

Encoder

Incremental Angle Transducer



- *Incremental output A/B-Pulse*
- *Housing diameter 36 mm or 58 mm*
- *Protection class IP64, max. IP67*
- *Output frequency up to 300kHz*
- *Max. rotation speed 12.000 rpm*
- *Torque: 0,05-0,5 Nm*
- *Aluminium housing*
- *Customised versions available*

A36

A36



Shaft diameter
 Max. rotation speed
 Shaft load
 Moment of inertia
 Starting torque (20°C)
 Ball bearing
 Shaft material
 Working temperature
 Protection class
 Shock resistance
 Vibration resistance
 Mass
 Housing material
 Available resolution

Solid shaft

6 mm
 12.000 rpm
 40 N radial, 25 N axial
 approx. $0,2 \times 10^{-6} \text{ kgm}^2$
 $< 0,05 \text{ Nm}$
 626ZZ
 stainless steel
 -30...+85°C
 IP64
 1000 m/s²; 6 ms
 100 m/s²; 55-2000 Hz
 approx. 80 g
 aluminium
 25 / 100 / 125 / 200 / 360 / 500 / 1000 / 1024 / 1500 /
 2000 / 2048 / 2500 / 3600 counts/rev. (more on request)

Through hollow shaft / Hollow shaft

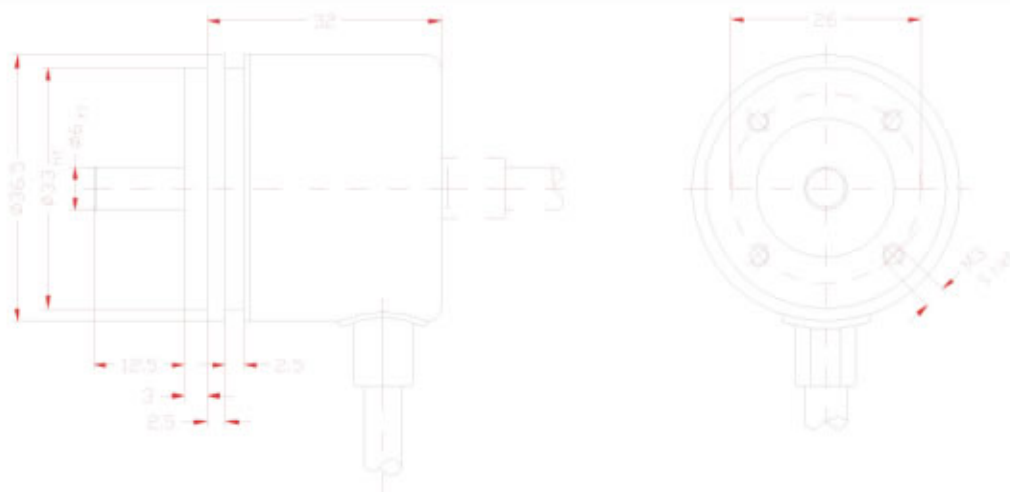
6 / 6,35 / 8 mm (depth=2xD for holl. sh.)
 12.000 rpm
 45 N radial, 30 N axial
 approx. $0,3 \times 10^{-6} \text{ kgm}^2$
 $< 0,5 \text{ Nm}$
 6800ZZ
 brass

