, 5-pin, axial, shield connected to encoder housing	IB5
	sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing	IC5
	Options	Order key
	Without option	Empty
	Shafts sealed to IP67, only with Ø 10 mm shaft	AAO
	Shaft length 10 mm (Ø 6 mm)	AIX

Example Order No.	WDGA 58A	06	16	43	IL	A	B	3	0	IB5	
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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.
<https://www.wachendorff-automation.com/contact-sales-en/>

WACHENDORFF

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