Technical Information QT.Ex-M

Product

Highlights

- ATEX / IECEx certification for all gas and dust applications
- 18 Nm torque motor and fail safe (spring return)
- 40 Nm torque without spring return
- Integrated Ex e junction box
- Integrated switches 5° / 80°
- Quick and easy installation
- 20.000 lifetime cycles
- Ambient temperature -40 … +70°C
- IP66 protection
- LED status indication
- Low power consumption < 5 W in open position
- Brushless DC motor – maintanance free
- Maximum corrosion resistance
- Galvanic isolation between supply and feedback

Spring Return Types**		Supply	Spring	Motor	Control	Feedback	
Standard 10 sec	QT.Ex-MF10-SL	20 - 75 VAC/DC	18 Nm / 10 s	18 Nm / 15 s	open/close/3P	Switch 5° / 80°	A
	QT.Ex-MF10-SL	80 -250 VAC	18 Nm / 10 s	18 Nm / 15 s	open/close/3P	Switch 5° / 80°	A
	QT.Ex-MF03-SL	20 - 75 VAC/DC	18 Nm / 3 s	18 Nm / 15 s	open/close/3P	Switch 5° / 80°	A
Fast 3 sec	QT.Ex-MF03-SH	80 - 250 VAC	18 Nm / 3 s	18 Nm / 15 s	open/close/3P	Switch 5° / 80 °	A
	QT.Ex-MF10Y-SL	20 - 75 VAC/DC	18 Nm / 10 s	18 Nm / 15 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
Modulating	QT.Ex-MF10Y-SH	80 - 250 VAC	18 Nm / 10 s	18 Nm / 15 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
	QT.Ex-MF03YQ-SL	20 - 75 VAC/DC	6 Nm / 3 s	6 Nm / 5 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
Modulating, fast	QT.Ex-MF03YQ-SH	80 - 250 VAC	6 Nm / 3 s	6 Nm / 5 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
	QT.Ex-MF03YQ-SH	80 -250 VAC	6 Nm / 3 s	6 Nm / 5 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
Firedamper 10 sec	QT.Ex-MFD10-SL	20 - 75 VAC/DC	18 Nm / 10 s	18 Nm / 15 s	open/close Firetrigger	Switch 5° / 80°	A
	QT.Ex-MFD10-SH	80 -250 VAC	18 Nm / 10 s	18 Nm / 15 s	open/close Firetrigger	Switch 5° / 80°	A
Firedamper 2 sec	QT.Ex-MFD02-SL	20 - 75 VAC/DC	18 Nm / 2 s	18 Nm / 15 s	open/close Firetrigger	Switch 5° / 80°	A
Fast Closing *	QT.Ex-MFD02-SH	80 -250 VAC	18 Nm / 2 s	18 Nm / 15 s	open/close Firetrigger	Switch 5° / 80°	A

*Fast Closing triggered by Fire Damper Thermal Trigger (FireTrigger)

Non Spring Return**		Supply	Spring	Motor	Control	Feedback	
Standard	QT.Ex-M-SL	20 - 75 VAC/DC	without	50 Nm / 15 s	open/close/3P	Switch 5° / 80°	A
	QT.Ex-M-SH	80 -250 VAC	without	50 Nm / 15 s	open/close/3P	Switch 5° / 80°	A
Modulating	QT.Ex-MY-SL	20 - 75 VAC/DC	without	50 Nm / 15 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
	QT.Ex-MY-SH	80 -250 VAC	without	50 Nm / 15 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
Modulating, fast	QT.Ex-MYQ-SL	20 - 75 VAC/DC	without	20 Nm / 5 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A
	QT.Ex-MYQ-SH	80 -250 VAC	without	20 Nm / 5 s	0-10V / 4-20 mA	0-10V / 4-20 mA / 5° / 80°	A

