

Encoder WDGA 58A absolute SSI magnetic, with EnDra® - Technology



EnDra®
Technology

SSI
Synchronous Serial Interface

- EnDra® multiturn technology: maintenance-free and environmentally friendly
- SSI, gray or binary
- Single-/multiturn (14 bit/40 bit)
- Forward-looking technology with 32 bit processor
- 2-colour-LED as indicator for operating condition
- High shaft load up to 220 N radial, 120 N axial

www.wachendorff-automation.com/wdga58assi

Specifications:

Mechanical Data

Housing:	steel case chrome-plated, magnetic shielding
Flange type:	synchro
Flange material:	Aluminium
Shaft material:	stainless steel
Shaft Ø:	6/10 mm
Shaft length:	12/20 mm
Permissible shaft loading:	125/220 N radial 120 N axial
Starting torque: (at ambient temperature)	< 1 Ncm
Bearings type:	2 precision ball bearings
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
Operating speed max.:	8,000 min ⁻¹
Weight:	224 g
Connection:	connector

Machinery Directive:

basic data safety integrity level

MTTF _d :	1000 a
Mission time (T _M):	20 a
Normal service life (L _{10h}):	1 x 10 ¹¹ revs. at 8,000 min ⁻¹ and 20 % rated shaft load
Diagnostic coverage (DC):	0

Sensor data

Singleturn technology:	innovative hall sensor technology up to 16,384 steps/360° (14 bit)
Singleturn resolution:	< ± 0.35°
Singleturn accuracy:	< ± 0.20°
Singleturn-repeat accuracy:	
Intern cycle time:	≤ 600 µs
Multiturn technology:	patented based EnDra® technology no battery and no gear
Multiturn resolution:	up to 40 bit

Ambient data

Operating temperature:	- 40 °C up to + 80 °C
Storage temperature:	- 40 °C up to + 100 °C
Protection class (EN 60529):	IP67, shaft sealed IP65 cable outlet K1: IP40

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:	appropriate DIN VDE 0160

Interface

Clock input:
 Clock frequency:

Data output:
 Output code:
 SSI output:
 Parity bit:
 Error bit:
 Turn on time:
 Positive direction
 of counting: (View on shaft)
 Set to zero:

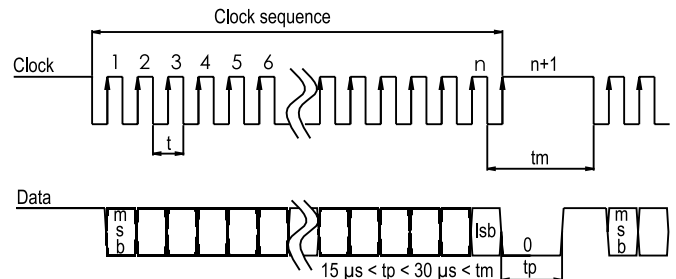
SSI

via opto-coupler
 100 kHz up to 500 kHz
 up to 2 MHz on request
 RS485/RS422 compatible
 gray or binary
 Angular-/position value
 optional (even/odd)
 optional
 <1.5 s
 DIR = GND ⇔ cw
 DIR = +Ub ⇔ ccw
 Set: Preset = apply +Ub for 2 s
 Deactivate: Preset = GND

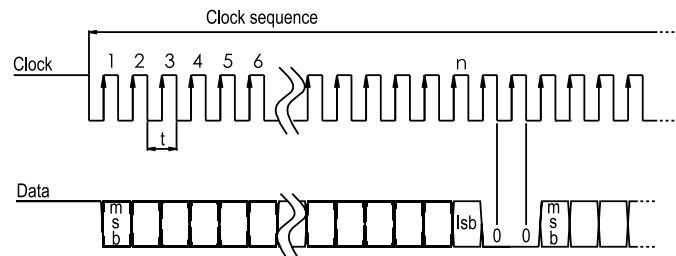
Electrical Data:

Supply voltage: 10 VDC up to 30 VDC;
 4.75 VDC up to 5.5 VDC
 max. 80 mA
 Power consumption: max. 0.8 W

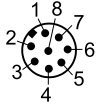
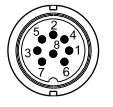
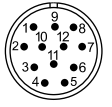
Single transmission



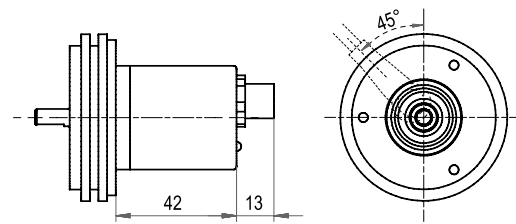
Multipath transmission



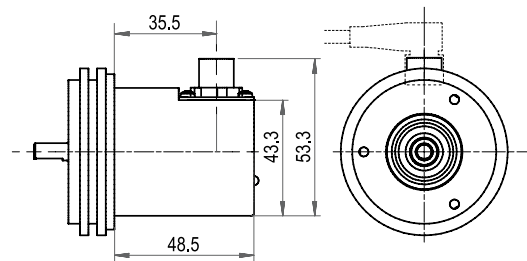
Connection configuration for encoder WDGA SSI:

				
Connector/ cable	M12 x 1	M16	M23	cable outlet
Description	CB8 axial, CC8 radial, 8-pin	CH8 radial 8-pin	C5 radial, 12-pin	K1, radial L2, axial L3, radial
GND	1	2	12	wh
Plus U+	2	1	11	bn
SSI CLK+	3	6	2	gn
SSI CLK-	4	5	1	ye
SSI DATA+	5	4	3	gy
SSI DATA-	6	3	4	pk
PRESET	7	8	9	bu
DIR	8	7	8	rd
Shield	housing	housing	housing	housing K1: n. c.

