

# Encoder WDGA absolute CANopen magnetic, EnDra®



CANopen

## Specifications:

### Mechanical Data

Housing:	ferrous nickel-plated, magnetic screening		
Shaft/hollow bore (blind):	stainless steel, not magnetic		
Flange:	Aluminium		
Bearing type:	2 precision ball bearings		
Encoder type:	<b>WDGA58B</b>	<b>WDGA36A</b>	<b>WDGA36E</b>
Flange:	clamping	synchro	hollow bore
Shaft Ø:	10 mm	6 mm	6 mm
Length:	20 mm	11,5 mm	-
Insertion depth min./max.:	-	-	8 mm/17 mm
Operating speed max.:	12.000 rpm	8.000 rpm	8.000 rpm
Permissible shaft loading:			
max. $F_r$	220 N	80 N	80 N
max. $F_a$	120 N	50 N	50 N
Starting torque: (at ambient temperature)	< 1 Ncm	< 0,2 Ncm	< 0,2 Ncm
Service life:			
at 100 % rated shaft load	1 x 10 <sup>9</sup> U	1 x 10 <sup>9</sup> U	1,4 x 10 <sup>8</sup> U
at 40 % rated shaft load	1 x 10 <sup>10</sup> U	1 x 10 <sup>10</sup> U	2,0 x 10 <sup>9</sup> U
at 20 % rated shaft load	1 x 10 <sup>11</sup> U	1 x 10 <sup>11</sup> U	1,7 x 10 <sup>10</sup> U

### Sensor data

Singleturn technology:	innovative hall sensor technology
Singleturn resolution:	4.096 steps/360° (12 Bit)
Singleturn precision:	< 1,5°
intern cycle time:	≤ 600 µs
Multiturn Technology:	patented system with no battery and no gears
Multiturn resolution:	up to 262.144 revolutions (18 Bit) with high precision value up to 40 Bit

### Environmental data

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

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 61000-6-4
Vibration: (DIN EN 60068-2-6)	50 m/s <sup>2</sup> (10-2000 Hz)

Shock: (DIN EN 60068-2-27)	1000 m/s <sup>2</sup> (6 ms)
Design:	appropriate DIN VDE 0160

### Interface

Protocol:	<b>CAN</b> CANopen - Communication profil CiA DS-301 - Device Profile for encoder CiA DS-406 V3.2 class C2
Node number:	0 up to 127 (default 127)
Baud rate:	10 kBaud up to 1 MBaud with automatic bit rate detection

- EnDra®: maintenance-free and environmentally friendly
- CANopen, Single- and Multiturn
- Communication Profile according to CiA DS-301
- Device Profile for encoder CiA DS-406 V3.2 class C2
- Single-/Multiturn (12 Bit / 40 Bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate DR-303-3
- High shaft load up to 220 N radial, 120 N axial

[www.wachendorff-automation.com/wdga](http://www.wachendorff-automation.com/wdga)

The standard settings as well as any customization in the software can be changed via LSS (DS-308) and the SDO protocol, e. g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate, etc.

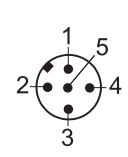
### Programmable CAN transmission modes

- **Synchronous mode:** when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently.
- **Asynchronous mode:** a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.)

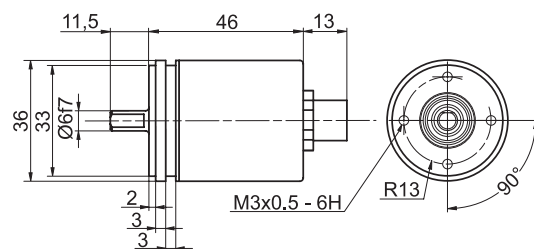
### Electrical Data:

Supply voltage:	10 VDC up to 30 VDC
Power consumption:	max. 50 mA max. 0,5 W

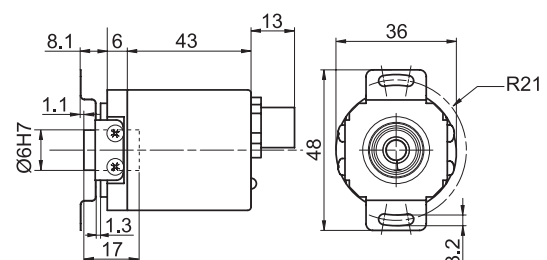
### Electrical connections, axial, M12x1

Definition	connector pin (connector- encoder)	Sensor connector pin assignment 5-pin
$U_B$	2	
Ground (GND)	3	
CAN <sub>High</sub>	4	
CAN <sub>Low</sub>	5	
CAN <sub>GND</sub> / shield	1	

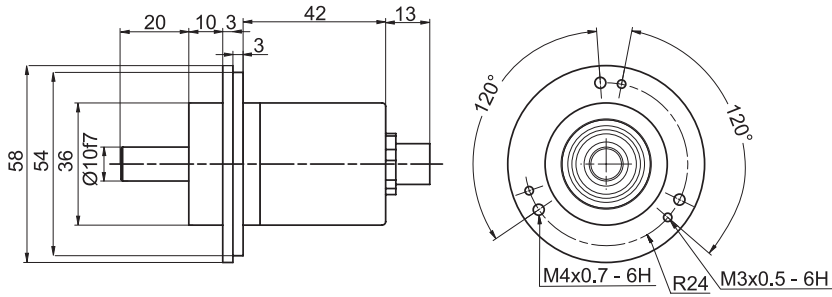
### Synchro flange WDGA 36A



### Hollow bore (blind) WDGA 36E



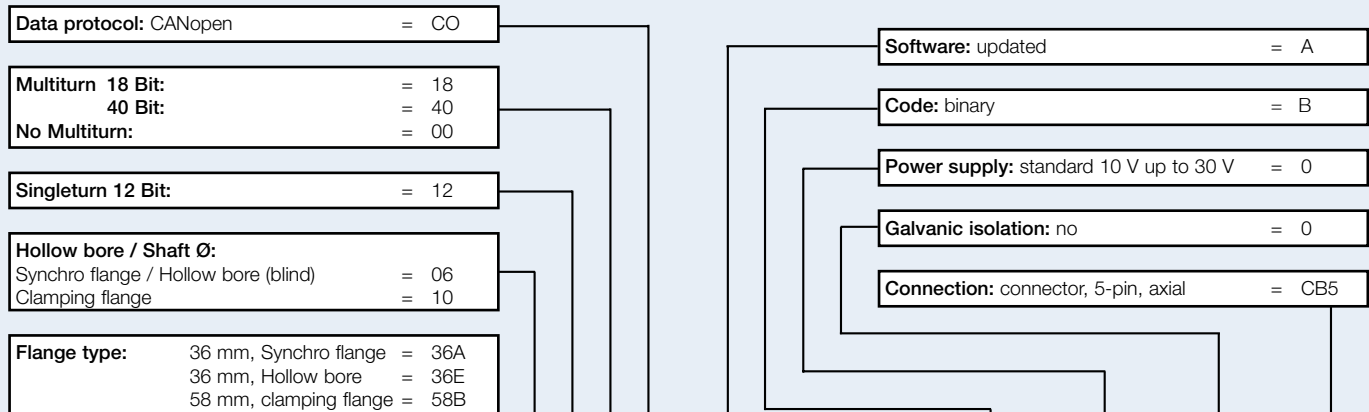
### Clamping flange WDGA58B



All dimensional specifications in mm.

Suitable accessories for encoders WDGA absolute CANopen can be found on our website:  
[www.wachendorff-automation.com/wdgaacc](http://www.wachendorff-automation.com/wdgaacc)

#### Ordering information:



#### Order-No.:

Example	WDGA	36E	06	12	18	CO	A	B	0	0	CB5
Your encoder	WDGA										