**other types available

Technical data

Spring torque/running time	See types
Motor torque/running time	See types
Angle	95° incl. 5° pre tension
Direction of rotation (spring)	Clockwise / conter clockwise (symmetric)
Manual override	Integrated SW3
Hollow shaft	12 x 12 mm
Lifetime	Min. 20.000 fail safe action

Supply	See types
Power consumption	5 W / 7 VA holding position 20 W / 30 VA motor 30 VA / 2 A @ 24 V dimensioning
Electrical connection	Integrated Ex e junction box
Electrical connection ATEX/IECEx Ex e	0,08 – 2,5 mm² without ferrule 0,25 – 1,5 mm² with ferrule
Integrated switches	5° / 80° potential free max. 250 V / 0,1 A min. 5 V / 5 mA
Precision	0,2° angle of rotation

Ambient humidity	0 … 95 %r.F. no condensation
Ambient temperature	-40 … +70°C

Housing material	High Tech polymer halogen-, silicon-, PVC free
Cover plates, screws	Stainless steel
Corrosion resistance	Coastal and offshore areas
Protection	IP66

Sealing material	EPDM, TPE
Maintanance	Maintanance free
Dimensions H x W x D	320 x 120 x 85 mm
Weight	4,2 kg
Cable glands	M20 brass, nickel-plated Ø 6-13 mm ATEX Ex e
Sensor connection	M12 5 pole, shielded, brass, nickel-plated

Certification	ATEX EPS 17 ATEX 1 020 X IECEx IECEx EPS 17.0009X	
Marking	II2 G Ex db eb mb ib IIC T4	Gb
	II2 D Ex tb IIIC T130 °C	Db
Option Firedamper …FD	II2 G Ex db eb mb ib [ia Ga] IIC T4	Gb/Ga
	II2 D Ex tb [ia] IIIC T130 °C	Db/Da
Explosion proof ATEX	2014/34/EU	
EMC	2004/108/EU Industry class A	
Low Voltage Directive	2014/35/EU IEC/EN 61010	
Quality Standards	ISO9001, ISO14001, ATEX, IECEx, ISO/TS16949	

Application

The 90° quarter turn actuator QT.Ex stands for maximum safety and fast closing times. The explosion-proof housing ensures robustness, high IP66 protection and outstanding corrosion protection. Due to guaranteed 20,000 full cycles, the actuator is suitable for safety applications. The gearbox -completely manufactured from metal- guarantees reliability over a very wide temperature range.

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The field of application extends from ventilation technology through fire dampers to rotary valves in HVAC, building equipment, offshore, petrochemical, chemical and pharmaceutical industries.
The modular design of electronics and gearbox ensures simple and safe assembly and commissioning. The integrated Ex e junction box allows direct connection without additional installation modules.

Function

Each actuator works both open/close as well as 3 position. In case of power failure the actuator (only spring return types) will move to the requested fail safe position.

Integrated auxiliary switches indicate position 5 ° and 80 °. The integrated LED is an on site indication. Push button for required initialisation.

The integrated Ex e junction box allows direct electrical connection.

Accessories

FT.Ex-72	Fire Damper Thermal Trigger 72°C (QT….-FD Antriebe)
KLE-M20-ARM	Cable glands M20x1,5 for armed cables
K12-R8-14	Shaft clamp Ø 8-18 mm ☐ 8-11 mm incl. anti-rotation lock, set complete in stainless steel

Please note

ATTENTION!