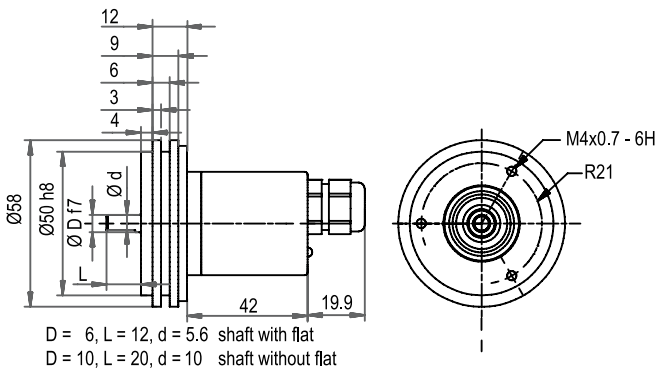
Connector, M12 x 1, 8-pol., CB8:



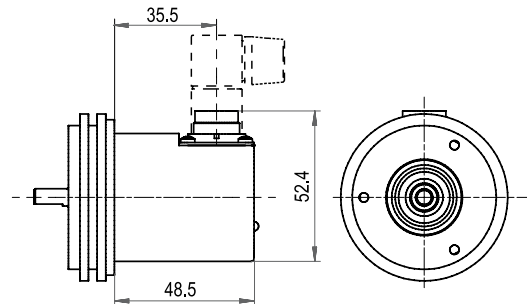
Connector, M12 x 1, 8-pol., CC8:



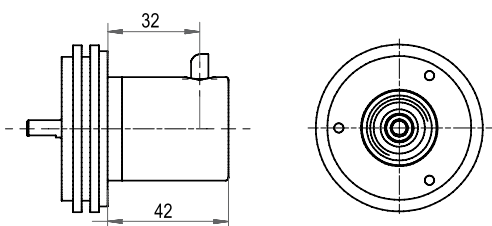
Cable outlet L2:



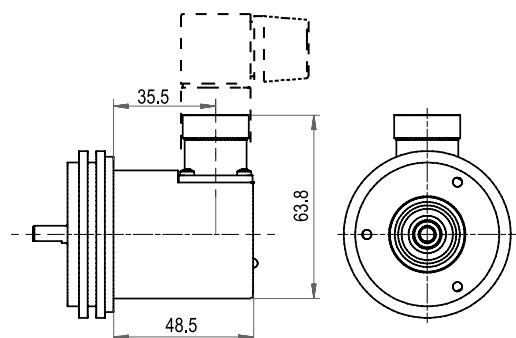
Connector, M16, 8-pol., CH8:



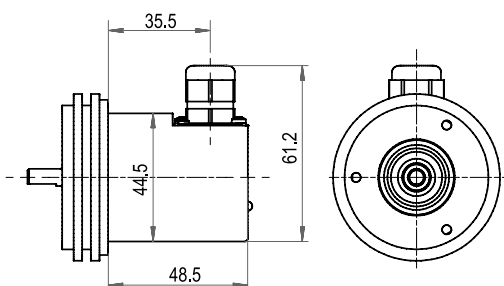
Cable outlet K1:



Connector, M23, 12-pol., C5:



Cable outlet L3:



All dimensional specifications in mm.

Ordering information:

Code: binary = B
gray = G

Software: up to date release = A

Data protocol: SSI = SI

Multiturn 1 Bit up to 40 Bit (e. g. 12 bit) = 12
No Multiturn: = 00

Singleturn resolution = 12
8 Bit up to 14 Bit: (e. g. 12 bit)

Shaft diameter:
6 mm = 06
10 mm = 10

Flange design: 58 mm, synchro flange = 58A

Power supply: standard 10 V up to 30 V = 0
4.75 V up to 5.5 V = 1

Galvanic isolation: yes = 1

Connection:
Cable outlet: (K1= shield not connected,
L2, L3 = shield connected to encoder housing)
radial, with 2 m cable, IP40 = K1
axial, with 2 m cable = L2
radial, with 2 m cable = L3
Connector:
M12 x 1, 8-pin, axial connector = CB8
M12 x 1, 8-pin, radial connector = CC8
M16, 8-pin, radial connector = CH8
M23, 12-pin, radial connector = C5

Order-No.:

Example	WDGA	58A	10	12	12	SI	A	B	0	1	CB8
Your encoder	WDGA	58A				SI	A			1	