



Online Data sheet

HM 2602

Encoder WDGA 58B IO-Link

www.wachendorff-automation.com/wdga58b-io-link

Wachendorff Automation

... systems and encoders

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- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
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- Made in Germany
- Worldwide distributor network



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IndustrieROBUST

Encoder WDGA 58B absolute IO-Link, with EnDra®-Technology



Illustration similar

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 [22.433 kp] radial, 120 N [12.236 kp] axial

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Mechanical Data	
Flange	clamping flange
Flange material	aluminum
Housing material	stainless steel
Flange diameter	Ø 58 mm [Ø 2.283"]
Cam mounting	pitch 69 mm [2.717 inches]

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 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]

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]

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	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 %

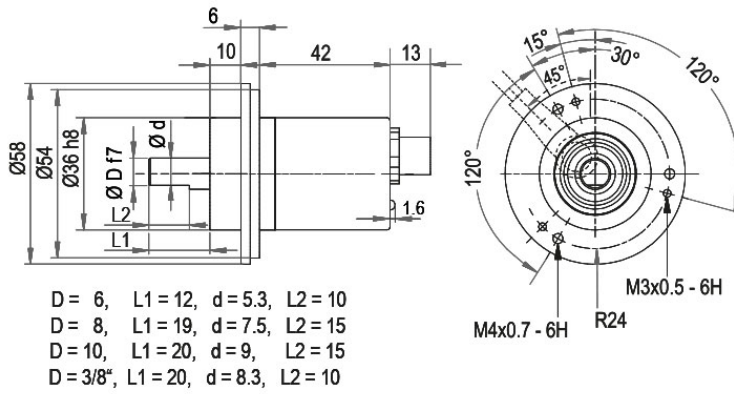
Electrical Data	
Power supply/Current consumption	18 VDC up to 30 VDC: typ. 30 mA
Power consumption	max. 0.6 W
Operating principle	magnetic

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)
Electrical Safety:	DIN EN 61010-1 (VDE 0411-1) / IEC 61010-1 / UL 61010-1 / CSA C22.0 No 61010-1-12
Turn on time:	<1 s

Duty information	
Customs tariff number:	90318020
Country of origin:	Germany
Interface	
Interface:	IO-Link Version: V1.1.4
Smart Sensor Profile (SSP):	• 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. 202 g [7.125 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 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	

Connector, M12x1 IB5, 5-pin

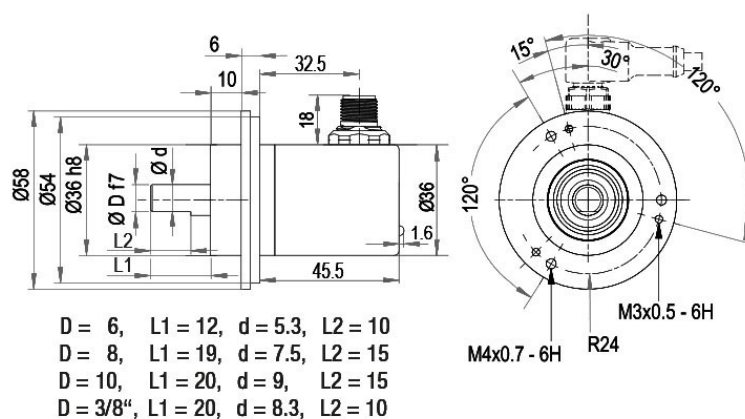


Description

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



Description

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

Assignments	
	IC5
L+	1
L-	3
C/Q	4
I	2
n. c.	5

Options

Low-friction bearings

Order key

The encoder WDGA 58B IO-Link 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 Ø 10 mm shaft

Order key

The encoder WDGA 58B IO-Link can be supplied in a full 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

Example Order No.	Type	Your encoder	
WDGA 58B	WDGA 58B	WDGA 58B	
	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 9.525 mm [Ø 3/8"] Order No: 4Z Attention: No option AAO = full IP67 version	4Z	
	Ø 10 mm [Ø 0.394"]	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	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	
	Low-friction bearings	AAC	
	Shafts sealed to IP67, only with Ø 10 mm shaft	AAO	

Example Order No.	WDGA 58B	06	16	43	IL	A	B	3	0	IB5	
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WDGA 58B											Example Order No.
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