



//////// Invest in Confidence //////////////////////////////////////

Failsafe
Electric actuators
FQ & FQX ranges

> FQ & FQX Range

The complete solution for failsafe electric actuators

Product overview

Lockable
handwheel clutch



Handwheel





FQ/FQX 04 - FQ/FQX 08



FQ/FQX 12 - FQ/FQX 18



FQ/FQX 30 - FQ/FQX 50

Mechanical position indicator

- > Standard
- > Check the position of your valve at a glance



Product benefits

FAST SPRING RETURN ELECTRIC ACTUATORS : YOUR INSTALLATION IS UNDER CONTROL

• Special mechanical design

- > Specially designed to fail safe applications and with self-locking gears
- > Fast and shock-free operation of the valve during emergency closing/opening, several speeds available

• Easy to use, maintenance free

- > No periodic maintenance required
- > Trouble free operation for years (FQ system is not battery technology based)
- > Spring efficiency guaranteed over the full 90° travel
- > Travel limit switches easy to set with a simple screw driver and unaffected by mechanical vibrations effects
- > Easy access to electrical connections via a terminal strip

• Top level of reliability

- > No need for external power supply: the FQ works with an automatic spring-return
- > No resetting of the spring required after emergency operation: failsafe function is continuously available
- > Full electrical priority even in case of manual operation: a lever for manual operation stops the failsafe function of the actuator but not the actuator operation
- > Manual operation can be inhibited with padlock

• Modular design adaptable to specific applications

- > Explosion proof versions according to international standards (ATEX, NEMA)
- > Low temperature version: up to -40°C
- > Separated control box available for advanced integrated control functions and fieldbus communication
- > Suitable for Modulating applications (BC Class III complying with EN15714-2 Class C)

Application fields

All applications where the loss of power supply requires automatically to put the driven device in a safety position. All applications where the risks are such, that driving the device to its safety position must be possible at any time even in the absence of power supply.

Dashpot

For shock free operation

Cable entries

Spring

With solenoid brake

> FQ & FQX RANGE

Failsafe Electric Actuators

Range Overview

For all quarter-turn applications, spring return FQ range actuators ensure automatic opening or closing even without any power supply.



What is Failsafe ?

The activation of an emergency signal triggers the immediate opening or closing of the backup device, without the need of any external power source and using a full mechanical spring return.

Content

Range overview - FQ 6

PRODUCT SPECIFICATIONS

GENERAL	Torque range	Quarter-turn, direct mounting from 40 to 500Nm
	Actuator Duty Class	On-Off (Class A), Inching/Positioning (Class B), Modulating (Class C)
ENCLOSURE - PROTECTION	Casing	Cast aluminium
	Weatherproof	IP67
	Programming	FQ range is generally proposed with switch control (camblock + end-of-travel switches). INTEGRAL+ & POSIGAM+ (See INTEGRAL+ catalogue) advanced controls are also possible with separated control box. Maximum distance between control box and actuator: 50m
	Explosion proof ATEX (option)	ATEX Directive 2014/34/UE - INERIS EN IEC 60079-0 2028 ; EN60079-1 2014 ; EN ISO 80079-36 2016 ; EN ISO 80079-37 2016 FOX Ex db h IIC T5 or T6Gb- EX II2G Certificate : INERIS 23ATEX0015 X
	Explosion proof IECEx (option)	IEC 60079-0:2017 ; IEC 60079-1:2014-06 ; ISO 80079-36:2016 ; ISO 80079-37:2016 FOX Ex db h IIC T5 or T6 Gb Certificate : IECEx INE 23.0024CX
	Ambient temperature operating range	Weatherproof models: -20°C to 70°C (-40°C as an option) Explosionproof models : T5 : -40°C to 70°C T6 : -40°C to 60°C
	Explosion proof C.S.A. (Canada & USA) (option)	NEMA 7 - NEMA 9 certified C22-2, FM3600, FM361 and FM3615 standards Class I Group C, D div 1&2 (option Group B) Class II Group E, F, G div 1&2 Certificate : 1061444
	External corrosion protection	<ul style="list-style-type: none"> • Paint system : - Polyurethane paint Ral5002 complying with ISO 12944 (C3) - Protection for highly corrosive conditions as an option • All cover fasteners captive and stainless.
MECHANICAL SPECIFICATIONS	Gearing	Self-locking
	Manual override	Function available on FQ12, FQ18, FQ30 and FQ50. Handwheel does not rotate during motor operation. Padlockable clutch lever.
	Spring return	CW as standard, CCW on request (non reversible device) Fast spring return in option
	Output flange	d Flange comply with ISO 5211 (with optional socket/flange for FQ04 to FQ18)
	Output drive	Direct output drive on FQ04 to FQ18 (Removable socket as an option). Removable socket on FQ30 and FQ50.
	Vibration Resistance	1g (9,8 m/s ²) at 10-500 Hz For higher vibration resistance, please contact us.
	Lubrication	Actuators are lubricated for product lifetime and do not require any specific periodic maintenance

