

StG EC 40

DATA SHEET

Description

This new 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 the self-locking gear is able to prevent undesired reactions of the linkage. Additionally manual override is possible. Optionally the actuator is available with a return spring to ensure setting to a zero if power supply fails. To enhance reliability the system is equipped with a redundant power supply.

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 any fitting position.

Application range

- ➔ Marine applications
- ➔ Cooling water valves
- ➔ Industrial engine application



Features

Completely galvanically insulated customer interfaces

Redundant power supply

High torque irrespective of direction of rotation or shaft position

Planetary gear, self-locking

Return spring optional

Indifference to slow voltage changes of the supply

Contactless position feedback

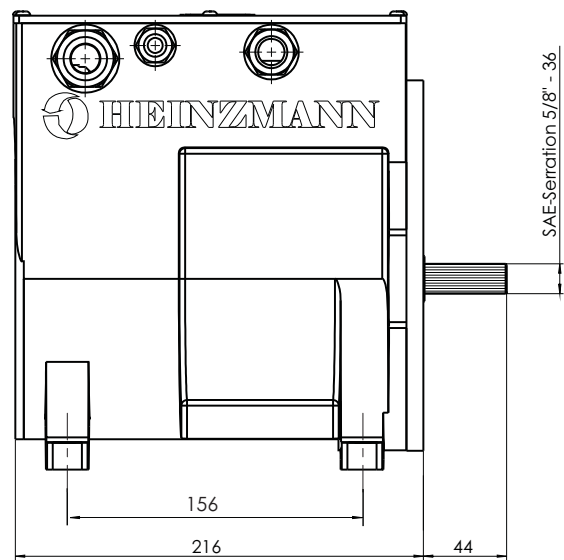
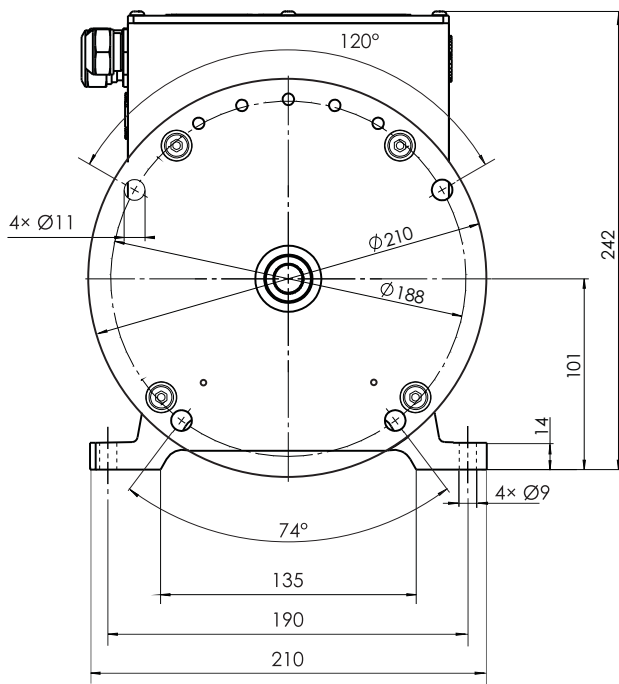
Current limitation in case of mechanical blocking to prevent actuator overheating

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 difference between actuator position and setpoint: Activated when a significant difference lasts longer than a given time (e.g. when linkage is blocked)

Dimensions



Certificates

On request

Technical data

Rotation angle	90°
Torque	max. 40 Nm
Steady state torque	20 Nm
No load response time	140 ms (40°) 270 ms (90°)
Output shaft	SAE-serration 5/8"-36
Weight	< 19 kg

Supply voltage	18 ...32 V DC (nom. 24 V DC) 2 redundant power supply inputs
Steady state current	approx. 3.5 A
Protection grade	IP 66
Ambient temperature	-40 ... 80 °C
Storage temperature	-40 ... 100 °C

Permissible ambient humidity	< 95 % at 55 °C
Vibration	According to IACS Req. 2004 1.0 Hz ... 100 Hz: velocity 45 mm/s 100 Hz ... 200 Hz: velocity 20 mm/s 200 Hz ... 1000 Hz: acceleration 2.0 g
Shock	According to IEC 60068-2-27 Shock resistance: 30 g / 18 ms
Position feedback (0 ... 100 %)	Galvanically insulated 4 ... 20 mA (max. burden 420 Ohm) PWM, CAN
Position setpoint	Galvanically insulated 4 ... 20 mA (max. burden 240 Ohm), 0 ... 5 V, 10 V PWM, CAN

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

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