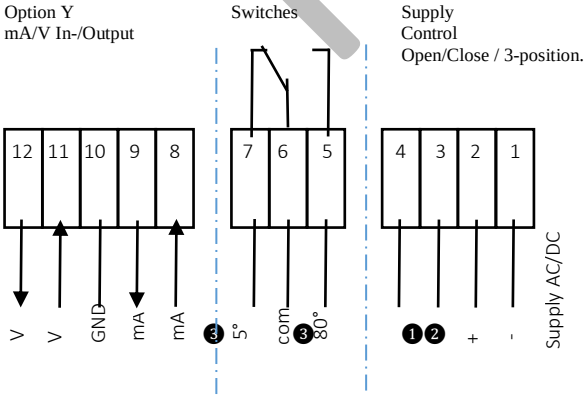
- ☐ Install according to manufacturer's specifications, valid standards and rules.
- ☐ Disconnecting the supply unit or opening the terminal box is only permitted in the de-energized state.
- ☐ When installing the device, ensure that the enclosure protection rating IP66 according to EN 60529 is complied with.
- The device may be used -in accordance with the manufacturer 's specifications- in Zone 1, 21 (II 2GD) and Zone 2, 22 (II 3GD)
- ☐ The device must be connected to the potential equalization (PA), for this purpose an external connection is available.
- ☐ The device must be protected against mechanical stress.

Safety instructions

- ☐ Installation, electrical connection, maintenance and commissioning may only be carried out by specially trained personnel.
- ☐ Avoid excessive mechanical and improper stress.
- ☐ Voltage must be switched off during assembly and disassembly.
- ☐ **For initial start-up on the damper / valve or other, a setting angle adjustment must be carried out by pressing the button for 3 s. This results in smooth motor braking or braking during spring return in the end positions.**
- ☐ At lower temperature, spring return times may be extended by decreasing viscosity of the used grease.

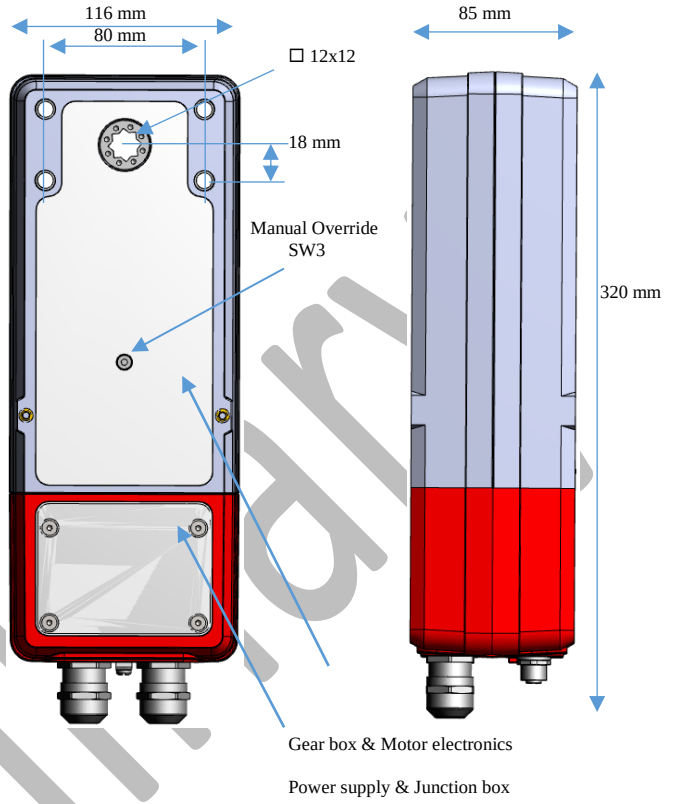
Electrical connection

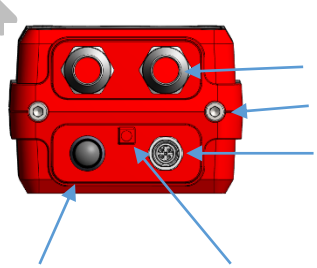
❶ Disconnect power supply before opening / disconnecting the device
❷ Install an overcurrent protection element <10A according to IEC 61010-1
❸ Supply, auxiliary switches and outputs are galvanically isolated.
Interchanging the connectors can damage the electronics.
❹ Unused cable glands must be sealed IP66



Schaltbild A

Dimensions





Cable glands M20 Ø 6-13 mm

Mounting screws 2 x M6x90

Connector M12
Interface/Fire Damper Thermal Trigger 72° C

Push button / LED Potential equalisation PA

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