



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001U4
Revision No:
1

This is to certify:

That the **Electric Actuator**

with type designation(s)
**QT70/QT250/QT400/QT800/QT1000 generation 2.5 Actuator with
CANopen, Analog and/ Digital Interfaces and CANOnly, Dual Power and Failsafe options**

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
QT Series generation 2.5 Actuator	D	B	A	A	C/D
QT Series generation 2.5 Failsafe Actuator	A	B	A	A	C/D

Issued at **Høvik** on **2022-03-31**

This Certificate is valid until **2023-05-14**.

for **DNV**

DNV local station: **Trondheim**

Approval Engineer: **Ståle Sneen**

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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.



Product description

QT Series generation 2.5:

- QT70 70 Nm electric quarter-turn actuator as described in table 1
- QT250 250 Nm electric quarter-turn actuator as described in table 2
- QT400 400 Nm electric quarter-turn actuator as described in table 3
- QT800 800 Nm electric quarter-turn actuator as described in table 4
- QT1000 1000 Nm electric quarter-turn actuator as described in table 5

Table 1: QT70 Article numbers

Article no.	Description	Input
70.120.5	QT70 CANOnly	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
70.120.5H	QT70 CANOnly HMC	
70.120.5R	QT70 Dual CANOnly	
70.120.5RH	QT70 Dual CANOnly HMC	
70.120.5A	QT70 CAN	
70.120.5AH	QT70 CAN HMC	
70.120.5B	QT70 FS	
70.120.5BH	QT70 FS HMC	
70.120.5D	QT70 CAN DP	
70.120.5DH	QT70 CAN DP HMC	
70.120.5BR	QT70 Dual CAN FS	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
70.120.5BRH	QT70 Dual CAN FS HMC	
70.120.5DR	QT70 Dual CAN DP	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
70.120.5DRH	QT70 Dual CAN DP HMC	
70.120.5AR	QT70 Dual CAN	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
70.120.5ARH	QT70 Dual CAN HMC	
70.150.5	QT70 Analog/Digital/CAN	
70.150.5R	QT70 Analog/Digital/Dual CAN	

Table 2: QT250 Article numbers

Article no.	Description	Input
250.120.5	QT250 CANOnly	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
250.120.5H	QT250 CANOnly HMC	
250.120.5R	QT250 Dual CANOnly	
250.120.5RH	QT250 Dual CANOnly HMC	
250.120.5A	QT250 CAN	
250.120.5AH	QT250 CAN HMC	
250.120.5B	QT250 FS	
250.120.5BH	QT250 FS HMC	
250.120.5D	QT250 CAN DP	
250.120.5DH	QT250 CAN DP HMC	
250.120.5BR	QT250 Dual CAN FS	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
250.120.5B3*	QT250 Dual CAN FS	
250.120.5BRH	QT250 Dual CAN FS HMC	
250.120.5B3H*	QT250 Dual CAN FS HMC	
250.120.5DR	QT250 Dual CAN DP	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
250.120.5DRH	QT250 Dual CAN DP HMC	
250.120.5AR	QT250 Dual CAN	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
250.120.5R1*	QT250 Dual CAN	
250.120.5ARH	QT250 Dual CAN HMC	
250.120.5R1H*	QT250 Dual CAN HMC	
250.150.5	QT250 Analog/Digital/CAN	
250.150.5R	QT250 Analog/Digital/Dual CAN	
250.150.5A*	QT250 Digital/Analog Actuator	

Table 3: QT400 Article numbers

Article no.	Description	Input
400.120.5	QT400 CANOnly	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
400.120.5H	QT400 CANOnly HMC	
400.120.5R	QT400 Dual CANOnly	
400.120.5RH	QT400 Dual CANOnly HMC	
400.120.5A	QT400 CAN	

Article no.	Description	Input
400.120.5AH	QT400 CAN HMC	
400.120.5B	QT400 FS	
400.120.5BH	QT400 FS HMC	
400.120.5D	QT400 CAN DP	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
400.120.5DH	QT400 CAN DP HMC	
400.120.5BR	QT400 Dual CAN FS	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
400.120.5BRH	QT400 Dual CAN FS HMC	
400.120.5DR	QT400 Dual CAN DP	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
400.120.5DRH	QT400 Dual CAN DP HMC	
400.120.5AR	QT400 Dual CAN	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
400.120.5ARH	QT400 Dual CAN HMC	
400.150.5	QT400 Analog/Digital/CAN	
400.150.5R	QT400 Analog/Digital/Dual CAN	

Table 4: QT800 Article numbers

Article no.	Description	Input
800.120.5	QT800 CANOnly	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
800.120.5H	QT800 CANOnly HMC	
800.120.5R	QT800 Dual CANOnly	
800.120.5RH	QT800 Dual CANOnly HMC	
800.120.5A	QT800 CAN	
800.120.5AH	QT800 CAN HMC	
800.120.5B	QT800 FS	
800.120.5BH	QT800 FS HMC	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
800.120.5D	QT800 CAN DP	
800.120.5DH	QT800 CAN DP HMC	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
800.120.5BR	QT800 Dual CAN FS	
800.120.5B3*	QT800 Dual CAN FS	
800.120.5BRH	QT800 Dual CAN FS HMC	
800.120.5B3H*	QT800 Dual CAN FS HMC	
800.120.5DR	QT800 Dual CAN DP	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
800.120.5DRH	QT800 Dual CAN DP HMC	
800.120.5ARH	QT800 Dual CAN	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
800.120.5R1*	QT800 Dual CAN	
800.120.5ARH	QT800 Dual CAN HMC	
800.120.5R1H*	QT800 Dual CAN HMC	
800.150.5	QT800 Analog/Digital/CAN	
800.150.5R	QT800 Analog/Digital/Dual CAN	
800.150.5A*	QT800 Digital/Analog Actuator	

