

Quality - made in Germany



RSHF 75 CANopen

Absolute multi-turn encoder

- shockproof up to 200 g
- Parameterizable operating modes
- Parameterizable preset value
- Parameterizable scaling
- Singleturn resolution up to 13 Bit
- Multiturn resolution up to 29 Bit

Technical data

Code	Binary
Max. resolution	Singleturn
	10 Bit = 1.024 S/T
	13 Bit = 8.192 S/T
	Multiturn
	26 Bit = 1.024 S/T x 65.536 T
	29 Bit = 8.192 S/T x 65.536 T

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 RSHF 75

Speed (mechanical)	≤ 6.000 min ⁻¹
Speed (electrical)	≤ 6.000 min ⁻¹
Start-up torque	< 0,015 Nm
Shaft loading	< 40 N radial, < 20 N axial
Moment of inertia	2 x 10 ⁻⁶ kgm ²
Weight	approx. 700 g

Mechanical data RSHF 90

Speed (mechanical)	≤ 3.800 min ⁻¹
Speed (electrical)	≤ 6.000 min ⁻¹
Start-up torque	< 0,015 Nm
Shaft loading	< 40 N radial, < 20 N axial
Moment of inertia	200 x 10 ⁻⁶ kgm ²
Weight	approx. 830 g

Mechanical data RSHF 120

Speed (mechanical)	≤ 2.000 min ⁻¹ upper on request
Speed (electrical)	≤ 6.000 min ⁻¹
Start-up torque	< 0,015 Nm
Shaft loading	< 40 N radial, < 20 N axial
Moment of inertia	1100 x 10 ⁻⁶ kgm ²
Weight	approx. 1.200 g

Material

Housing	Steel
Flange	Aluminium
Bus cover	Aluminium

Ambient conditions

Vibration	DIN EN 60068-2-6 ≤ 200 ms ⁻² (16...2000 Hz)
Shock	DIN EN 60068-2-27 ≤ 2.000 ms ² , 6 ms
Operating temperature	- 20...+ 85° C
Storage temperature	- 20...+ 85° C
Humidity	Max. relative humidity 95 % no-condensing
Protection type	IP 54
Interference resistance	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

View inside bus cover

für Hohlwellen-Drehgeber



GE/G1/G2/GXMMH, G1/G2/GXAMH **CANopen**

CANopen Merkmale

- Bus-Protokoll: CANopen
- Device-Profil: CANopen - CiA DSP 406
- CANopen Features: Device Class 2
- Betriebsarten (mit SDO progr.): Polling Mode (asynch, über SDO), Cyclic Mode (asynch-cyclic), Acyclic Mode (synch-acyclic)

Blick in die Bus-Haube CANopen

Einstellung des Abschlusswiderstands CANopen

ON = Letzter Teilnehmer
OFF = Teilnehmer X

Einstellung der Baudrate CANopen

Baudrate	1	2	3
10 kBit/s	OFF	OFF	OFF
20 kBit/s	OFF	OFF	ON
50 kBit/s	OFF	ON	OFF
125 kBit/s	OFF	ON	ON
250 kBit/s	ON	OFF	OFF
500 kBit/s	ON	OFF	ON
800 kBit/s	ON	ON	OFF
1 MBit/s	ON	ON	ON

Beschreibung der Anschlüsse CANopen

- CAN_L: Negative serielle Datenleitung, Paar 1 und Paar 2
- CAN_H: Positive serielle Datenleitung, Paar 1 und Paar 2
- UB: Versorgungsspannung 10...30 VDC
- GND: Masseanschluss für UB

(Klemmen mit gleicher Bezeichnung sind intern miteinander verbunden.)

