

New,
Simple,
Sturdy,
and Economical!



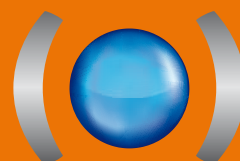
by



LABEL

FIRST

BC



BERNARD[®]
CONTROLS

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



QUARTER-TURN ACTUATORS
EZ RANGE



Product overview

> Quarter-turn actuators



Models EZ4 to
EZ15



Models EZ100
to EZ1000



Models EZ25 to EZ60

> Industrial actuation made easy

BERNARD CONTROLS, inventor of the industrial compact quarter turn actuator, brings to its customers valve actuation solutions supported by decades of experience.

Through discussions with users over the years, BERNARD CONTROLS has identified a demand for electric actuators that are both simple and sturdy. This demand is now fulfilled with our new range of dedicated products.

These new actuators are well designed to work under moderate environmental and operational conditions.

This range has been developed without compromising on quality, applying the unique expertise and feedback that are the cornerstones of BERNARD CONTROLS' reputation.

Thus the FIRST BC label is born.

The FIRST BC label is the guarantee of actuator solutions with a total cost of ownership (TCO) among the lowest in their category, due to their ease of commissioning, their proven reliability and a design that does not require any periodic maintenance.

The EZ range models meet all criteria set by the FIRST BC label.



Configuration

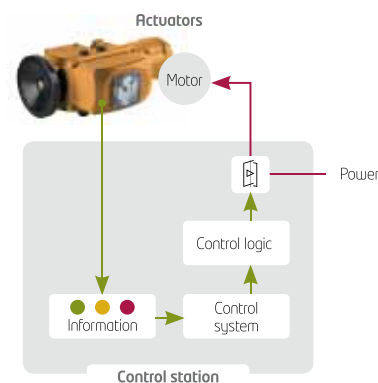
➤ On-off standard controls

In this configuration, the control unit is designed by the customer and located in a remote cabinet.

All information sent by the actuator sensors (travel limit, torque limit, thermal overload, position feedback, ...) have to be processed by user's control logic. Power reversing starters are also housed in the remote cabinet.

As far as travel limitation adjustment is concerned, BERNARD CONTROLS patented camblock system allows to quickly set the cams positions with a standard flat head screwdriver.

Each single cam can be set independently from the others.



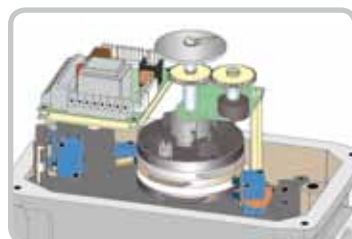
The cams are automatically locked in their respective positions, once adjusted, and unaffected by vibrations.

• Wiring Diagrams:

Our sales teams can supply appropriate wiring diagram(s) according to your model(s).

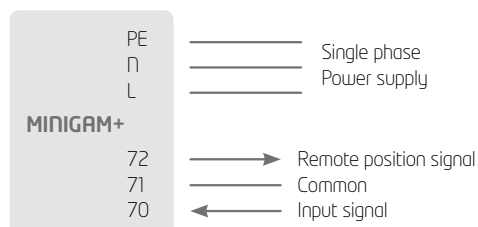
➤ Integrated positioner

The EZ actuators can be used on positioning applications. In this case, a MINIGAM+ analogue control board is integrated into the actuator body.



• The MINIGAM+ includes:

- *Control logic*
- *Motor control by static relays*
- *Analogue Positioner*
- *Position analogue Transmitter*



The actuator equipped with MINIGAM+ allows a precise positioning (better than 2%).

• **Wiring Diagrams:** Our sales teams can supply appropriate wiring diagram(s) according to your model(s).