See page 5
for electr. data

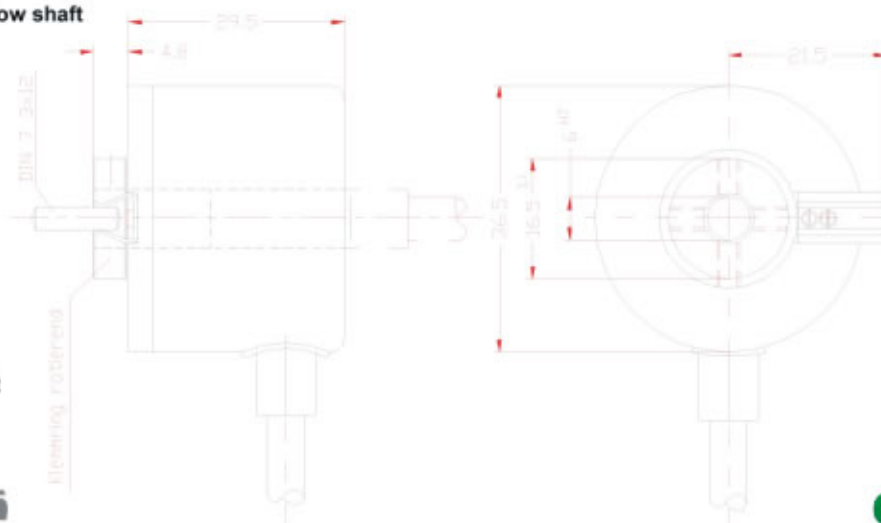
Technical drawing

A36

Solid shaft



Through hollow shaft / Hollow shaft



Note:
 Through hollow shafts are not
 available with axial cable
 output

A58



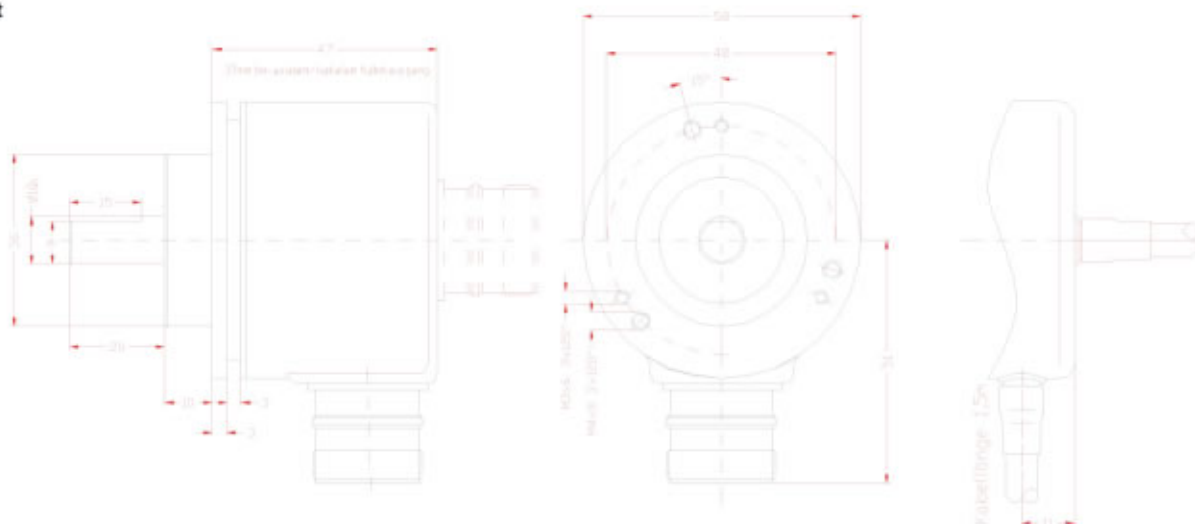
Shaft diameter	Solid shaft 6 / 10 / 12 mm	Through hollow shaft 12 / 20 / 25 / 28 mm
Max. rotation speed	12.000 rpm	5.000 rpm
Shaft load	40 N radial, 60 N axial	60 N radial, 80 N axial
Moment of inertia	approx. $1,4 \times 10^{-6} \text{ kgm}^2$	approx. $35 \times 10^{-6} \text{ kgm}^2$
Starting torque (20°C)	<0,05 Nm	<0,1 Nm
Ball bearing	6000 2RS	2RS
Shaft material	stainless steel	stainless steel
Working temperature	-30...+85°C	
Protection class	IP64 or IP67 (for IP67 max. rotation speed reduced to 50%)	
Shock resistance	1000 m/s ² ; 6 ms	
Vibration resistance	100 m/s ² ; 55-2000 Hz	
Mass	approx. 250 g	
Housing material	aluminium	
Available resolution	60 / 100 / 250 / 400 / 500 / 960 / 1000 / 1024 / 2000 / 5000 counts/rev. (more on request)	

