

QT70/QT250/QT400/QT800/QT1000 QUARTER-TURN ACTUATORS

COMPACT QUALITY

The QT generation 2.5 quarter-turn actuators are suitable for butterfly- and ball valves with an operating torque of 10-1000 Nm.

Excellent control options, low cost of installation and operation and no need for maintenance make **ELTORQUE** actuators the obvious choice.



QT70 / QT250 / QT400



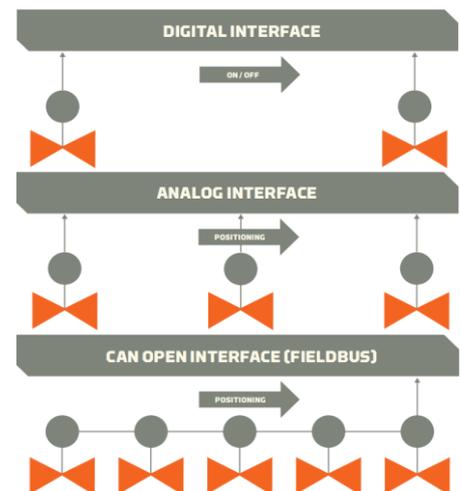
QT800 / QT1000

FEATURES:

- Max torque: 70 / 250 / 380 / 800 / 1000 Nm
- Valve range: DN50-DN400
- Absolute position feedback (true feedback)
- Removable cover for hand wheel protection
- IP68 enclosure
- Configurable torque, closing time and position
- Type approved
- Easy commissioning
- Savings on installation
- Compact design
- Maintenance free actuator
- Full valve control with positioning on IAS
- Low power consumption
- Manual emergency override as standard
- High efficiency, green solution

OPTIONS:

- Outdoor & Open Deck
- Dual Power, Failsafe



QT70/QT250/QT400/QT800/QT1000 SPECIFICATION

GENERAL					
	QT70	QT250	QT400	QT800	QT1000
MIN-MAX TORQUE	10 to 70 Nm	50 to 250 Nm	50 to 380 Nm	250 to 800 Nm	250 to 1000 Nm
MIN-MAX CLOSING TIME 0-100% / 0-90 °	3 - 8 s	13 - 60 s	20 - 37 s	45 - 180 s	63 - 127 s
VALVE SPINDLE ADAPTER	SQ17 38 mm depth	SQ17 38 mm depth	SQ22 38 mm depth	SQ27 45 mm depth	SQ27 45 mm depth
VALVE FLANGE (According to ISO5211)	F05, F07, F10	F05, F07, F10	F07, F10	F10 & F12	F10 & F12
VALVE APPLICATIONS	Butterfly or ball valves with part-turn operation e.g., butterfly valves: DN25 - DN80 DN50 - DN200 DN80 - DN300 DN250 - DN400 DN250 - DN400				

PHYSICAL PROPERTIES		
	QT70 / QT250 / QT400	QT800 / QT1000
WEIGHT [kg] / [lb]	12 / 26.5	21 / 44.1
DIMENSIONS H/W/D [mm] / [in]	229 x 156 x 209 / 9.01 x 6.14 x 8.23	333 x 200 x 239 / 13.11 x 7.87 x 9.41
HOUSING	IP68 (10 m - 100 h) - Corrosion protected aluminum and steel enclosure Corrosion protected aluminum and steel enclosure.	
COLOR	Black	
OPERATING CONDITIONS	-25 °C to 55 °C Not designed for use on open deck of ships, outdoor or exposure to corrosive chemicals	
TEMPERATURE PROTECTION	Motor current is switched off in case of over-heating. Stator coils serve as heating elements in case of low temperatures.	
STORAGE TEMPERATURE	5 °C to 35 °C / 41 °F to 95 °F	
OPERATING TEMPERATURE WITH FAILSAFE OPTION	-25 to 55°C / -13 to 131°F 0 to 45°C / 32 to 113°F	

