

Brushless actuator with integrated gearbox and positioner

StG EC 40

DATA SHEET

Description

This generation of actuators provides high performance combined with rapid response, irrespective of direction of rotation or shaft position. Functional ranges are provided for marine applications and industrial purposes.

StG EC 40 comes with a fully maintenance-free brushless disc motor whose typical high torque is multiplied by the use of a planetary gear. Due to the low moment of inertia of the motors disc and the sophisticated electronic control rapid response times can be achieved.

In case of power loss manual override is possible. Optionally the actuator is available with a return spring to ensure setting to a zero if power supply fails.

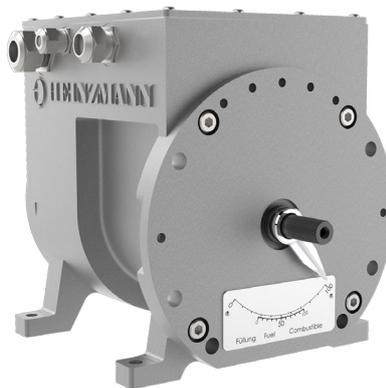
The electronics are fully EMC protected and all customer interfaces are totally galvanically insulated from each other and from ground. The high protection grade IP66 guarantees optimal resistance to adverse environments. To improve durability several protection functions are implemented, for example, actuator current limitation to prevent the actuator from overheating. Besides analogue setpoint inputs and position feedback communication all above is done via CAN protocol which provides detailed error reports. Additionally, major alarms and status are displayed directly by LEDs at the housing.

A contactless position feedback system fully inured to any pollution offers a precise electrical signal of shaft position to any control device.

The use of special materials and long duration lubricants minimises maintenance and delivers an operating lifetime of ~25.000 h. The design allows mounting in any orientation.

Application range

- Marine applications
- Cooling water valves
- Industrial engine applications



Features

Completely galvanically insulated customer interfaces

High torque irrespective of direction of rotation or shaft position

Planetary gear for multiplying torque

Return spring optional

Contactless position feedback

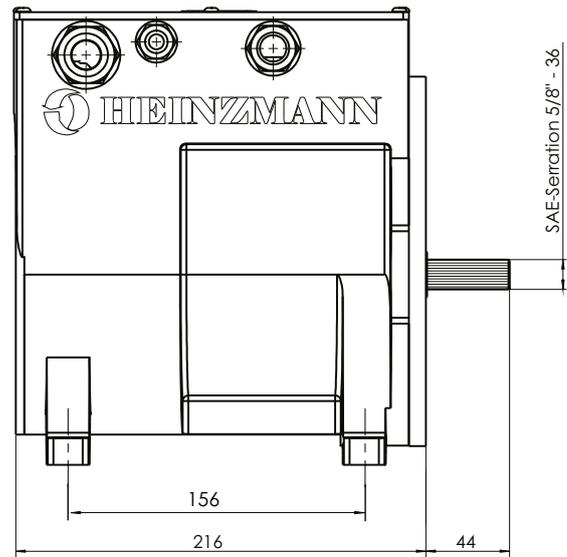
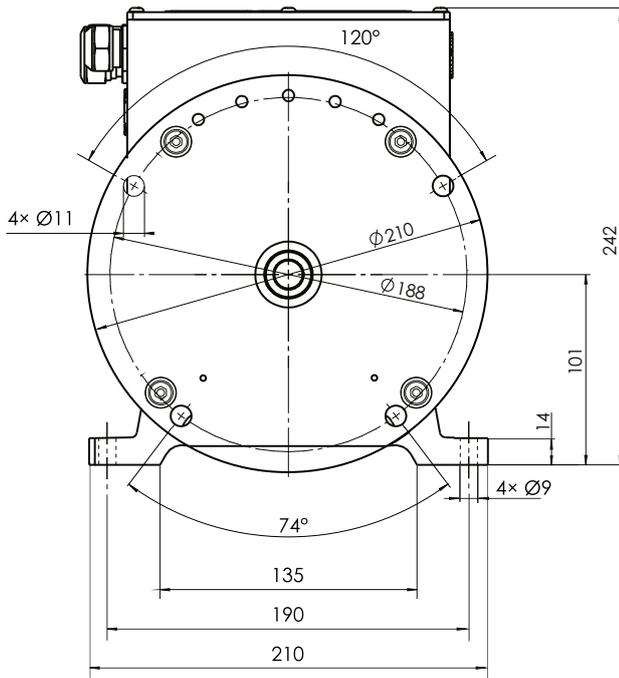
Current limitation in case of mechanical blocking to prevent actuator overheating

Any mounting position possible

Monitoring

- All alarms result in completely galvanically insulated binary alarm outputs (SSR)
- Detailed error report via CAN bus
- Detection of line break
- Actuator current limitation to protect it against overheating
- Error logging
- Detection of persistent deviation of position (e.g. when linkage is blocked)

Dimensions



Certificates

On request

Technical data

| | |
|----------------------------|--|
| Rotation angle | 82° |
| Torque | approx. 40 Nm |
| Steady state torque | approx. 20 Nm |
| Response time without load | 285 ms (10 ... 90 % travel) 380 ms (100 % travel) |
| Output shaft | SAE-serration 5/8"-36 |
| Weight | approx. 15 kg |
| Supply voltage | 18 ... 32 VDC (nom. 24 VDC) 2 redundant power supply inputs |
| Nominal current | approx. 12 A |
| Steady state current | approx. 1.5 A |
| Degree of protection | IP66 |
| Peak current | approx. 25 A (< 25 ms) |
| Operating temperature | -40 ... +80 °C |

| | |
|---------------------------------|--|
| Stop input | Galvanically insulated binary input |
| Alarm outputs | Galvanically insulated binary outputs: - major alarm - minor alarm - overload |
| Communication | CAN protocol: CANopen other protocols on request |
| Optical status interface | 6 status LEDs |
| Storage temperature | -40 ... +85 °C |
| Permissible ambient humidity | < 95 % non-condensing |
| Vibration | According to IACS Req. 2004 1 ... 100 Hz: velocity 45 mm/s 100 ... 200 Hz: velocity 20 mm/s 200 ... 1000 Hz: acceleration 2.0g |
| Shock | According to IEC 60068-2-27 Shock resistance: 30g/18 ms |
| Position feedback (0 ... 100 %) | Galvanically insulated 4 ... 20 mA PWM CAN |
| Position setpoint | Galvanically insulated 4 ... 20 mA PWM CAN |