See page 5
for electr. data

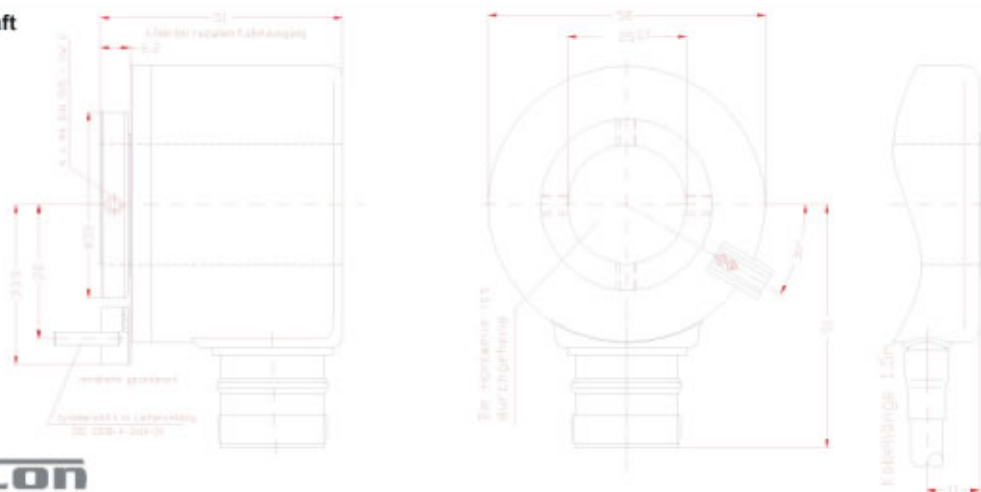
Technical drawing

A58

Solid shaft



Through hollow shaft



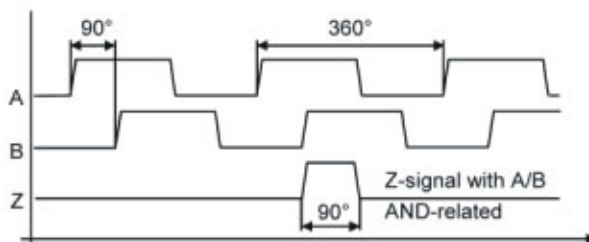
Technical data

Data Electronics	Line driver L RS 422 (TTL-compatible)	Push-Pull G
Power supply:	5 VDC $\pm 5\%$	8 up to 30 VDC
Current consumption without load:	typ. 70 mA, max. 100 mA	typ. 80 mA, max. 150 mA
Max. load/canal A36:	± 10 mA	± 30 mA
Max. load/canal A58:	± 20 mA	± 30 mA
Max. pulse frequency A36 :	125 kHz	100 kHz
Max. pulse frequency A58:	300 kHz	300 kHz
Min. signal level high:	2,5 V	$U_B - 3$ V
Max. signal level low:	0,5 V	2,5 V
Working temperature	$-30...+85^\circ\text{C}$	$-30...+85^\circ\text{C}$
Protection class	IP64 (IP67 on request)	IP64 (IP67 on request)
Max. line length	1000 m	250 m
Recommended circuit		

Output signal

Pulses A and B are 90° phase-delayed (detection of direction). The Z-signal recurs with pulse distance Z and may be used as point of reference.

Display of signal without inverted signals.



Clockwise rotation - view onto shaft

Values for impulse and resolution in the according manuals

Connection

Signal	0V	+UB	0Vsens*	+UBsens*	A	A-	B	B-	Z	Z-	Screen
12pin connector	10	12	11	2	5	6	8	1	3	4	Housing
Wire colour	white	brown	black	violet	green	yellow	grey	pink	blue	red	Housing

* For line driver L only (RS422 TTL-compatible). For long line lengths it may occur that the operating voltage at the sensor does not suffice due to the output resistance. With the sensor lines 0Vsens and +UBsens the operating voltage can be checked and, if necessary, be readjusted at the input connection.