Technical specifications

➤ General specifications

General	EZ actuators include motor with thermal protection, gear case, emergency handwheel, travel limit switches, torque switches (except EZ4 to EZ15) anti-condensation heater, and output drive with removable socket
Gear design	Gears are mechanically self-locking and are lubricated for product lifetime
Design life	• EZ4 to EZ60: 20,000 cycles (On-Off) / 300,000 starts (Positioning) • EZ100 to EZ1000: 10,000 cycles (On-Off) / 200,000 starts (Positioning) Tested to EN15714-2 Class A & B
Enclosures	• Actuator housing in aluminium die casting, cathaphoresis & epoxy paint RAL1017 • IP67
Motor technology	Totally-enclosed, squirrel cage 3-phase or 1-phase motor, class F insulation with integral thermal overload protection.
Motor duty	• S4-25% motor duty rating to IEC 60034-1. 360 starts/hour in peak
Temperature range	-20 ... +60°C / -4 ... +140°F
Position indication	Mechanical position indicator for a continuous indication even in the event of power supply loss
Electrical connection	Screw-type terminals for controls and power supply. Internal earth grounding post
Cable entries	• 2 x M20 sealed by caps
Compliance with Directives & Standards	Actuators comply with: EC directives 2004/108/EC, 2006/95/EC and standards EN 61000-6-4, EN 61000-6-2, EN 60034-1 and EN 60529

➤ On-Off controls

Travel limit system	• 4 SPDT contacts ; 250VAC-16 A / 48VDC-2,5 Amax. (resistive load)
Torque limiting system	• The torque limit switch gives a short duration contact. (except EZ4 to EZ15) • 2 contacts as standard ; SPDT ; 250VAC-16 A / 48VDC-2,5 Amax. (resistive load)
Remote position signal (option)	• 1000 Ohm potentiometer, 0.3 W - wiper current = max. 1 mA. • «TAM» position transmitter: 4-20 mA (12, 24 or 32V power supply for maximum permissible load of 150, 750 or 1,050 Ohms)

➤ Positioning with Minigam integrated controls

Positioning precision	Better than 2%. Dead band adjustable by potentiometer
Command (set-point)	Configurable input signal (input impedance): 4-20 mA (260 Ω) / 0-20 mA (260 Ω) / 0-10 V (10 KΩ)
Position feedback	• Output signal identical to the input signal (i.e, input signal: 4-20 mA – output signal: 4-20 mA) • 4-20 mA (300 Ω max.) / 0-20 mA (300 Ω max.) / 0-10 V (5 kΩ min.) • 2 SPDT contacts ; 250 VAC-16 A / 48 VDC-2,5 Amax. (resistive load)
Integrated protections	• Fuse protection • Motor thermal protection • Torque limiter protection (EZ25 and above)

➤ Performance data

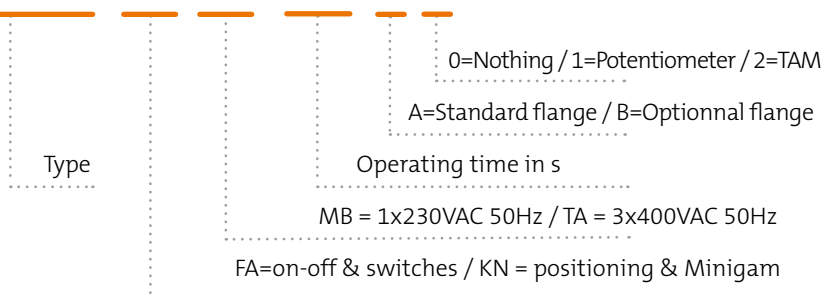
1x230VAC 50Hz								
						Motor - S4 service - Duty rating : 25%		
Type	Max torque N.m	Available in Minigam version	Positioning torque N.m	Operating time s / 90°	Flange ISO	Power kW	Current rated A	Current start A
EZ4	45	no	---	6	F05/F07	0.03	0.8	0.9
EZ6	60	no	---	6	F05/F07	0.03	0.6	0.9
EZ10	100	no	---	6	F05/F07	0.06	1.2	1.7
EZ10	100	yes	50	35	F05/F07	0.02	0.5	0.6
EZ15	150	yes	75	25	F05/F07	0.03	0.6	0.9
EZ25	250	yes	125	30	F07/F10	0.03	0.6	0.9
EZ60	600	yes	250	30	F07/F10	0.06	1.2	1.7
EZ100	1000	yes	500	30	F12/(F14*)	0.20	2.5	3.5
EZ250	2500	yes	1200	70	F16/(F14*)	0.40	4.0	9.0
EZ400	4000	yes	2000	125	F16	0.40	4.0	9.0
EZ1000	10000	no	---	210	F25	0.40	3.5	11

