



Invest in Confidence

gpsactuator.com

GPS Actuator: the web application developed by BERNARD CONTROLS that helps you find your way to your electric actuation solution.



A new interactive User's guide optimized for all devices: stay connected on your computer, your tablet and your smartphone!

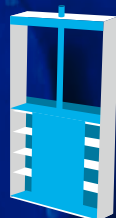
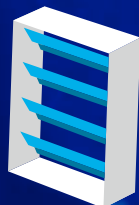




THE guide to easily define the actuator range that fits to your needs.

The best way to find

Flash this QR code and access BC GPS Actuator!

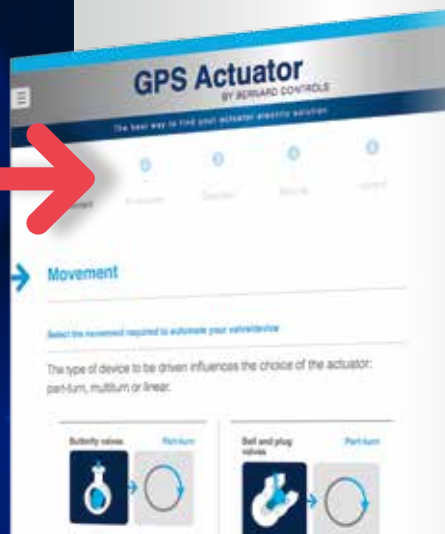


1

Movement

Step n°1

The type of device to be driven influences the electric actuator movement. You will make a choice among 3 types of movements: part-turn, multi-turn and linear.



2

Environment

Step n°2

Electric actuators require specific protection enclosure regarding location and constraints/risks of working environment.



3

Operation

Step n°3

The duty of your electric actuator must be adapted to your operation.

Choose an actuator duty and determine the actuation solution fitting to your process requirements.

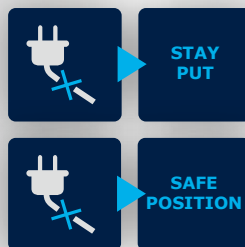


4

Security

Step n°4

Opt for a standard or a fail safe actuator to protect your installation in case of loss of power supply.

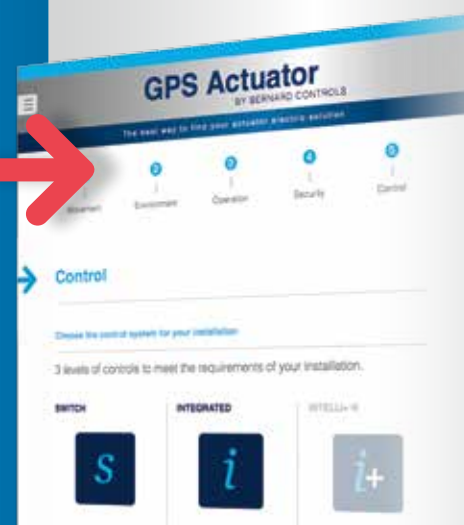
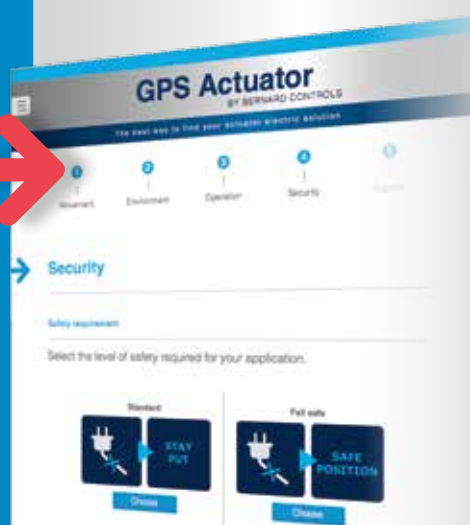
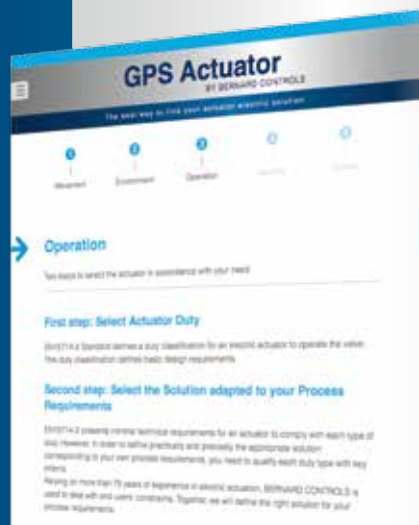