12pin connector output (socket) for A58 only
Profile/view on solder side of mating connector



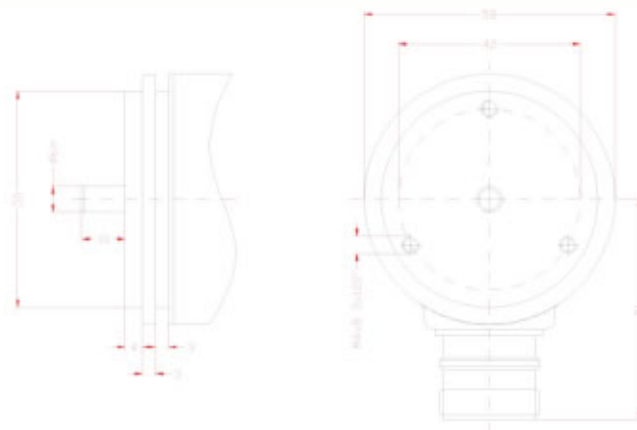
Cable:

radial/axial 1,5 m standard
other lengths optional
Type: UL2464/1061, LIYY, flexible
Diameter: approx. 6,5 mm
Core: 0,25 mm²
Temperature range: fixed in installation $-30...+80^\circ\text{C}$
flexible $-20...+80^\circ\text{C}$

Options

Synchro flange (for A58)

Encoder A58 can also be conducted with a synchro flange. The shaft diameter is 6 mm (see sketch). To mount the sensor the excentrics BX58 may be used.



IP67 (for A58)

Option IP67 applies when the sensor is completely immersed in water (temporarily). Please bear in mind that this option implicates a higher starting torque due to the specific sealing. The max. torque is reduced to 50% of the specified value. This option is available for series A58 only.

Extended connector cable for cable output

The cable length for sensors with cable output is 1,5 m standard. The cable can be ordered in any length as needed. Please specify your request in your order.

Accessories

Mounting excentric kit - BX36 and BX58

The encoder can be mounted with the excentrics. The kit includes 3 excentrics and 3 screws.

Required drill holes:

BX36: M2,5-screw thread, depth 5 mm, $\varnothing$ screw-hole circle 42 mm

BX58: M3-screw thread, depth 6 mm, $\varnothing$ screw-hole circle 65 mm



Mating connector M23 for A58 - CON012-S

M23, straight

12pin connector clockwise

(fits in anticlockwise encoder sockets)

Metal housing



Coupling

We offer a range of fixed or pluggable (disk) couplings (bellows coupling) for all current shaft diameters.

Application for shaft unsymmetries, angle errors, axial play, as adapter for various shaft diameters or as disk couplings to disconnect or disassemble.



Digital angle and rotation speed measurement - PAX

Use PAX to visualise the angle of rotation or the rotation speed (Tacho sensor) of the encoder. It enables a transmission of the measurement data on the computer via interface. The comparator allows a Good-Bad-evaluation (limiting values function).

Inputs: Incremental/Analogue, 2 independent counter, 1 Tacho sensor

2 or 4 limiting values (plug in card)

Analogue output (0)4...20 mA, 0...10 V (plug in card)

Serial interfaces: RS 485, RS232, DeviceNet (plug in card)

Protection class (front panel) IP 65

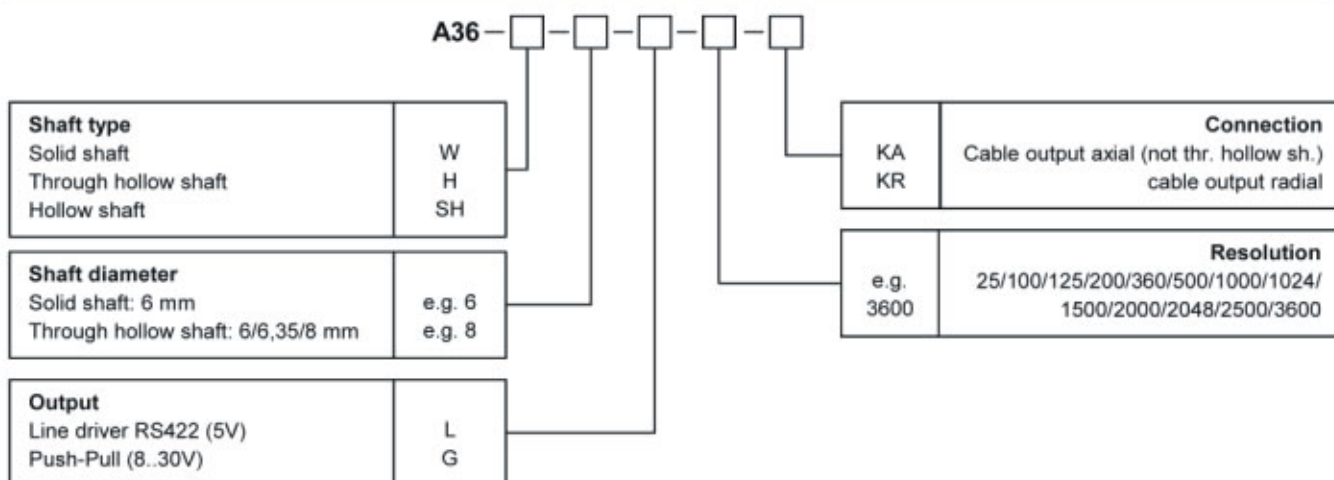
6-digit display and power supply 11...36 VDC or 85...250 VAC