3x400VAC 50Hz								
						Motor - S4 service - Duty rating : 25%		
Type	Max torque N.m	Available in Minigam version	Positioning torque N.m	Operating time s / 90°	Flange ISO	Power kW	Current rated A	Current start A
EZ6	60	no	---	6	F05/F07	0.03	0.3	0.5
EZ10	100	no	---	6	F05/F07	0.1	0.6	1.1
EZ15	150	no	---	25	F05/F07	0.03	0.3	0.5
EZ25	250	no	---	30	F07/F10	0.03	0.3	0.5
EZ60	600	no	---	30	F07/F10	0.06	0.3	0.8
EZ100	1000	no	---	30	F12/(F14*)	0.10	0.6	1.2
EZ250	2500	no	---	70	F16/(F14*)	0.10	0.6	1.2
EZ400	4000	no	---	125	F16	0.10	0.6	1.2
EZ1000	10000	no	---	210	F25	0.14	0.7	2.8

* F14 available as an option

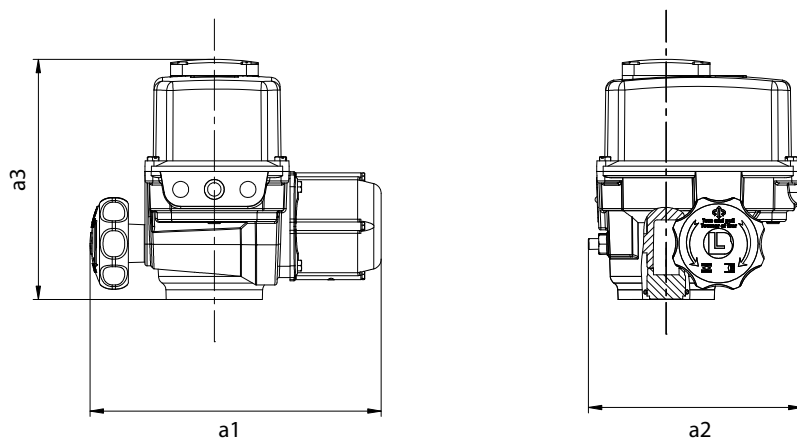
➤ Product selection

EZ1000 FA MB 210 A 2



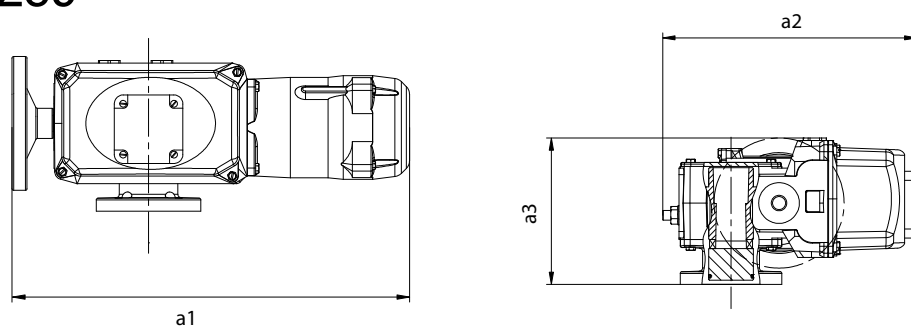
Dimensions

> EZ4 to EZ15



	Flange ISO5211	Stem size (mm)		a1 max. (mm)	a2 (mm)	a3 (mm)	Approx. Weight (kg)
		Bore (max.)	Square (max.)				
EZ4	F05/F07	22	19	273	200	225	6
EZ6	F05/F07	22	19	319	200	225	7
EZ10	F05/F07	22	19	362	200	225	7
EZ15	F05/F07	22	19	362	200	225	7

