

Brushless actuator with integrated gearbox and positioner

# StG EC 250

## 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 250 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.

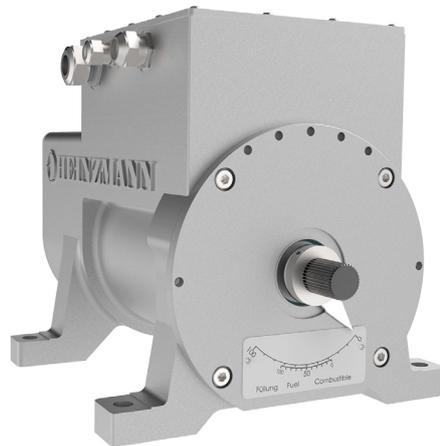
The actuator provides two separate power supply inputs. This allows to run the drive system with higher voltage than the controller thus results in stronger torque output. The actuator meets the high protection grade IP66 which guarantees optimal resistance to adverse environments. The electronics are fully EMC protected and all customer interfaces are totally galvanically insulated from each other and from ground. To improve durability several protection functions are implemented, for example, actuator current limitation to prevent the actuator from overheating. Communication 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

Contactless position feedback

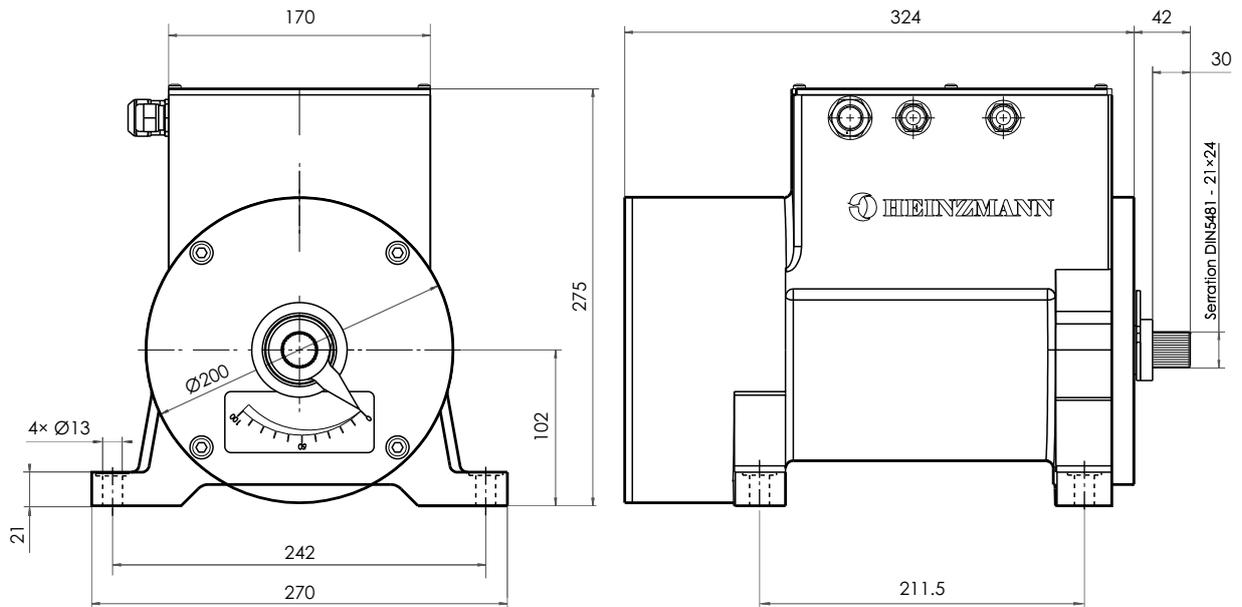
Current limitation in case of mechanical blocking to prevent actuator overheating

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°	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 2.0g
Torque	approx. 250 Nm	Shock	According to IEC 60068-2-27 Shock resistance: 30g / 18 ms
Steady state torque	approx. 125 Nm	Position feedback (0 ... 100 %)	Galvanically insulated 4 ... 20 mA PWM CAN
Response time	290 ms (10 ... 90 % travel) 385 ms (100 % travel)	Stop input	Galvanically insulated binary input
Output shaft	DIN 5481 -21x24	Alarm outputs	Galvanically insulated binary outputs: - major alarm - minor alarm - overload
Weight	approx. 28 kg	Communication	CAN protocol: CANopen other protocols on request
Controller supply voltage	18 ... 32 VDC (nom. 24 VDC)	Optical status interface	6 status LEDs
Current consumption	approx. 2 A nominal approx. 0.5 A steady state		
Drive system supply voltage	nom. 48 VDC (max. 50 VDC)		
Current consumption	approx. 12 A nominal approx. 2.5 A steady state approx. 40 A peak (<50 ms)		
Degree of protection	IP66		
Operating temperature	-40 ... +80 °C		
Storage temperature	-40 ... +85 °C		
Permissible ambient humidity	< 95 % non-condensing		