

Werksfoto Vallourec & Mannesmann GmbH



RSG 10 P02 - Profibus DP

Absolute multi-turn encoder with stainless steel cover

- shockproof up to 200 g
- very high bearing load
- protection class IP 67
- optional with cooling or heating

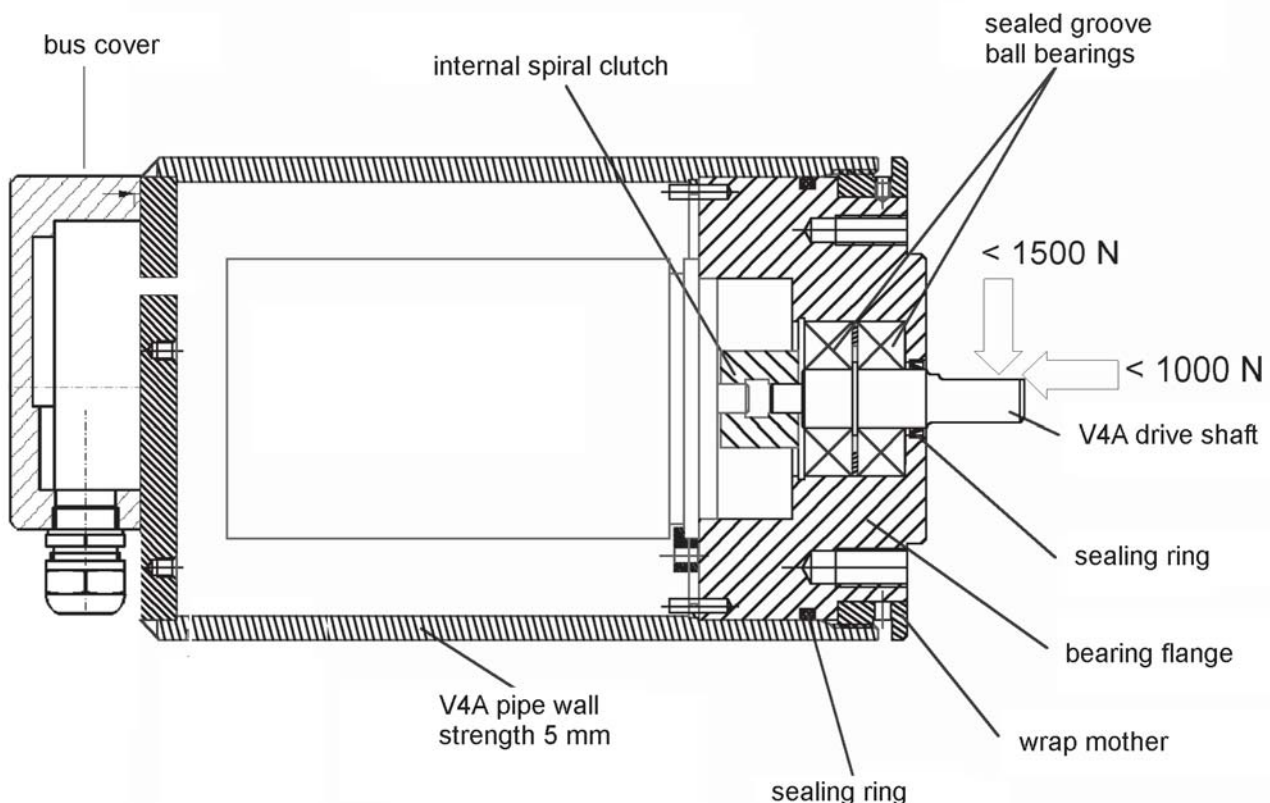
The shaft encoder system **RSG 10** was especially constructed for use under the conditions of heavy and plant making industries. The considerably lowers the costs of the mechanical adaption of the encoder, as a high efficient measuring system, to the different constructions.

System **RSG 10** was developed in close cooperation with engineers of electrical maintenance and plant making departments of the heavy industries. Because of this the already known dimensions of the standard shaft encoder system have been maintained. The system stays compatible to the mostly required encoders, inspite of its very high mechanical resistivity.

Because of the extremely high mechanical and atmospheric loads all parts have been manufactured in stainless steel (**V4A 1.4571**).

The high protection class of IP 67 and the very high bearings loads of 100 kg axial and 150 kg radial ease the use of this encoder under the conditions of the heavy and plant making industries. Additionally the internal encoder is separated form the shaft of the protection cover by means of a coupling, that e.g. guarantees a protection of the internal encoder shaft against shocks.