ELECTRICAL AND CONTROL PROPERTIES	
POWER SUPPLY	110 - 240V AC/DC, 50/60 Hz, Max 240VA
CABLE GLANDS	Up to five M20 glands allows serial connection of power supply and fieldbus wiring. Threaded holes in actuator capsule. Use IP68 glands for all wires, EMC type for fieldbus wiring.
POWER CONSUMPTION OPENING AND CLOSING WITH MAX TORQUE ¹	100 VA, PF 0.79
POWER CONSUMPTION STANDBY ¹	9 VA, PF 0.37
DUTY PERFORMANCE ACCORDING TO AN 15714-1 / IEC 60034-1	Class A - 10 cycles per hour/52 - 15 min.
POSITION SENSOR	Resolution 0,39% / 0,35° & range 360° Absolute position sensor, provides correct feedback even after a power failure.
CONFIGURATION	Connection to PC with Eltorque E3C software via USB adapter.
CONFIGURABLE PARAMETERS	Open and Closed positions. Actuator speed, torque, and valve position regions. Inverted IO or CAN bus parameters depending on control interface
COMMUNICATION INTERFACE OPTIONS	CAN bus communication allows positioning and other extended control of the actuator. The absolute maximum theoretical number of devices allowed on the bus is 127, but the actual number of nodes is limited by the baud rate and the cable quality. Eltorque recommends a maximum of 80 nodes on 500 m/1660ft cable. Digital 2 DI (Open Close) and 3 DO (Open Close Alarm.) Analog AI (Set position) AO (Feedback position) and DO (Alarm) (4 20 mA) AI/AO signal. Modbus RTU Allows for open and close operations of the actuators, max 31 devices on one bus.
EMERGENCY AND SAFETY	
MANUAL OPERATION	Standard feature using fixed hand-wheel. Mechanical valve position indicator.
COVER OF HAND WHEEL	Can be removed and refitted without tools. Protects mechanism against mechanical damage and foreign objects.
NUMBER OF TURNS	7.3 (QT70) / 21 (QT250) / 29 (QT400) / 74 (QT800) / 103 (QT1000) for 0-100% / 0-90° valve operation
CERTIFICATIONS/TYPE APPROVAL ²	CE-marked Type approved by DNV, CCS, ABS (PRODUCT DESIGN ASSESSMENT - PDA), BV, TL
SELF-LOCK	The actuators are equipped with a mechanical self-locking device that locks the valve to the target position when the actuator movement command is completed.

¹Earlier version of the QT actuators have other values for power consumption, see User Manual Table 2: Product overview on page 8 for information on the correct documentation to consult.

²Special conditions apply, check detail with Eltorque agent.

OPTIONS

SPECIAL VARIANTS

OPEN DECK OPTION

COLOUR	Silver - reflective paint that prevents heat buildup from sunlight exposure
OPERATING CONDITIONS	-25 °C to 70 °C

FAILSAFE OPTION

DIMENSIONS H/W/D	QT70/250/400 with failsafe option 229x156x284 mm / 9.01 x 6.14 x 11.18 in	QT800/1000 with failsafe option 333/200/284mm / 13.11 x 7.87 x 11.18 in																
POWER SUPPLY	110 - 240 V AC/DC, 50/60HZ, Max 240 VA, 100 VA while power consumption Opening and closing with max torque, 9 VA while standby																	
BATTERY LIFETIME	<table border="1"> <thead> <tr> <th>BATTERY NOT CONNECTED</th> <th>BATTERY LIFETIME</th> <th>BATTERY CONNECTED</th> <th>BATTERY LIFETIME</th> </tr> </thead> <tbody> <tr> <td>1) Shipping from Eltorque</td> <td>Up to 6 months</td> <td>1) Deep sleep state</td> <td>Up to 50 days</td> </tr> <tr> <td>2) External Storage</td> <td>Up to 6 months</td> <td>2) Service state</td> <td>Up to 12 days</td> </tr> <tr> <td>3) Installed on Vessel</td> <td>Up to 6 months</td> <td>3) Failsafe state</td> <td>Up to 36 hours</td> </tr> </tbody> </table>	BATTERY NOT CONNECTED	BATTERY LIFETIME	BATTERY CONNECTED	BATTERY LIFETIME	1) Shipping from Eltorque	Up to 6 months	1) Deep sleep state	Up to 50 days	2) External Storage	Up to 6 months	2) Service state	Up to 12 days	3) Installed on Vessel	Up to 6 months	3) Failsafe state	Up to 36 hours	
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OPERATIONAL STATES	<p>Deep Sleep State: non-operative state</p> <p>Normal State: The actuator is working and can receive commands from IAS/E3C.</p> <p>Failsafe State: The product will move its pre-defined position.</p> <p>Service State: Makes the actuator non-responsive to commands and failsafe triggers blocking commands to be executed.</p>																	
AVAILABLE FAILSAFE PROTOCOLS	<p>Fail-maintain: The actuator self-lock keeps the position</p> <p>Fail-to-open: The actuator moves to the valve open position</p> <p>Fail-to-close: The actuator moves to the valve closed position</p>																	
Maintenance Note	<p>Recharging when mains AC power is reconnected</p> <p>Smart battery control and monitoring</p> <p>Annual inspection including a full discharge-recharge cycle</p> <p>Min 36 hours service time, minimum 4 open/close cycles</p>																	