PRODUCT SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	Power supply	Actuators are available for a wide range of power supplies: <ul style="list-style-type: none"> • Single-phase, three-phase or DC voltages • 50 or 60 Hz • Specific voltages on request
	Solenoid brake	The solenoid rated power is 21 W. This solenoid is normally under permanent power supply. Need separated power supply. Nominal voltage: <ul style="list-style-type: none"> • 230V AC for 230V or 400V AC actuators • 115V AC for 115V or 460V AC actuators • 24V DC for 24V DC actuators • Other possible voltages on request
	Position sensors	<ul style="list-style-type: none"> • Movement read directly on the main shaft (direct mechanical link) • Adjustable camblock with 2 SPDT end-of-travel switches • 2 extra position switches as an option • Independent position transmitter (TAM or potentiometer) as an option
	Conduit entries	Weatherproof design : <ul style="list-style-type: none"> - 2xM20 - 3xM20 (as an option) Explosionproof design : <ul style="list-style-type: none"> - 2x 3/4" NPT - 3x 3/4" NPT (as an option)
ADDITIONAL OPTIONS	Fieldbus interface (option)	Profibus DP (single or redundant) <ul style="list-style-type: none"> • PROFIBUS-DP slave - RS 485 • Baudrate: autodetection • Total number of master and slave modules on the same line: 31 max. up to 99 with repeaters • PROFIBUS operability approved by PNO (Profibus Nutzer Organisation) • External power supply backup
	Additional options	<ul style="list-style-type: none"> • LED indication board (closed, open, power on) • Additional 3 relays board • Additional position transmitter isolated from the other output signals

PRODUCT SPECIFICATIONS

ADVANCED CONTROLS (OPTION)	Models	Two versions according to operating modes: INTEGRAL+ for On-Off which includes : <ul style="list-style-type: none"> • Terminal compartment • Power contactors • Logic control • Configuration panel • Signalling relays • Local control selectors POSIGAM+ for Class III positioning : <ul style="list-style-type: none"> • All INTEGRAL+ features • Positioner board • Position feedback
	Enclosure protection	Separated FPI box (weatherproof design) <ul style="list-style-type: none"> • Standard: IP67 / NEMA 4 Separated FPx box (explosionproof design) <ul style="list-style-type: none"> • Standard: IP67 / EEx d IIC T6 - NEMA 7 / 9
	On-off control	<ul style="list-style-type: none"> • Isolated by opto-couplers • Voltage: 10 to 250 V DC/AC • Current: 10 mA at 24V • Dry contacts (uses INTEGRAL+ auxiliary DC supply) • Minimum pulse duration: 100ms • Time of rotational direction change: 50ms or 200ms
	Positioning control	<ul style="list-style-type: none"> • Standard : Input signal 4-20 mA - Output signal 4-20 mA • On request :Input signal 0-20 mA - Output signal 0-20 mA • On request : Input signal 0-10 V - Output signal 0-20 mA
	Cable entries	Weatherproof design (with separated FPI control box option) <ul style="list-style-type: none"> - 3xM20 - 2xM20 + 2xM25 (en option) - 3xM20 + 4xM16(With single or redundant fieldbus option) Explosionproof design (with separated FPx control box option) <ul style="list-style-type: none"> - 2x 3/4" NPT + 1x1" NPT
	Signal relay	<ul style="list-style-type: none"> • 4 relays: 4 datas can be freely selected among a total of 16 available datas (250VAC-5A max.) • 1 fault relay
	EU conformity	INTEGRAL+ / POSIGAM+ controls complying with: <ul style="list-style-type: none"> • The 2004/108/EC electromagnetic compatibility • The 2006/95/EC low voltage • The following harmonized standards: Generic emission standard-Industrial environment EN 61000-6-4 Generic immunity standard - Industrial environment EN 61000-6-2. Degrees of protection provided by enclosures (IP code) EN 60529
	Vibration resistance	1g (9.8 m/s ²) à 10-500 Hz

BERNARD CONTROLS GROUP

CORPORATE HEADQUARTERS

4 rue d'Arsonval - CS 70091 / 95505 Gonesse CEDEX France / Tel. : +33 (0)1 34 07 71 00 / Fax : +33 (0)1 34 07 71 01 / mail@bernardcontrols.com

CONTACT BY OPERATING AREAS

>AMERICAS

NORTH AMERICA
BERNARD CONTROLS UNITED STATES
HOUSTON
inquiry.usa@bernardcontrols.com
Tel. +1 281 578 66 66

SOUTH AMERICA
BERNARD CONTROLS LATIN AMERICA
inquiry.southamerica@bernardcontrols.com
Tel. +1 281 578 66 66

>ASIA

CHINA
BERNARD CONTROLS CHINA &
BERNARD CONTROLS CHINA NUCLEAR
BEIJING
inquiry.china@bernardcontrols.com
Tel. +86 (0) 10 6789 2861

KOREA
BERNARD CONTROLS KOREA
SEOUL
inquiry.korea@bernardcontrols.com
Tel. +82 (0)2 2183 6226

SINGAPORE
BERNARD CONTROLS SINGAPORE
SINGAPORE
inquiry.singapore@bernardcontrols.com
Tel. +65 65 654 227

>EUROPE

BELGIUM
BERNARD CONTROLS BENELUX
NIVELLES (BRUSSELS)
inquiry.belgium@bernardcontrols.com
inquiry.holland@bernardcontrols.com
Tel. +32 (0)2 343 41 22

FRANCE
BERNARD CONTROLS FRANCE &
BERNARD CONTROLS NUCLEAR FRANCE
GONESSE (PARIS)
inquiry.france@bernardcontrols.com
Tel. +33 (0)1 34 07 71 00

GERMANY
BERNARD CONTROLS DEUFRA
TROIENDORF (KÖLN)
inquiry.germany@bernardcontrols.com
Tel. +49 2241 9834 0

ITALY
BERNARD CONTROLS ITALIA
RHO (MILANO)
inquiry.italy@bernardcontrols.com
Tel. +39 02 931 85 233

SPAIN
BERNARD CONTROLS SPAIN
MADRID
inquiry.spain@bernardcontrols.com
Tel. +34 91 30 41 139

UNITED KINGDOM
BERNARD CONTROLS UNITED KINGDOM
inquiry.uk@bernardcontrols.com
Tel. +44 (0)7435 266310

>INDIA, MIDDLE EAST & AFRICA

AFRICA
BERNARD CONTROLS AFRICA
ABIDJAN - IVORY COAST
inquiry.africa@bernardcontrols.com
Tel. + 225 21 34 07 82

INDIA
BERNARD CONTROLS INDIA
inquiry.india@bernardcontrols.com
Tel. +971 4 880 0660

MIDDLE-EAST
BERNARD CONTROLS MIDDLE-EAST
DUBAI - U.A.E.
inquiry.middleeast@bernardcontrols.com
Tel. +971 4 880 0660

More than 50 agents and distributors worldwide. Contact details on www.bernardcontrols.com

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