5

Control

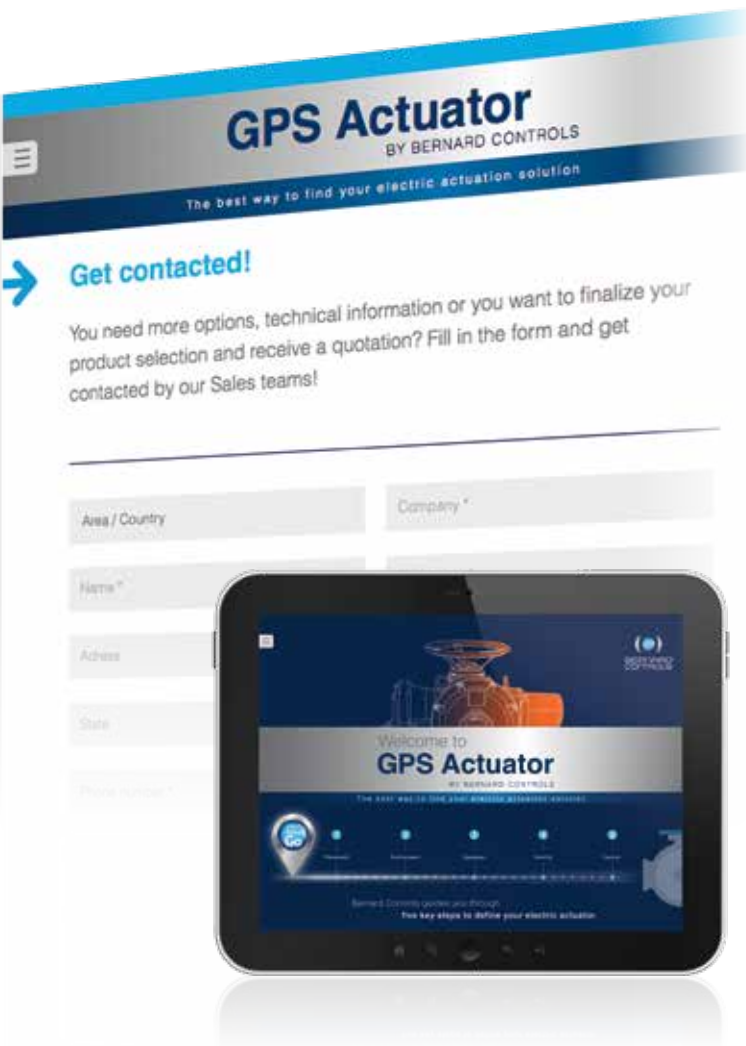
Step n°5

Select a control type among 3 levels of performance for your installation.





www.gpsactuator.com



Using the GPS Actuator,
you will end up with a range
of BERNARD CONTROLS'
electric actuators.

This range meets all criteria selected throughout
the 5 key steps of this application.

To finalize your selection up to a product reference,
a simple contact form is proposed at the end
of the process.

BERNARD CONTROLS' solutions and sales teams
are available all around the world. As soon as you send
your form, you will be contacted within 48h.

→ your electric actuation solution

gpsactual

How does

On the left of your screen a menu with information about BERNARD CONTROLS is available all along the selection process.

BERNARD CONTROLS presents its services, labels and expertise, as well as key technologies.



Strong Customer Support



Nowadays, product quality and efficiency are essential conditions, but they are not always enough to guarantee full customer satisfaction. In order to create a serene and trusting environment, our machines and our workers must give their absolute best. Given this premise, our teams also strive to develop a high quality customer support every day, over and above technological commitment.

Therefore, regardless of your location, our customer support teams are available and ready to listen to you and guide you along each step of the way: From the design stage to installation, commissioning, maintenance and training, BERNARD CONTROLS teams are truly dedicated to your satisfaction and commits to delivering strong customer support everywhere around the globe.

[- More about the - Strong Customer Support -](#)

BERNARD CONTROLS, dedicated partner of your projects

First BC & BC Premium Labels

+

Strong Customer Support

-

Certified and recognized expertise

+

BC Solutions for all actuator duties

+

Focus on BERNARD CONTROLS technologies

Gear transmission system

+

Travel limitation

+

GPS Actuator

BY BERNARD C

The best way to find your actuator electric

1

Movement

2

Environment

3

Conclusion



Environment

Select the environment

Location and working environment influence actuato

Inside a building



Outdoor under a shelter



Outdoor



Risk of submer



Main screen will display each step of the actuator selection process, with choices to make according to your application and constraints: movement to drive the valve, environmental conditions...

You move forward, step by step, up to your solution.

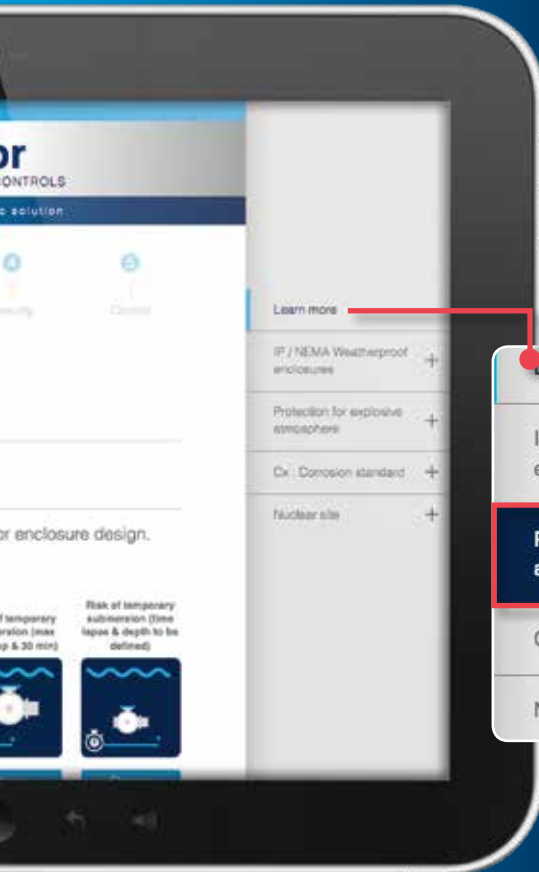
As easy as a click!

ator.com

s it work?

www.gpsactuator.com

On the right part of the screen you will find information related to each step of the selection process: presentation of concepts and data, definitions, standards & regulations... These will help you to confirm your choice.



Learn more	
IP / NEMA Weatherproof enclosures	+
Protection for explosive atmosphere	-
Cx : Corrosion standard	+
Nuclear site	+





Protection for explosive atmosphere

- Electric actuators working in explosive atmosphere require a specific enclosure protection submitted to dedicated certification.
- According to market areas, there exists several types of explosion proof certifications:
 - European ATEX
 - International IECEx
 - US NEMA 7 & 9
 - Customs Union for Belarus, Kazakhstan and Russia
 - INMETRO for Brazil
 - CQST for China...

Focus on ATEX European Directive

The European directive 94/9/CE states the conditions to be met for equipment items used under potentially explosive atmosphere. It classifies the installation areas according to groups and categories:

Presentation of the pictograms

① Movement

The type of device to be driven influences the choice of the actuator: part-turn, multiturn or linear.

Butterfly valves



Part-turn

Ball and plug valves



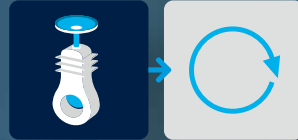
Part-turn

Dampers and louvers



Part-turn

Knife gate valves



Multi-turn

Gate and wedge gate valves



Multi-turn

Globe valves



Multi-turn

Linear

Penstock valves



Linear

**OTHER
VALVES**

Part-turn

Multi-turn

Linear

② Environment

Location and working environment influence actuator enclosure design.

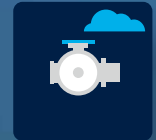
Inside a building



Outdoor under a shelter



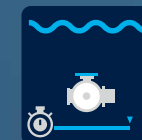
Outdoor



Risk of temporary submersion
(max 1m deep & 30 min)



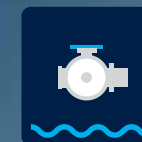
Risk of temporary submersion
(time lapse & depth to be defined)



On-shore



Off-shore



Explosive atmosphere



Nuclear sites



3 Operation

EN 15714-2 Standard defines 4 actuator duties. BC offers technical solutions adapted to process requirements.

More information on Operation on next page.

For On-Off & Inching / Positioning,
ENDURANCE of the actuator will determine the solution.

Class A
On-Off



Class B
Inching / Positioning



BC Solution according to process requirements:

A

A+

B

B+

For Modulating and Continuous modulating,
PERFORMANCE of the actuator is decisive to ensure efficient process.

Class C
Modulating



Class D
Continuous modulating



BC Solution according to process requirements:

III

III+

II

II+

I

4 Security

The level of safety required for your application.

Standard



**STAY
PUT**

Fail safe



**SAFE
POSITION**

5 Control

3 levels of controls to meet the requirements
of your installation.

SWITCH



INTEGRATED



INTELLI+®



→ Increase Endurance

Considering On-Off applications (Class A) and Inching/ Positioning applications (Class B), process requirements imply to set ENDURANCE (lifetime of the actuator - number of cycles) as the decisive criterion.

According to customers' process requirements BERNARD CONTROLS offers:

- Class A and Class B actuators, complying with EN15714-2 Standard,
- Class A+ and Class B+ actuators with **improved endurance / lifetime.**

Focus on A decisive step in your

EN 15714-2 Standard defines a duty classification for an electric actuator to operate the valve. For many years, BERNARD CONTROLS has been a leader in electric actuation and a forerunner in modulating technology. Our modulating

4 actuator duties &

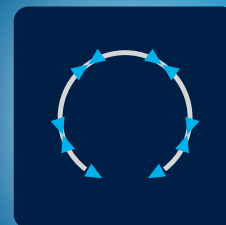


Class A On-Off

The actuator is required to drive the valve through its **entire travel from the fully open position to the fully closed position** or vice-versa.

A

A+



Class B Inching / Positioning

The actuator is required to **occasionally drive** the valve to any position.

B

B+



www.gpsactuator.com

operation

electric actuator selection

classification (Class III which complies with EN15714-2 Modulating and Classes II & I which comply with EN15714-2 Continuous modulating) is now well-known from our customers and has, in fact, inspired the EN 15714-2 Standard.



Improve Performance

Modulating and Continuous Modulating applications require specific expertise to define the most appropriate solution. Duty PERFORMANCE is the main criterion to fully address process requirements, but needs to be specified and completed with additional performance criteria.

BERNARD CONTROLS sets 4 additional performance criteria to EN15714-2 basic design requirements

+ RESOLUTION

+ Response time

+ Dead Band

+ Linearity

According to customers' process requirements, BERNARD CONTROLS offers:

For modulating applications:

- Its existing Class III actuator range with higher duty performance and specification of additional performance criteria compared to EN15714-2 Class C
- A new Class III+ range featuring increased endurance AND even higher performances

For continuous modulating applications:

- Its existing Class II actuator range with higher duty performance and specification of additional performance criteria compared to EN15714-2 Class D
- A new Class II+ actuator range with increased endurance AND even higher performances
- Its existing Class I range which features both higher endurance level & higher performances than Class II+

modulating classification



Class C Modulating

The actuator is required to **frequently drive** the valve to any position between fully open and fully closed.



Class D Continuous modulating

The actuator is required to **continuously drive** the valve to any position between fully open and fully closed.

III

III+

II

II+

I

2 is better than 1

The automation of industrial machinery and equipment addresses human and financial challenges of security and productivity.

Our understanding of industrial processes drives the design and manufacturing of our electrical actuators.

So our vision of controls furthers the appearance of solutions fully adapted to markets' evolutions and to our customers' budgetary and technological requirements.

That is why our electromechanical profile has developed into an expertise in the management of evermore complex systems.

BERNARD CONTROLS propose 2 labels which federate well different ranges of actuator solutions.

These 2 labels, First BC and BC Premium, identify specific uses.

With them, our technological commitment will be doubly appreciated by our customers and the 4 main markets for which we are producing: Power-Water-Industries and Oil & Gas.



SIMPLE, SOLIDE, ECONOMIQUE

→ Weatherproof quarter-turn actuators: EZ range

- Adaptation to all quarter-turn valves: torque range from 45 to 10,000 Nm
- IP 67
- EN15714-2 Duty classification:
 - › On-Off : Class A
 - › Inching/Positioning : Class B
- Type of Controls
 - › Standard EZ SWITCH
 - › Integrated EZ LOGIC
- Compact design
- Easy commissioning
- Maintenance-free



→ Weatherproof multi-turn actuators: ET range

- Adaptation to all multi-turn valves: torque range from 30 to 200 Nm
- IP 67
- EN15714-2 Duty classification:
 - › On-Off : Class A
 - › Inching/Positioning : Class B
- Type of Controls
 - › Standard ET SWITCH
 - › Integrated ET LOGIC
- Compact design
- Easy commissioning
- Maintenance-free





www.bernardcontrols.com

EXPERTISE ET INNOVATION



→ Weatherproof Actuators SQ & ST RANGES

- Adaptation to all types of valves:
Quarter-turn – Multi-turn – Linear
- Adaptation to specifications
of engineering companies
- IP68 (on option for SQ : IP67 standard)
- EN15714-2 Duty classification:
 - › On-Off : Class A
 - › Inching/Positioning : Class B
 - › Modulating : Class C
- Type of controls:
 - › SWITCH & INTEGRATED controls
 - › INTELLI+®, intelligent control
- Easy and fast commissioning
- Optimised maintenance level



→ Explosionproof Actuators SQX & STX RANGES

- Adaptation to all types of valves:
Quarter-turn – Multi-turn - Linear
- Adaptation to specifications
of engineering companies
- IP 68 standard
- Compliance with international
explosionproof standards:
ATEX, CEPEL, IEC-Ex,
GOST-Ex, NEMA 7 & 9...
- EN15714-2 Duty classification:
 - › On-Off : Class A
 - › Inching/Positioning : Class B
 - › Modulating : Class C
- Special configurations:
 - › Corrosion protection
 - › Fire protection
 - › Extreme temperatures
- Type of controls:
 - › SWITCH control
 - › INTELLI+®, intelligent control
- Easy and fast commissioning
- Optimised maintenance level



→ Continuous Modulating

- Adaptation to all modulating valves
- EN15714-2 Duty classification:
 - › Continuous modulating : Class D
- Up to high speed and very high precision



→ Failsafe

- Failsafe with reliable spring-return
technology: Fast and shock-free valve
travel during emergency operation
- IP 67 standard
- Explosionproof versions ATEX-NEMA
- No maintenance



→ Special design NUCLEAR RANGE & Special Actuators

- SN Nuclear Range
- Special actuators for severe
environments:
 - › Corrosion protection
 - › Fire protection
 - › Extreme temperatures
- Hydraulic Multi-turn actuators for
LNG carriers & Offshore applications

→ Integrated controls – Fieldbus – Master Station

- Double-sealing protection
- INTELLI+®, intelligent control:
advanced functions such as ESD, Partial Stroking, Timer ...
- Positioners for Modulating and Continuous modulating duties
- Fieldbus compatible with all actuators
 - › Foundation Fieldbus
 - › Modbus RTU
 - › Profibus DP
(single or redundant)
- MASTER STATION BC,
turnkey solution based on
fieldbus





Invest in Confidence

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

>AMERICA

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 2 553 6957

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
TROISDORF (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

RUSSIA

BERNARD CONTROLS RUSSIA
inquiry.russia@bernardcontrols.com
Tel. +33 (0)1 34 07 71 00

SPAIN

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

>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