For further information please ask for the data sheet for the PAX display series.



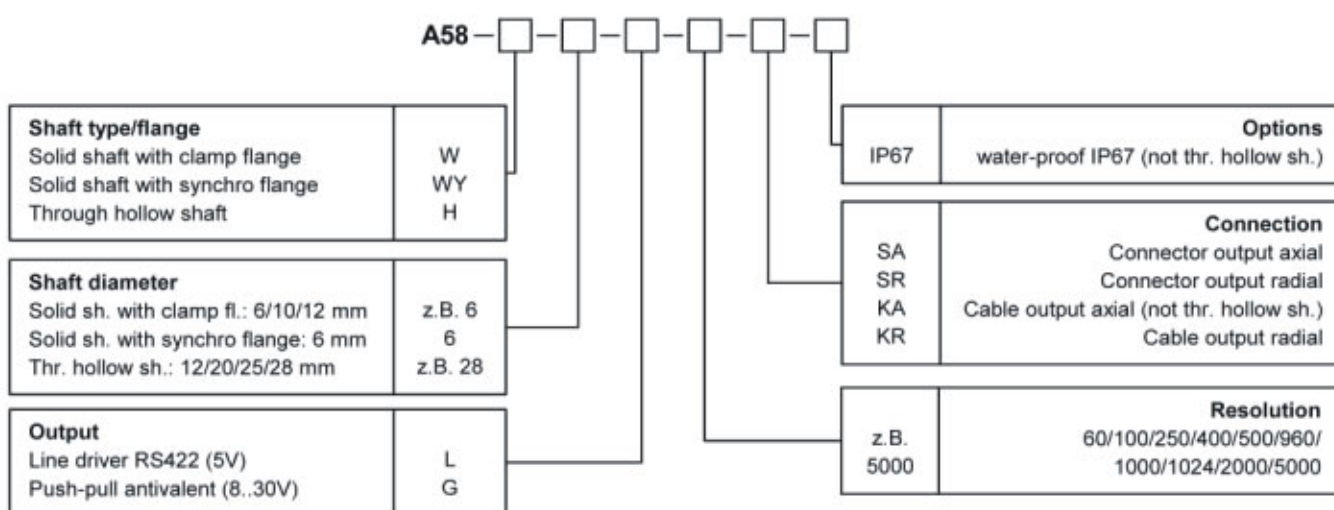
Order code

A36



Order code

A58



Price list

A36-W	Solid shaft	135 €
A36-H/SH	Through hollow shaft or hollow shaft	140 €
A58-W/WY	Solid shaft	155 €
A58-H-12/20	Through hollow shaft ø 12 or 20 mm	199 €
A58-H-25/28	Through hollow shaft ø 25 or 28 mm	219 €

Options:

IP67	water-proof IP67	15 €
Extended connector cable for axial/radial cable output KA/KR		
each additional metre of PVC cable		6 €

Accessories:

BX36	Mounting excentric kit for A36	7 €
BX58	Mounting excentric kit for A58	9 €
mating connector M23, SA/SR		19 €
CON012-S	mating connector M23 straight	
PAX	Digital display of angle and rotation speed	ab 324 €
(see separate data sheet for the PAX display series)		

We reserve the right to alter the specification without prior notice.

WayCon Positionsmesstechnik GmbH

e-mail: info@waycon.de

internet: www.waycon.de



DISTRIBUIDOR AUTORIZADO