DUAL POWER OPTION

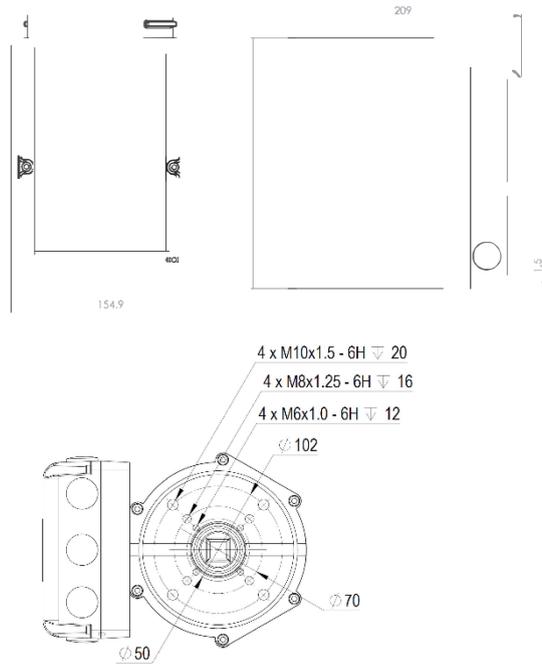
DESCRIPTION	The Dual Power option is a functional extension of an actuator adding 24 V DC power input to standard 115 - 230 V AC. This feature might be combined with Digital, Single CAN and Dual CAN configuration. To operate reliably the Dual Power actuator requires a minimum of 21 V DC on the terminals. Maximal current consumption is 3 A.
POWER SUPPLY	24V DC



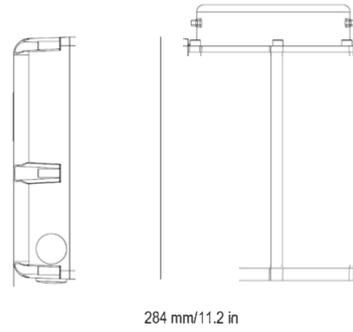
QT250 WITH FAILSAFE OPTION

DRAWINGS

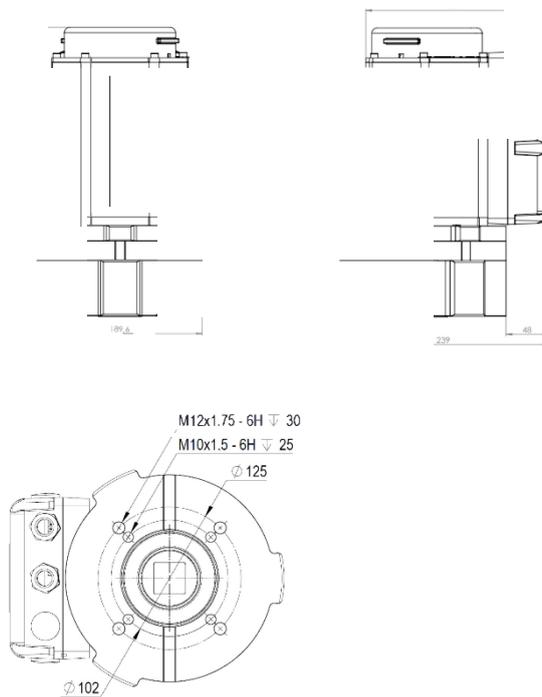
QT70 / QT250 / QT 400



WITH FAILSAFE OPTION



QT800 / QT1000



WITH FAILSAFE OPTION