Bestellbezeichnung

Z 167 SP33 Bus-Haube für CANopen Für Hohlwellen-Drehgeber Edelmetall-Ausführung auf Anfrage

Einstellungen der Teilnehmeradresse CANopen

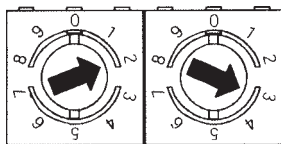
Adresse über Dreh-Schalter einstellbar. Beispiel: Teilnehmeradresse 23

Contact Description

CAN_L	Negative serial data line, Pair 1 and Pair 2
CAN_H	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)

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

CANopen features

Bus protocol	CANopen
Device profile	CANopen - CiA DSP 406
CANopen Features	Device Class 2
Operating modes (with SDO progr.)	Polling Mode (asynch, via SDO) Cyclic Mode (asynch-cyclic)

The encoder cyclically sends the current process actual value without a request by a master. The cycle time can be parameterized for values between 1 and 65535 ms.

The encoder sends the current actual process value after receiving a synch telegram sent by a master. The synch counter in the encoder can be parameterized so that the position value is not sent until after a defined number of synch telegrams.

Acyclic Mode (synch-acyclic)

Preset value

With the „Preset“ parameter the encoder can be set to a desired actual process value that corresponds to the defined axis position of the system. The offset value between the encoder zero point and the mechanical zero point of the system is saved in the encoder.

Rotating direction

With the operating parameter the rotating direction in which the output code is to increase or decrease can be parameterized.

Scaling

The steps per revolution and the total revolution can be parameterized.

Diagnosis

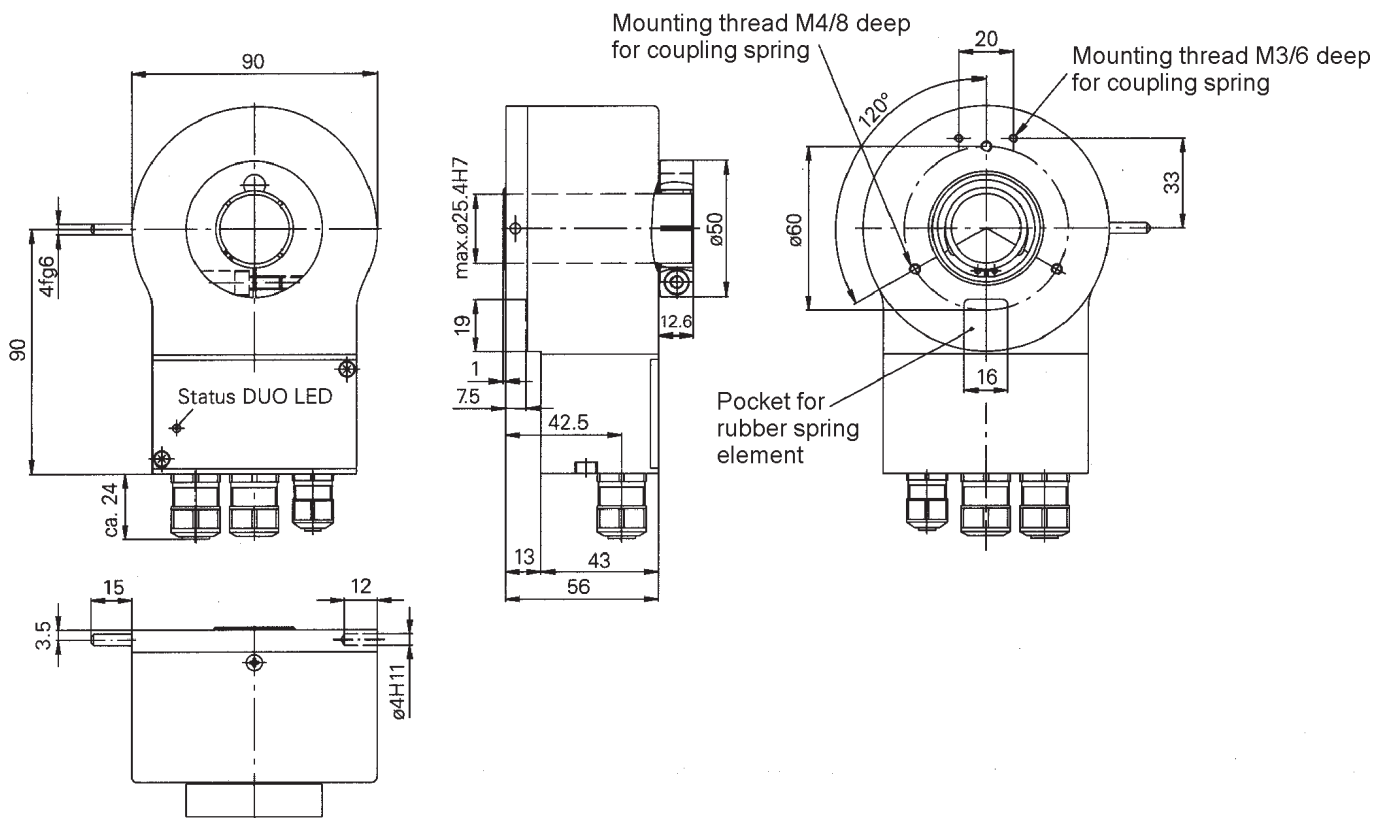
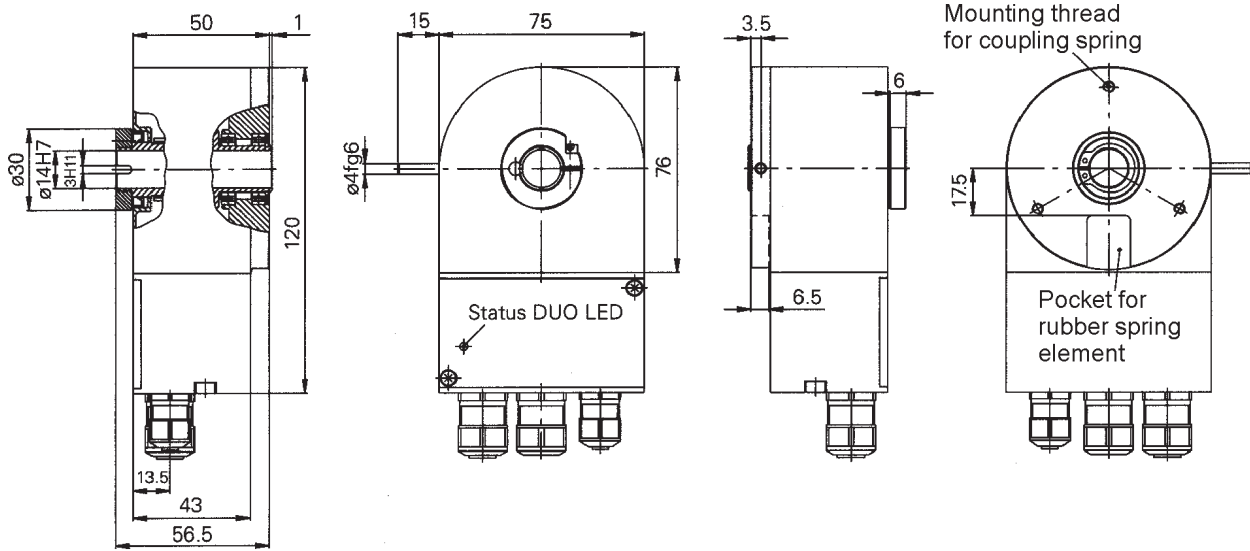
The following is monitored during operation:

