

Online Data Sheet

Encoder WDGA 58E CAN SAE J1939

www.wachendorff-automation.com/wdga58esaej1939

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 absolute CAN SAE J1939 magnetic, with EnDra® Technology



EnDra®
Technologie

SAE J1939

- EnDra® Technology maintenance-free and environmentally friendly
- CAN SAE J1939 protocol
- Single-/Multiturn (14 bit / 18 bit)
- Forward-looking technology with 32 Bit processor

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Mechanical Data	
Housing	
Flange	hollow shaft (blind-bored)
Flange material	aluminium
Housing cap	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10001
- 1. Spring plate compensation	axial: ±0.8 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +60 °C
- 2. Cylinder pin 4 mm	needs accessories WDGDS10005
- Compensation	axial: ±0.5 mm, radial: ±1.5 mm, Max. operating speed: 3000 rpm
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature
Fixing	permanently attached clamping ring
Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 6.35 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 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: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 3/8", 9.525 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 10 mm
Advice	with adapter sleeve
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 12 mm
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	Ø 14 mm
Shaft length	L: 12 mm
Insertion depth min.	11 mm
Insertion depth max.	15 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
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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	6000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	1000 a
Mission time (TM)	20 a
Nominale 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: max. 50 mA
Power consumption	max. 0.5 W

Sensor data

Singleturn technology	innovative hall sensor technology
Singleturn resolution	16.384 steps/360° (14 bit)
Singleturn accuracy	< ±0.35°
Singleturn repeat accuracy	< ±0.20°
Intern cycle time	600 µs
Multiturn technology	patented EnDra® technology no battery, no gear.
Multiturn 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:	CAN
CAN physical layer:	ISO 11898 (High Speed CAN)
Protocol:	ISO 11898 (High Speed CAN)
Baud rate:	Auto-Baud-Detection
Standard Preset configuration:	(other configurations on request)
Direction of counting:	(View from shaft end) ccw
ECU-adress:	0x 0A
Process data Identifier:	0x18FF000A
PGN:	0xFF00
Process data mapping:	Byte 0-3 32 Bit Position Value Byte 4 8 Bit Error Register PDU timer and Position Preset can be adjusted by PGN configuration 0xEF00 (Prop. A)

PDU - Time:	50 ms (default)
Configuration - PGN:	0x EF 00 (Prop.A)
Byte 0:	0x 01
Byte 1:	0x FF
Byte 2:	PDU time LSB
Byte 3:	PDU time MSB
Byte 4:	Preset LSB
Byte 5, 6:	Preset
Byte 7:	Preset MSB

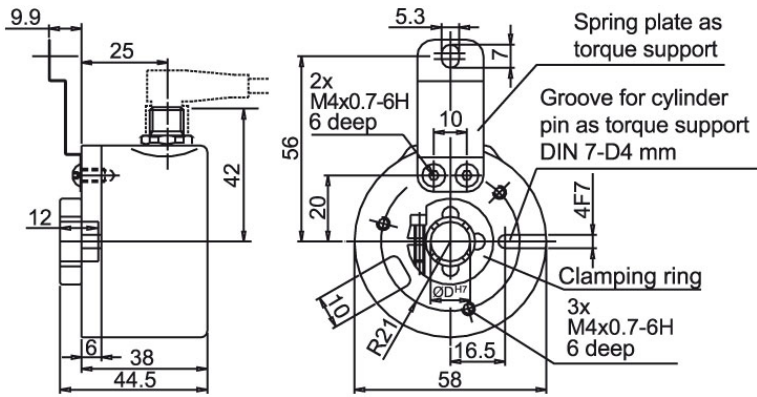
General Data

Weight	approx. 220 g
Connections	connector outlet
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

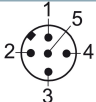
General technical data
<http://www.wachendorff-automation.com/gtd>
 Options
<http://www.wachendorff-automation.com/acc>

Connector, M12x1, radial, CC5, 5-pin



Description

CC5 radial, 5-pin, shield connected to encoder housing

Assignments	
	CC5 
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Example Order No.	Type	Your encoder
WDGA 58E	WDGA 58E	WDGA 58E
Shaft		
06	Ø 6 mm with adapter sleeve	06
	Ø 6.35 mm with adapter sleeve	2Z
	Ø 7 mm with adapter sleeve	07
	Ø 8 mm with adapter sleeve	08
	Ø 3/8", 9.525 mm with adapter sleeve	4Z
	Ø 10 mm with adapter sleeve	10
	Ø 12 mm	12
	Ø 14 mm	14
Singleturn Resolution		
14	Singleturn resolution 14 Bit: (standard) max. 14 Bit possible	14
Multiturn Resolution		
18	Multiturn 18 Bit (standard) max. 32 Bit possible No Multiturn = 00	18
Data protocol		
CJ	CAN SAE J1939	CJ
Software		
A	up to date release	A
Code		
B	binary	B
Power supply		
0	10 V up to 32 V (standard)	0
Galvanic isolation		
0	no	0
Electrical connections		
CC5	Connector:	CC5
	sensor-connector, M12x1, 5-pin, radial, IP67, shield connected to encoder housing	

Example Order No.	WDGA 58E	06	14	18	CJ	A	B	0	0	CC5
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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



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