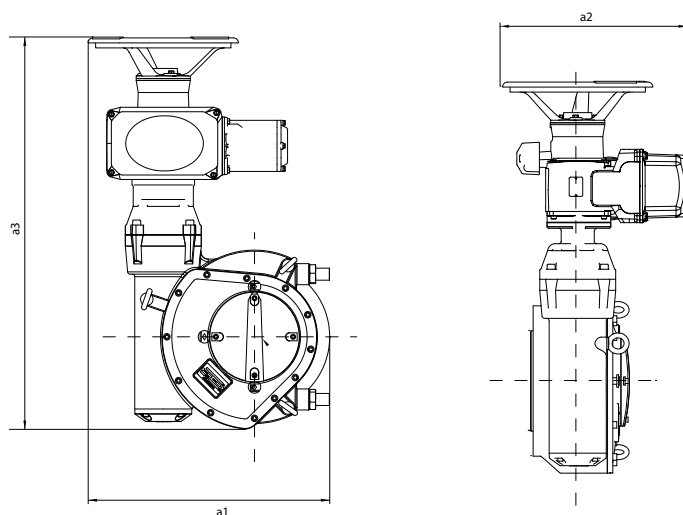
> EZ25 to EZ60



	Flange ISO5211	Stem size (mm)		a1 max. (mm)	a2 (mm)	a3 (mm)	Approx. Weight (kg)
		Bore (max.)	Square (max.)				
EZ25	F07/F10	30	22	479	313	180	18
EZ60	F07/F10	32	27	528	313	180	20



➤ EZ100 to EZ1000



	Flange ISO5211	Stem size (mm)		a1 max. (mm)	a2 (mm)	a3 (mm)	Approx. Weight (kg)
		Bore (max.)	Square (max.)				
EZ100	F12 (F14*)	60	36	425	364	521	47
EZ250	F16 (F14*)	80	46	462	364	664	64
EZ400	F16	80	50	462	364	664	67
EZ1000	F25	100	55	482	369	780	92



* F14 available as an option

SUBSIDIARIES

BELGIUM

BERNARD CONTROLS BENELUX
BRUXELLES
info.benelux@bernardcontrols.com
Tel. +32 (0)2 343 41 22

CHINA

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

GERMANY

BERNARD CONTROLS DEUFRA
TROISDORF
bcd.mail@bernardcontrols.com
Tel. +49 22 41 98 340

ITALY

BERNARD CONTROLS ITALIA
MILANO
info.it@bernardcontrols.com
Tel. +39 02 931 85 233

SPAIN

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

UNITED STATES

BERNARD CONTROLS Inc
HOUSTON
bsales@bernardcontrols.com
Tel. +1 281 578 66 66

OFFICES

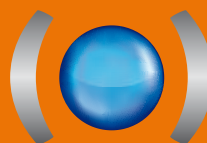
MIDDLE-EAST

BERNARD CONTROLS
MIDDLE-EAST
DUBAI - U.A.E.
bernact@emirates.net.ae
Tel. +971 4 344 2010

RUSSIA

BERNARD CONTROLS
RUSSIA
MOSCOW
otradine@yahoo.fr
Tel. +7 916 911 28 42
Tel. +7 985 923 84 13

Agents and distributors list
available on our website :
www.bernardcontrols.com



BERNARD[®]
CONTROLS

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

BERNARD CONTROLS S.A.
4 rue d'Arsonval - B.P. 70091
95505 Gonesse CEDEX France
Tel.: +33 (0)1 34 07 71 00
Fax: +33 (0)1 34 07 71 01
mail@bernardcontrols.com
www.bernardcontrols.com