- 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

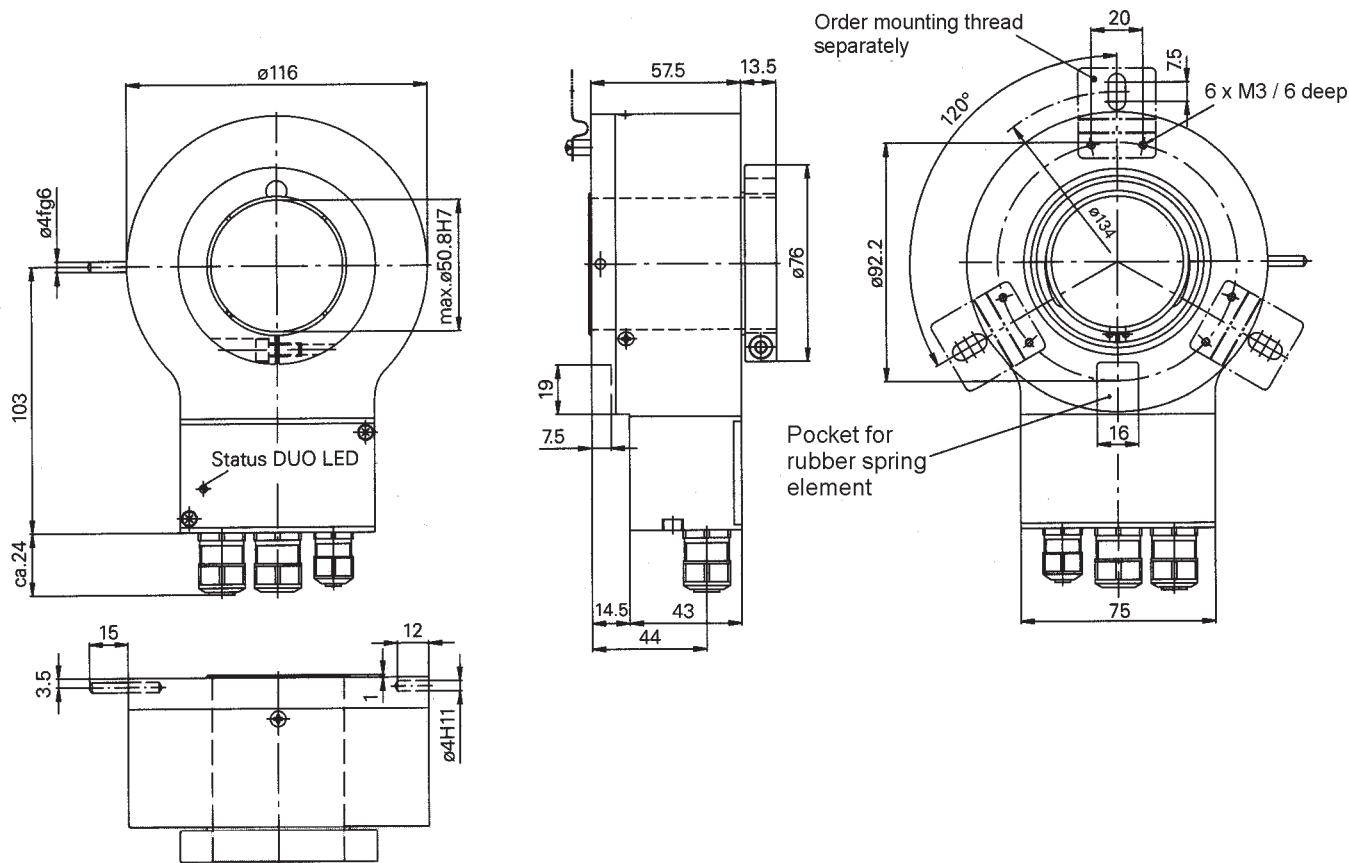
Default setting

10 kbit/s, node number

Dimension and cutout RSHF 75 and RSHF 90 CANopen



Dimension and cutout RSHF 120 CANopen



Type key of Encoder

Encoder type	Steps/T - Turns	Voltage	Code	Flange	Output
RSHF 75 Co	10 = 10 Bit 1.024 S/T x 1 T	3 = 10 - 30 VDC	B = Binary	1 = \varnothing 14 mm, threaded pin	DS = Bus cover sideways movement out
RSHF 75 Co	16 = 16 Bit 1.024 S/T x 65.536 T			2 = \varnothing 12 mm, clamping collar	
RSHF 75 Co	13 = 13 Bit 8.192 S/T x 1 T			3 = \varnothing 14 mm, clamping collar	
RSHF 90 Co	29 = 29 Bit 8.192 S/T x 65.536 T			up to 25,4mm on request	
RSHF 120 Co				up to 50,8 mm on request	
RSHF ___ Co	_____	3	B	_____	DS