An additional protection cover is not necessary even under the conditions of heavy industries.



Technical data

Code	Binary
Resolution	25 Bit
Steps/turn	8.192
Turns	4.096

Electrical data

Operating voltage	UB = 10...30 VDC
Current consumption	Max. 100 mA (w/o load), at 24 VDC
Code change frequency	800 kHz
Accuracy	0,025 ° with 400 kHz 0,05° with 800 kHz

Mechanical data

Speed (mechanical)	$\leq 10.000 \text{ min}^{-1}$
Speed (electrical)	$\leq 6.000 \text{ min}^{-1}$
Start-up torque	$< 0,015 \text{ Nm}$
Shaft loading	$< 1.500 \text{ N radial,}$ $< 1.000 \text{ N axial}$
Moment of inertia	10^{-4} rad/s^2

Material

Housing	V4A 1.4571
Flange	V4A 1.4571
Bus cover	V4A 1.4571
Weight	approx. 5,4 kg

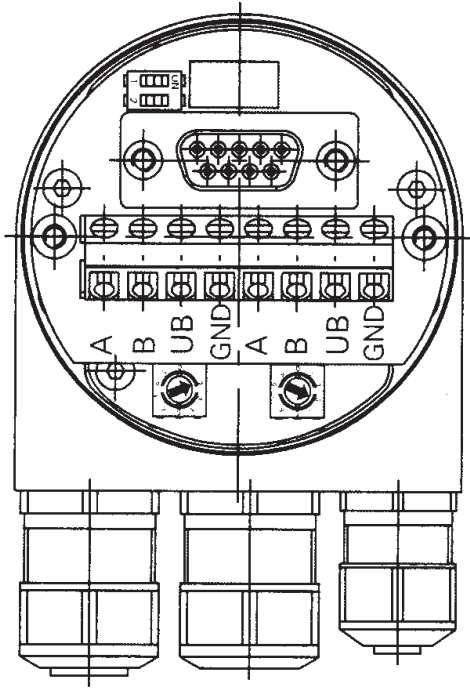
Ambient conditions

Vibration	IEC 68 Teil 2 - 6 $\leq 200 \text{ ms}^{-2}$ (16...2000 Hz)
Shock	DIN EN 600068-2-27 $\leq 2.000 \text{ ms}^2$ (6 ms)
Operating temperature	- 20...+ 85° C
Humidity	Max. relative Feuchte 95 % no-condensing
Protection type	IP 67
Interference resistance	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

Profibus-DP characteristic

Bus protocol	Profibus DP
Profibus-Features	Device Class 1 and 2
Data Exch. functions	Input: Position value Output: Preset value
Preset value	With the „Preset“ parameter the encoder can be set to a desired actual value that corresponds to the defined axis position of the system.
Parameter funktions	Rotating direction With the operating parameter the rotating direction for which the output code is to increase or decrease can be parameterized.
Scaling	The steps per revolution and the total revolution can be parameterized.
Step	output of speed in T/min
Diagnosis	The following is monitored during operation: - Consistency test of code - Exceeding of the permissible signal frequency - LED failure, aging - Receiver failure - Code disk, glass breakage - Power supply of electronic gear unit
Default setting	User address 00
Rotating directions	Clockwise (cw) when shaft is viewed from the front (parameterizable)

View inside bus cover



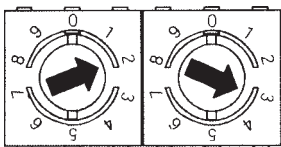
Contact Description

- A Negative serial data line, Pair 1 and Pair 2
- B Positive serial data line, Pair 1 and Pair 2
- UB Supply voltage 10...30 VDC
- GND Ground contact for UB

(Terminals with the same designation are internally interconnected)

Option additional incremental tracks A + B, 5pol. plug, 10...30 VDC, 30 mA.

Settings of user address



Address can be set with rotary switch.
Example: User address 23

Settings of terminating resistors



ON = Last user
OFF = User X

Type key of Encoder

Encoder type	Bit/Turn	Turns	Voltage	Code	Flange	Output	Options
RSG 10 P02	13 = 8192	12 = 4096	3 = 10 - 30 VDC	B = Binary	V1 = 10 mm shaft servo flange	DS = bus cover sideways movement out	L = air cooling
RSG 10 P02							W = water cooling
RSG 10 P02							H = electrical heating
RSG 10 P02	13	12	3	B	V1	DS	—

Dimension and cutout RSG 10 P02 Profibus

