

DATA SHEET

FIRE SUPPRESSION ACTUATOR

A range of 12 Volt dc & 24 Volt dc electric actuators designed for use in high pressure fire suppression systems using CO₂. The unit is demountable and resettable, with a reset cap for ease of maintenance. Direct valve mounted with a facility for manual actuation as required. The interconnect may be adapted to suit customer system requirements.

Key Features

- Fitted with reset tool.
- Compact, reliable unit.
- Demountable.
- UL Recognised component.
- Suitable for gas extinguishing systems up to 200 bar
- Assuming valve suitability
- SIL 2 rated



Type EA55

Design authority and manufacture by Barnbrook Systems Limited
Barnbrook Systems reserves the right to alter specifications and design without notice

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Performance

Manual actuation force	50 Newton's
Actuation type	Latching
Life span	Depends on application and environment
Testing	100% electrical actuation check
Approval certification	Recognised to UL508, UL864, LPCB,FM EN12094-4
Operating force	Tested in accordance with UL864 180N @ 1mm from unactivated 170N @ 2mm from unactivated 160N @ 3mm from unactivated 150N @ 4mm from unactivated
Reset method	Manual via reset tool supplied

Electrical

Nominal voltage	24 Volts D.C.
Minimum actuation voltage	65% of nominal voltage i.e. 15.6 VDC
Minimum current	0.2A
Nominal current	0.5 A
Maximum current	0.6 A
Maximum monitoring current	25 mA
Electrical connection	DIN 43 650-A/ISO 440 3 pin (4 pin PG 9.5mm Hirschmann DIN plug connector.
Back EMF protection	Bridge rectifier
Minimum duration of trigger signal	1 second

Environmental and Physical

Operating temperature range	-20 °C to +55 °C
Maximum humidity	80 to 90% RH, non condensing
Body material	Mild steel, Electroless Nickel plated
Actuation pin	Stainless Steel
Base nut	Brass CZ121
Retaining clip	Beryllium Copper
Actuation type	Latching
Nominal pin travel	4.4mm
Connection	1" BSPP (Brass End Fitting)
Weight	1.9 Kg
IP rating	Tested to meet IP54

Dimensions

Body	55mm dia
Overall length x overall width	130mm x 100mm

Ordering Information

Contact Barnbrook Sales to confirm specification.

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- **Location on System**

Connected to the top of the container discharge valve (between valve and manual actuator) or pilot cylinder valve
(Between valve and manual actuator).

- **Installation Instructions**

Mechanical Installation: Install the electrical actuator onto the discharge valve hand tight only. Ensure the unit is reset in the non fire position (height from end of pin to base 4.8 to 5.2mm) before fitting.

Electrical Installation: The electrical actuator is supplied with a DIN plug. Connect positive supply from control panel to terminal 1, negative supply to terminal 2. Nominal supply is 24V DC, maximum monitoring current 25mA. For Active Detection, connect Electrical Actuator detection from control panel to pin 3.

- **Operating Instructions**

The electrical actuator will operate after receiving a 24V DC nominal voltage signal from the panel. The Electrical Actuator will latch in the fire position after the signal terminates. The electrical actuator will require to be manually reset by removing the unit from the valve and inserting (screwing in) the reset tool.

- **Active Detection in accordance with NFPA2001-15 Clause 4.3.4**

The Electrical actuator has an incorporated Active Detection technology to trigger an audible and visual alarm on the control panel when the actuator is removed from the discharge valve. The control panel should be wired for Active Detection.

- **Works Instructions**

This is a purchased item and as such does not fall under any works instructions used in the manufacturing.

- **Maintenance Instructions**

Remove actuator from valve assembly. Apply 24V DC and observe correct functionality (energised pin position 0.3mm to 0.5mm from base of actuator). Terminate supply voltage and reset electrical actuator by fitting (screwing in) plastic reset tool into base. Once reset, remove reset tool and reinstall on valve assembly. In case of faults or suspected faults contact the Macron customer services to organize replacement.

- **System Operating Conditions (temp range)**

FM-200@ 0°C (20.2bar) to 50°C (33.4bar).
Sapphire TM -20°C (20.2bar) to 50°C (28.6bar).
Sapphire TM -20°C (34.3bar) to 50°C (47.8bar).
Nitrogen -20°C (43.2bar) to 50°C (55.1bar).
Sapphire II 70 bar system -20 to 50°C

- **Functional Description**

The electrical actuator is activated by a voltage signal from the control panel. The voltage signal de-energises the permanent magnet, allowing the spring to push and latch the actuator pin into the fire position. The Electrical Actuator can be reset using the supplied reset tool once the voltage signal is terminated.

The Electrical actuator has an incorporated Active Detection technology to trigger an audible and visual alarm on the control panel when the actuator is removed from the discharge valve in accordance with NFPA2001-15 Clause 4.3.4. The control panel should be wired for Active Detection.

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