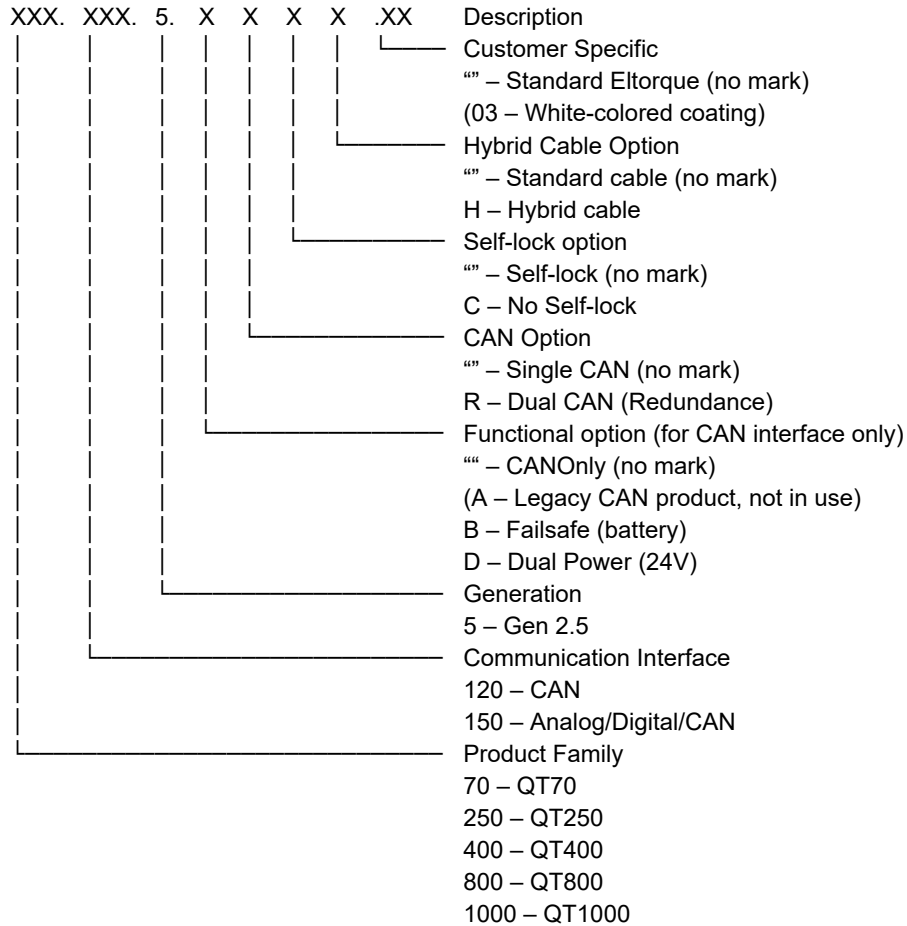
Table 5: QT1000 Article numbers

Article no.	Description	Input
1000.120.5	QT1000 CANOnly	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
1000.120.5H	QT1000 CANOnly HMC	
1000.120.5R	QT1000 Dual CANOnly	
1000.120.5RH	QT1000 Dual CANOnly HMC	
1000.120.5A	QT1000 CAN	
1000.120.5AH	QT1000 CAN HMC	
1000.120.5B	QT1000 FS	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
1000.120.5BH	QT1000 FS HMC	
1000.120.5D	QT1000 CAN DP	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
1000.120.5DH	QT1000 CAN DP HMC	
1000.120.5BR	QT1000 Dual CAN FS	24 V DC / 110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
1000.120.5BRH	QT1000 Dual CAN FS HMC	
1000.120.5DR	QT1000 Dual CAN DP	110 - 240 V AC/DC, 50 - 60 Hz 0.3 A
1000.120.5DRH	QT1000 Dual CAN DP HMC	
1000.120.5AR	QT1000 Dual CAN	
1000.120.5ARH	QT1000 Dual CAN HMC	
1000.150.5	QT1000 Analog/Digital/CAN	
1000.150.5R	QT1000 Analog/Digital/Dual CAN	

Note to all tables:

* - obsolete article numbers, included for historical purposes

Article number keying:



An example of an article number:

250.120.5 – an QT250 in Single CAN interface and self-lock configuration.

Place of manufacture

Eltorque AS
 Verkstedveien 4,
 7125 Vanvikan,
 Norway

Eltorque Automation Xiamen Ltd.
 2/F, 1# building, No.168 Huizuo Rd, XinYang Industrial Area,
 Xiamen City, Fujian Province, China

Approval conditions

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.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After certification the clause for software control will be put into force.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

Tests carried out

Applicable testing according to class guideline DNV-CG-0339, August 2021.
Tested for IP6x, IPx6 and IPx8 (down to 10m for 100h) according to IEC 60529:2013 and IEC 60945:2002.

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

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE