

> AQ RANGE

Weatherproof Quarter-turn Actuators

Failsafe Super Capacitor Option on AQ Logic

Designed for failsafe applications, this AQ is equipped with a supercapacitor that activates when the actuator is powered off.

In such instances, the supercapacitor serves as a backup, ensuring the actuator is either opened or closed based on the predetermined failsafe settings.

It enables at least one stroke to be performed at maximum torque in the event of a loss of power to the device, up to 800Nm.



- + Ultra compact failsafe with all features of a smart actuator
- + Quick charge (Less than 1 minute for AQ5
Less than 5 minutes for AQ80)
- + Can be used at high and low temperatures, from -40°C to +70°C.
- + Wide range of power supplies.
- + Double sealing as standard, and provides the option of using a bus continuity card with the AQ

POWER SUPPLY

- 1x115/220/230V AC 50/60Hz
- 3x380-415V AC 50Hz
- 3x440-480V AC 60Hz
- 24V DC (up to AQ80)
- 120-370V DC

On-Off class A as standard

OPTIONS

- Low temp. -40
- Class B (Analog Positioner (input + output signals)
- Class III (Analog Positioner (input + output signals)
- 4 additional signaling relays
- Profibus DPV1
- Modbus RTU
- Stainless steel name plate
- Varistor
- Padlockable HMI protection

AQ LOGIC Product specifications

GENERAL	Description	<p>All AQ actuators include motor with thermal protection, gear case, emergency handwheel, position sensor, torque sensor (for torque > 150Nm), output drive with removable socket and anti-condensation heater.</p> <p>AQ LOGIC models also include:</p> <ul style="list-style-type: none"> • integrated controls • built-in motor reversing starters • local commands with large LCD display
	Torque range	<p>Direct: 50 to 800 N.m Up to 10 000 N.m with Gearbox</p>
	Duty classification	<p>Adapted to process requirements:</p> <ul style="list-style-type: none"> • On-Off: Class A actuators complying with EN15714-2 • Inching/Positioning: Class B actuators complying with EN15714-2 • Modulating: Class III actuators with higher duty performance and specification of additional performance criteria compared to EN15714-2 <p>Class C basic design requirements</p>
ENCLOSURE PROTECTION	Casing	<ul style="list-style-type: none"> • Aluminium die casting • Cover fastened by captive and stainless screws
	External Protection	<ul style="list-style-type: none"> • Type: Epoxy powder coating as standard • Protection: C4 according to ISO 12944 • For colors and finishes, please consult us
	Weatherproofness	<p>IP68 NEMA 4X as standard Relative humidity: 0 to 95%</p>
	Ambient temperature range	<ul style="list-style-type: none"> • -20...+70C / -4 ... +158F • -40C (-40F) as an option <p>Other temperatures, please consult us</p>
	Vibration resistance	<p>1g (9.8 m/s.) at 10-500 Hz. (Contact our sales teams for higher vibration levels)</p>

AQ LOGIC Product specifications

MOTOR	Motor technology	<ul style="list-style-type: none"> • 3-phase or single-phase asynchronous motor, Class F insulation with integral thermal overload protection. • DC motors
	Motor duty rating	<ul style="list-style-type: none"> • On/Off operation (complying with EN15714-2 Class A) and Inching/ Positioning (complying with EN15714-2 Class B): S4-30% motor duty rating. Up to 360 starts per hour at peak of operation. S4-50% as an option. • BC Modulating Class III (complying with EN15714- 2 Class C): S4-50% motor duty rating. Up to 1 200 starts per hour at peak of operation. (Voltage $\pm 10\%$, frequency $\pm 2\%$)
MECHANICAL SPECIFICATIONS	Gear design	The gear are mechanically self-locking
	Manual Emergency operation	Manual override handwheel Automatic declutch
	Output flange	Actuator flanges comply with ISO 5211
	Lubrication	The actuators are lubricated for the product lifetime and do not require any special service.
ELECTRICAL SPECIFICATIONS	Power supply	The actuators can operate on a wide variety of power supplies: <ul style="list-style-type: none"> • 3-phase, single-phase or DC • 50 or 60 Hz ...
	Terminal Compartment	Screw-type terminals for controls and power supply. Internal earth grounding post
	Fuse protection	Primary: 0,5A-500V Secondary: Two automatic resettable fuses
	Conduit entries	3 x M20 + 2 x M16 (or 3 x 3/4" NPT + 2 x 1/2" NPT)
POSITION & TORQUE SENSORS	Travel limit systems	<ul style="list-style-type: none"> • Position: reading on the output shaft • Position sensor: Absolute encoder (Hall effect sensor)
	Torque limiting system	<ul style="list-style-type: none"> • Torque limitation available from AQ25 • Absolute encoder sensor (Hall effect sensor) • The torque limiting system is calibrated in factory. It remains adjustable via LOGIC (non intrusive setting) • Non intrusive setting: Adjustable torque from 40 to 100% of rated torque

AQ LOGIC Product specifications

SETTINGS	Settings	<p>Non-Intrusive settings All actuator settings and parameters are stored in a non-volatile EEPROM memory. Protection by password. Configurable via Local control; Bluetooth available as standard (to keep a high level of security, Bluetooth range is limited to 10m. With BC App, communication is encrypted and access is restricted with password.)</p>
	Local settings	<p>The LOGIC can be fully set via its local display and selectors. Does not require any specific setting tool. Optionnal padlockable protection against sandy winds & vandalism.</p>
	Application for mobile device Remote command	<p>New BERNARD CONTROLS mobile application is available as standard, with its bluetooth secured communication interface, and allows the user to:</p> <ul style="list-style-type: none"> • Assistance to commissioning on valve • Simply set every parameters of the actuator (non-intrusive setting) • Command the actuator (open/close/stop) as a local controls • Check at a glance an overview of the feedbacks information which are displayed on a large color screen of the mobile • Assistance to curative maintenance with a simple and efficient troubleshooting • Access to BERNARD CONTROLS contact information according to the area concerned • Access to the documentation relative to the selected and scanned actuator • Customize the actuator display • Log the Systems Alarms and Warnings • Duplicate one actuator configuration to another actuator • Check the actuator life operation • Select the suitable language among 14 available languages • Identify the actuator operated valve by its valve tag and location process • Track the last user connexions for traceability and safety reasons
FIELDBUS	Available Fieldbus protocols (option)	<ul style="list-style-type: none"> • PROFIBUS-DPV1 • MODBUS RTU
CONFORMITY TO EC DIRECTIVES	Compliance with EC Directives	<p>AQ actuators comply with:</p> <ul style="list-style-type: none"> • directive 2004/108/EC Electromagnetic compatibility • directive 2006/95/EC Low voltage • the following harmonised standards: EN 61000-6-4: Generic emissions standard for industrial environments; EN 61000-6-2: Generic immunity standard for industrial environments; EN 60034-1: Rotating electrical machines; EN 60529: Degrees of protection provided by enclosures (IP ratings code)
OPTIONS	Options LOGIC	<ul style="list-style-type: none"> • Low temperature : -40C • Analog Positioner • 4 additionnal signaling relays • Profi bus DPV1 • Modbus RTU • Stainless steel name plate • Varistor • Padlockable HMI protection against sandy winds and vandalism

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