



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAA000011K**  
Revision No:  
**3**

## This is to certify:

That the Electric Actuator

with type designation(s)

**QT250 1.0/2.0, QT250 2.4 EX, QT250 1.0 Exd, QT800 1.0/2.0, QT800 2.4 EX, QT800 1.0 Exd, QT2500 3.0, QT4000 1.0**

Issued to

**Eltorque AS**  
**TRONDHEIM, Norway**

is found to comply with

**DNV rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

### Location classes:

| Type          | Temperature | Humidity | Vibration | EMC | Enclosure |
|---------------|-------------|----------|-----------|-----|-----------|
| QT250 1.0/2.0 | D           | B        | A         | B   | C/D       |
| QT250 2.4 EX  | D           | B        | A         | B*  | C/D       |
| QT250 1.0 Exd | D           | B        | A         | B   | C/D       |
| QT800 1.0/2.0 | D           | B        | A         | B   | C/D       |
| QT800 2.4 EX  | D           | B        | A         | B*  | C/D       |
| QT800 1.0 Exd | D           | B        | A         | B   | C/D       |
| QT2500 3.0    | C           | B        | A         | A   | D         |
| QT4000 1.0    | C           | B        | A         | A   | D         |

\* QT250 EX and QT800 EX require use of power supply filter to fulfill EMC class B requirements. See page 2.

Issued at **Høvik** on **2022-01-14**

This Certificate is valid until **2023-12-01**.

DNV local station: **Trondheim**

Approval Engineer: **Ståle Sneen**

for **DNV**

.....  
**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



### Place of manufacture

Eltorque AS  
 Verkstedvegen 4  
 7125 Vanvikan  
 Norway

Eltorque Automation Xiamen  
 2/F, 1#building, No.168  
 Huizuo Road, Haicang District,  
 Xiamen,  
 China

### Product description

Electric quarter turn valve actuator

|                   |               |                       |
|-------------------|---------------|-----------------------|
| Power Supply:     | QT250, QT 800 | 230 V AC 50/60 Hz     |
|                   | QT2500        | 110-240 V AC 50/60 Hz |
|                   | QT4000        | 110-240 V AC 50/60 Hz |
| Operating Torque: | QT250         | Max. 250 Nm           |
|                   | QT800         | Max. 800 Nm           |
|                   | QT2500        | Max. 2500 Nm          |
|                   | QT4000        | Max. 4000 Nm          |

Interface options as listed in table below.

