



Online Data sheet

Encoder WDGA 36S IO-Link

www.wachendorff-automation.com/wdga36s-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 36S 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

www.wachendorff-automation.com/wdga36s-io-link

Mechanical Data

Flange	screw flange
Starting torque nut	max. 8 Nm
Flange material	aluminum, incl. nut M20 x 1.5
Housing material	stainless steel
Flange diameter	Ø 36 mm [Ø 1.417"]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm [0.425 in-ozf] at ambient temperature

Shaft	Ø 6 mm [Ø 0.236"]
Shaft length	L: 13 mm [0.512"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Bearings

Bearings type	2 precision ball bearings
Nominal service life	1.4 x 10 ⁸ revs. at 100 % rated shaft load 2 x 10 ⁹ revs. at 40 % rated shaft load 1.7 x 10 ¹⁰ revs. at 20 % rated shaft load
Max. operating speed	12000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	1300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1.7 x 10 ¹⁰ revs. at 20 % rated shaft load and 12000 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):	<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. 130 g [4.586 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

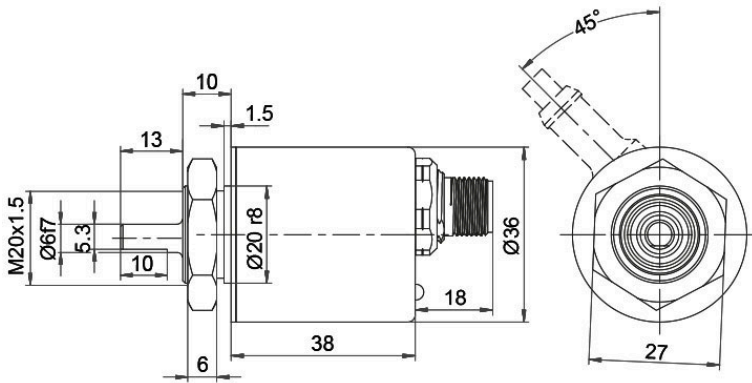
General technical data and safety instructions

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

Options

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

Connector, M12x1 IB5 axial, 5-pin



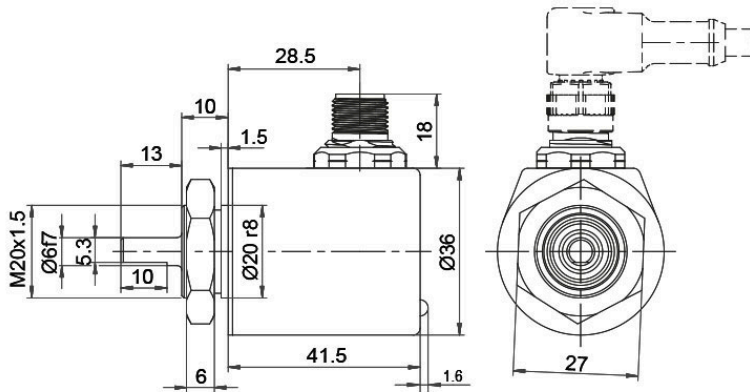
Alle Abmessungen in mm / All dimensions in mm

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 radial, 5-pin



Alle Abmessungen in mm / All dimensions in mm

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

The encoder WDGA 36S IO-Link is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.25 Ncm [0.354 in-ozf] and the protection class at the shaft input to IP50.

Order key

AAC

Example Order No.	Type	Your encoder	
WDGA 36S	WDGA 36S	WDGA 36S	
	Shaft	Order key	
06	Ø 6 mm [Ø 0.236"]	06	
	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	
16	Multi-turn resolution: (examples) 6 bit = 6 43 bit = 43	16	
	Data protocol	Order key	
IL	IO-Link	IL	IL
	Software	Order key	
A	up to date release	A	A
	Code	Order key	
B	binary	B	B
	Power supply	Order key	
3	18 V up to 30 V (standard)	3	3
	Galvanic isolation	Order key	
0	no	0	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	
	Low-friction bearings	AAC	
	Without option	Empty	

Example Order No.	WDGA 36S	06	16	16	IL	A	B	3	0	IB5	
--------------------------	----------	----	----	----	----	---	---	---	---	-----	--

WDGA 36S				IL	A	B	3	0			Your encoder
----------	--	--	--	----	---	---	---	---	--	--	---------------------



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

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

