



## iCO® Opti-Flow Controller

### Technical Datasheet

Double knock control panel for residential sprinklers



Industry leaders in domestic and residential fire suppression systems.



The iCO Opti-Flow Controller® is for use on sprinkler systems where an unwanted release of water may cause irreparable damage to the building fabric or its contents.

The iCO® Opti-Flow sprinkler control panel significantly reduces the risk of water damage that can occur as a result of leaks on fire sprinkler systems. Ideal for use in residential and heritage buildings.

**NOTE:** All images in this document are for illustration purposes only.

## Offering peace of mind

The NFPA annual fire department experience survey shows that in 2010-2014, sprinkler systems were present in only 10% of reported fires in the U.S. The death rate per 1,000 of the reported fires was 87% lower in properties with sprinkler systems present, than in properties with no automatic extinguishing systems.

In the U.S. fire departments responded to an estimated 29,800 sprinkler activations caused by system failure or malfunction and 33,600 unintentional sprinkler activations in 2014 alone.

The Association of British Insurers (ABI) advises that claims involving the escape of water are increasing year on year, costing the insurance industry in Britain approximately £892 million each year. The iCO® Opti-Flow sprinkler control panel is designed to prevent fire sprinkler systems contributing to these costs.

Escape of water from sprinkler systems can happen for a variety of reasons. The primary reasons include:

- Mechanical damage to sprinklers or pipework.
- Poor installation.
- Degradation of CPVC pipework due to contamination from other building materials.
- Frost damage.

## KEY FEATURES

Click [here](#) to view our video explaining how the iCO Opti-Flow Controller® system operates.



BATTERY BACKED UP



MONITORED VALVE  
INPUT



SELECTABLE RUN  
TIME



2X FIRE RELAYS



1X FAULT RELAY



FLOW SWITCH INPUT

## Technical Data - iCO Opti-Flow Controller®



### Key

- A iCO Opti-Flow Controller®
- B Valve monitoring  
(expansion module available)
- C Flow switch
- D Actuated ball valve\*
- E Fire alarm activated output relay
- F Detector or fire alarm
- G Power supply

\* See page 4 for more information

### OPERATION OF THE SYSTEM

**Under normal conditions** the sprinkler system will work and operate as normal. The sprinkler pipe work is full of water (wet type) with all valves fully open.

**In the event of a fire** the smoke from the fire will trigger the fire detection system and the heat from the fire will operate the sprinkler. The sprinkler system will operate as normal with all valves open.

**In the event of a leak or accidental damage** the water will run for 5 seconds. If the smoke detection does not operate, the actuated ball valve will close to stop the water running. If the smoke detection then operates due to a real fire, the ball valve will reopen to allow water to run through the system and control the fire.

**In the event of power, battery or smoke detection failure** the valve will failsafe to open to ensure the property and its contents are protected.

**After a system operation** the actuated ball valve will close to stop the flow of water. If unlimited run time is selected the valves will remain open and the system will continue to run indefinitely until manually stopped.

[Watch explainer video](#)

### PURCHASING THE SYSTEM

iCO® products are manufactured in the UK and are available to purchase via the [online shop](#) on the official iCO® website.

**N.B** iCO® Products can only supply fully accredited fire suppression companies.



## Technical Data - iCO Opti-Flow Controller®

|   |  |
|---|--|
| Part No:                                    | iCO PU001-00   |
| Dimensions:                                 | 342mm (W) x 342mm (D) x 495mm (H)  |
| Mains Voltage rating:                       | 240V   |
| Full load Current:                          | 0.17A -  |
| Standby current:                            | 0.06A -  |
| Power Supply Connection:                    | 3amp fused unswitched spur direct from the board. Run in fire rated cable. |
| Weight:                                     | 2kg  |
| Battery Size:                               | 1x 2.8ah 12v   |
| System run time:                            | 10mins/30mins/Unlimited. Selectable.                                       |
| Serviceability Access:                      | Removable front cover with security screws.                                |
| Mounting:                                   | Surface.   |
| Operation:                                  | Double knock linked to smoke detection.                                    |
| Fire relay:                                 | 2x NO / NC volt free 30vDC 1 A   |
| Fault relay:                                | 1x NO / NC volt free 30vDC 1 A   |
| AUX Power out/Priority demand valve output: | 12v 1.1A   |
| Power monitoring:                           | Battery backed up audible alarm for fault monitoring.                      |
| Battery monitoring:                         | Check every 1mins if battery is detached.                                  |
| Manual controls:                            | Lamp test, reset, test actuated valve.                                     |
| Battery Back up:                            | 24hr standby and 30mins in alarm.  |



## ACCREDITATIONS

iCO Products® is ISO 9001 accredited for the manufacture of water mist fire suppression systems and meets the fire safety and performance requirements of BS:8458 residential water mist standards.

All of our fire suppression products are manufactured in the UK and independently tested to the highest performance and safety standards to protect you and your home in the event of a fire.

iCO Products® is a member of both the Fire Protection Agency (FPA) and Fire Industry Association (FIA). Our patented products have gained LPCB certification from the Building Research Establishment (BRE).

The iCO® patented technology has been independently tested by Warrington Fire, a UKAS accredited laboratory.





## Technical Data - Actuated Ball Valve

### Actuated Ball Valve 1/2" - 1" BSP

Position: Normally open  
Loss of power failsafe position: Open  
Connection Options: 1/2" 15mm BSP, 3/4" 20mm BSP, 1" 25mm BSP  
Operation feed back: Visual Position Indicator  
Max Pressure: 10 Bar  
Minimum Pressure: 0 Bar  
Voltage: 12v DC  
IP Rating: IP67  
Electrical connection: 0.5m lead wires  
Connection to the panel: 2 wire  
Max Power Consumption moving: 5 Watts  
Max Power Holding: 0.6 Watts  
Operating Time: 5 Seconds  
Seals: PTFE  
Duty Cycle: 100,000  
Mounting Orientation: Any  
Ambient Temperature: 4°C - 55 °C

### Actuated Ball Valve 1 1/4" - 2" BSP

Position: Normally open  
Loss of power failsafe position: Open  
Connection Options: 1 1/4" 32mm BSP, 1 1/2" 40mm BSP, 2" 50mm, BSP  
Operation feed back: Visual Position Indicator  
Max Pressure: 10 Bar  
Minimum Pressure: 0 Bar  
Voltage: 12v DC  
IP Rating: IP67  
Electrical connection: 0.5m lead wires  
Connection to the panel: 2 wire  
Max Power Consumption moving: 22 Watts  
Operating time: 10 Seconds  
Seals: PTFE  
Duty Cycle: 70,000  
Mounting Orientation: Any  
Ambient Temperature: 4°C - 50 °C