| Range             | Actuator          |                         | Description                      | Firmware                    |
|-------------------|-------------------|-------------------------|----------------------------------|-----------------------------|
|                   | Basic             | Hybrid Cable Connection |                                  |                             |
| QT250             | 250.120.1[.xx]    | 250.120.1H[.xx]         | QT250 1.0 CANopen Actuator       | 1.1.x                       |
|                   | 250.140.1[.xx]    | 250.140.1H[.xx]         | QT250 1.0 Modbus Actuator        | 1.1.x                       |
|                   | 250.130.1[.xx]    | N/A                     | QT250 1.0 Analogue Actuator      | 1.1.x                       |
|                   | 250.110.1[.xx]    | N/A                     | QT250 1.0 Digital Actuator       | 1.1.x                       |
|                   | 250.121.1[.xx]    | 250.121.1H[.xx]         | QT250 2.0 CANopen Actuator *     | 1.1.x                       |
|                   | 250.141.1[.xx]    | 250.141.1H[.xx]         | QT250 2.0 Modbus Actuator *      | 1.1.x                       |
|                   | 250.131.1[.xx]    | N/A                     | QT250 2.0 Analogue Actuator *    | 1.1.x                       |
|                   | 250.111.1[.xx]    | N/A                     | QT250 2.0 Digital Actuator *     | 1.1.x                       |
|                   | EXD250.125.1[.xx] | EXD250.125.1H[.xx]      | QT250 1.0 CANopen EXD Actuator   | 1.1.x                       |
|                   | EXD250.135.1[.xx] | N/A                     | QT250 1.0 Analogue EXD Actuator  | 1.1.x                       |
|                   | EXD250.115.1[.xx] | N/A                     | QT250 1.0 Digital EXD Actuator   | 1.1.x                       |
|                   | EX250.125.4[.xx]  | EX250.125.4H[.xx]       | QT250 2.4 CANopen EX Actuator ** | 1.1.x                       |
|                   | QT800             | 800.120.1[.xx]          | 800.120.1H[.xx]                  | QT800 1.0 CANopen Actuator  |
| 800.140.1[.xx]    |                   | 800.140.1H[.xx]         | QT800 1.0 Modbus Actuator        | 1.1.x                       |
| 800.130.1[.xx]    |                   | N/A                     | QT800 1.0 Analogue Actuator      | 1.1.x                       |
| 800.110.1[.xx]    |                   | N/A                     | QT800 1.0 Digital Actuator       | 1.1.x                       |
| 800.121.1[.xx]    |                   | 800.121.1H[.xx]         | QT800 2.0 CANopen Actuator *     | 1.1.x                       |
| 800.141.1[.xx]    |                   | 800.141.1H[.xx]         | QT800 2.0 Modbus Actuator *      | 1.1.x                       |
| 800.131.1[.xx]    |                   | N/A                     | QT800 2.0 Analogue Actuator *    | 1.1.x                       |
| 800.111.1[.xx]    |                   | N/A                     | QT800 2.0 Digital Actuator *     | 1.1.x                       |
| EXD800.125.1[.xx] |                   | EXD800.125.1H[.xx]      | QT800 1.0 CANopen EXD Actuator   | 1.1.x                       |
| EXD800.135.1[.xx] |                   | N/A                     | QT800 1.0 Analogue EXD Actuator  | 1.1.x                       |
| EXD800.115.1[.xx] |                   | N/A                     | QT800 1.0 Digital EXD Actuator   | 1.1.x                       |
| EX800.125.4[.xx]  |                   | EX800.125.4H[.xx]       | QT800 2.4 CANopen EX Actuator ** | 1.1.x                       |
| QT2500            |                   | 2500.120.3[.xx]         | 2500.120.3H[.xx]                 | QT2500 3.0 CANopen Actuator |
|                   | 2500.140.3[.xx]   | 2500.140.3H[.xx]        | QT2500 3.0 Modbus Actuator       | 1.0.x                       |
|                   | 2500.130.3[.xx]   | N/A                     | QT2500 3.0 Analogue Actuator     | 1.0.x                       |
|                   | 2500.110.3[.xx]   | N/A                     | QT2500 3.0 Digital Actuator      | 1.0.x                       |
| QT4000            | 4000.120.1[.xx]   | 4000.120.1H[.xx]        | QT4000 1.0 CANopen Actuator      | 1.0.x                       |
|                   | 4000.140.1[.xx]   | 4000.140.1H[.xx]        | QT2500 1.0 Modbus Actuator       | 1.0.x                       |
|                   | 4000.130.1[.xx]   | N/A                     | QT2500 1.0 Analogue Actuator     | 1.0.x                       |
|                   | 4000.110.1[.xx]   | N/A                     | QT2500 1.0 Digital Actuator      | 1.0.x                       |

\* Suitable for use on open deck

\*\* EMC class A is OK without ELTORQUE PSF. Each actuator is to be powered through the ELTORQUE PSF to satisfy the EMC class B requirements.

## Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

EMC in the range 2 GHz to 6 GHz according to DNV-CG-0339, August 2021 has not been documented. EMC up to 6 GHz must additionally be documented for installation on ships contracted for construction on or after 2022-01-01.

Ex installations to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV.

| Information on Ex-Certification received from manufacturer |                         |                                 |  |
|--|-------------------------|---------------------------------|--|
| Basic  | Hybrid Cable Connection | Certified                       | Certificate No.                        |
| EX250.125.4[.xx]   | EX250.125.4H[.xx]       | QT250 2.4 CANopen EX Actuator   | IECEX NEM 13.0042<br>(Valid issue)     |
| EX800.125.4[.xx]   | EX800.125.4H[.xx]       | QT800 2.4 CANopen EX Actuator   |  |
| EX110.0066_00[.xx]   | -                       | Eltorque PSF                    |  |
| EXD250.125.1[.xx]  | EXD250.125.1H[.xx]      | QT250 1.0 CANopen EXD Actuator  | IECex PRE<br>14.0056X<br>(Valid issue) |
| EXD800.125.1[.xx]  | EXD800.125.1H[.xx]      | QT800 1.0 CANopen EXD Actuator  |  |
| EXD250.135.1[.xx]  | N/A                     | QT250 1.0 Analogue EXD Actuator |  |
| EXD800.135.1[.xx]  | N/A                     | QT800 1.0 Analogue EXD Actuator |  |

## Type Approval documentation

### Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006 (see Application/limitation).  
 QT2500 3.0 and QT4000 1.0 tested for IP68 down to 10 m for 30 min. according to IEC 60529:2001.  
 QT250/800 1.0 EXD tested for IP6x, IPx6 and IPx8 down to 10 m for 72 h according to IEC 60529:2001.  
 All other models tested for IP6x, IPx6 and IPx8 down to 10 m for 100 h according to IEC 60529:2001.

### Marking of product

- Actuator model name
- Interface type
- Manufacturer name
- Serial number
- Input power ratings

### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE