

# Fan Controller

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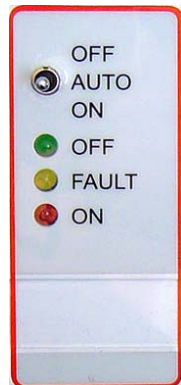
ISO 9001: 2000

International Standards  
Certifications  
QAC/R61/0051

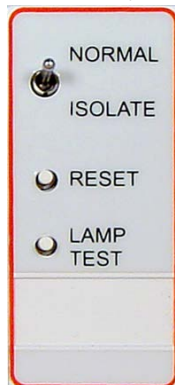
### Product Overview:

The **Fan Controller** is used by **Pertronic** Analogue Addressable Fire Alarm systems to monitor and control fans used for clean air or smoke exhaust systems within buildings.

The **Fan Controller** has been designed to comply with AS1668.



Fan Control Unit



Fan Isolator/Reset



Fan Control Key-Switch

The **Fan Controller**, used to control a particular fan through a building services interface, consists of two principal modules and two optional modules:

- **Fan Control Unit:** is normally mounted at the fire alarm panel and incorporates a mode switch (RUN, AUTO, and STOP), fan state indicator LEDs, and the timing and control functions required. The Fan Control Unit may be operated in latching or non-latching modes (jumper selectable on the unit).
- **Fan Interface Unit:** is usually located near the fan at the building services interface, and is commanded by the Fan Control Unit to start and stop the fan. The Fan Interface Unit also reports whether the fan is running or has a fault condition back to the Fan Control Unit.  
- also referred to as the **Fan Relay Unit**.

An off-normal Fan Control switch interlock input to the panel is also provided.

- **Isolate/Reset Unit:** an optional module used to isolate groups of Fan Controllers and reset latched states in Fan Controllers selected for latching operation. The Isolate/Reset Unit may also be used to initiate a lamp test for the group of Controllers connected to it.
- **Fan Control Key-Switch:** an optional key-switch module used to Isolate/Enable the switches on the Fan Control Unit. Note that the Fan Control Key-Switch does not influence the operation of the fans, but prevents tampering with the Fan Control Unit and Fan Isolate/Reset Unit

The Control and Interface units are linked together by the addressable loop (the two principal modules must be on the same loop and use successive addresses) and the fire panel.

### Specifications:

#### Dimensions:

Fan Control Unit (W x H x Dmm)	35 x 85 x 50	- usually mounted in the fire alarm cabinet.
Fan Interface Unit	107 x 70 x 40	- PCB with mounting holes.
Fan Isolator/Reset Unit	35 x 85 x 50	- usually mounted in the fire alarm cabinet.
Fan Control Switch	60 x 85 x 40	

These units may be mounted into a 130 x 130 x 75mm ABS Enclosure

#### Power Requirements:

Fan Control Unit	10 mA (one LED ON), loop powered.
Fan Interface Unit	3 mA, loop powered.
Isolate/Reset Unit	9 mA, loop powered.

#### Product Codes:

Description	Code
Fan Control Unit	F100PFCU
Slave Fan Control	F100PFCSLV
Fan Control Relay (in 130 x 130 x 75mm ABS Enclosure)	F100PFCR
Fan Control Reset Unit	F100PFCRST
Fan Controller & Key Enable (in surface mount enclosure)	F100PFCUK
Fireman's Fan Switch Unit, (FC Enable) excludes the Fan Control Unit	F100PFFSW

**Controls and Indication:**

**Fan Control Unit:**

- Mode Switch:** (three position)  
**AUTO** - operation initiated by the state of the fire panel controls  
**OFF** - the fan is turned OFF.  
**ON** - the fan is turned ON.
- Indicator LEDs:**  
**FAN OFF** - indicates that the fan is OFF.  
**FAN FAULT** - indicates that a fault has occurred to the fan  
**FAN ON** - indicates that the fan is ON.
- Jumpers:**  
**Exhaust** - insert for Exhaust/Pressurisation fan systems  
- remove for Clean Air fan systems.  
**Latch** - insert to operate in latching mode.  
**Door** - insert only in the unit remote from the Isolate/Reset unit when 'door interlock' is used.

**Fan Interface Unit:**

- Control Relays:**  
**Fan ON:** 24Vac, 2A clean NO/NC contacts. Energized for fan ON  
**Fan OFF:** 24Vac, 2A clean NO/NC contacts. Energized for fan OFF  
**Fan OFF overrides Fan ON.**

- Monitored Input:**  
10kΩ across input 'Fan Normal', normal OFF condition  
Open circuit input 'Fan Fault' condition  
Short circuit input 'Fan ON', normal running condition.

- Isolate/Reset Unit:**  
**Isolate (down)** - commands connected Control Units to ignore mapped detector activations, and revert to the Normal state.

- Push buttons:**  
**Normal (up)** - Normal operation.  
**Reset** - Resets any latched states of connected Control Units.  
**Lamp Test** - commands connected Control Units to enter the Lamp Test sequence.  
- the Lamp Test stops after 20 seconds, or when Reset.

- Door Interlock: K4** - closed relay contact when power is applied, and the switches of all connected Control Units are in the Normal or Auto position.  
- relay contact opens when any switch, including the Isolate switch, is Off-Normal.

- Fan Control Key-Switch:**  
**Auto (horizontal)** - isolates the switches on the Fan Control and Isolate/Reset units  
**Enable (vertical)** - enables the switches on the Fan Control and Isolate/Reset units and allows the individual units to be controlled manually

**Clean Air Turn On Delay:** subsequent to a clean air fan shutdown in **AUTO** mode or reset, the fan will not turn on again until the associated clean air detectors have been smoke free for 65 seconds.

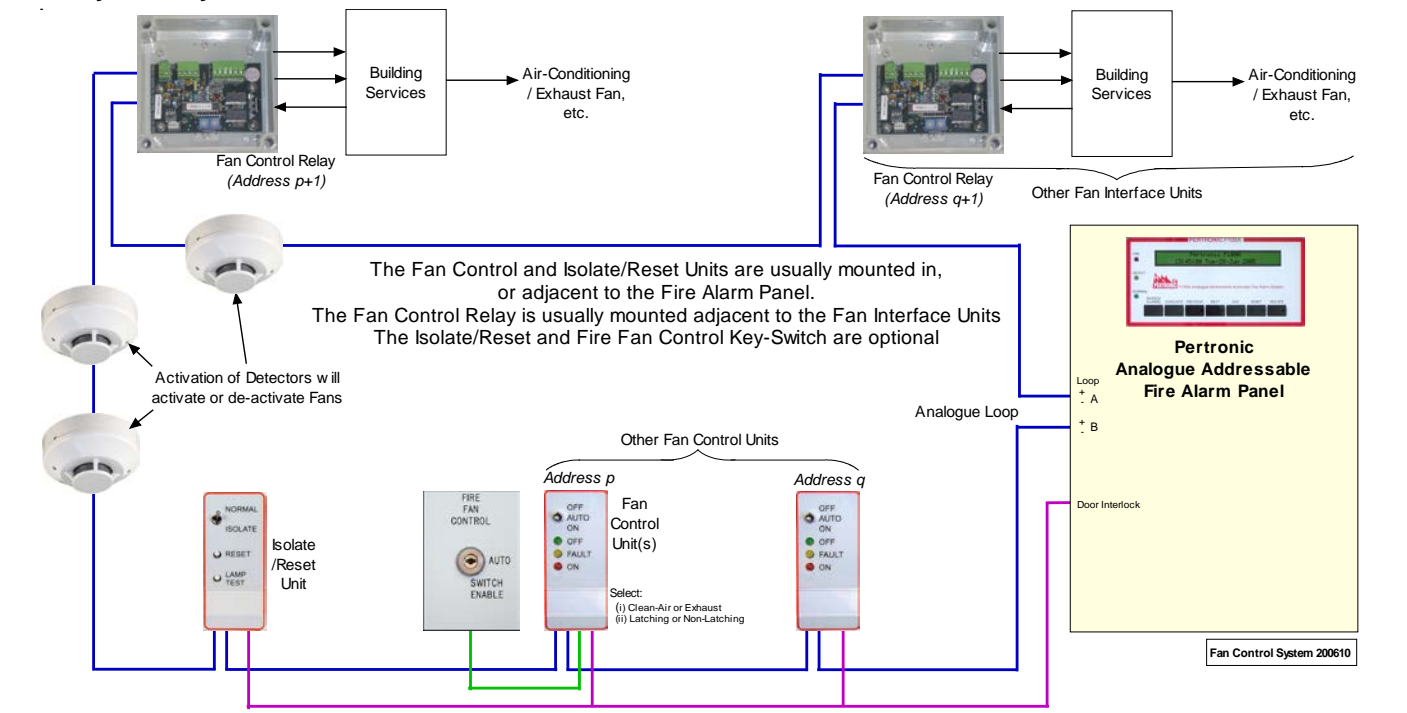
**Addressing:** each Fan Control and Fan Interface Unit pair (controlling one fan) use two consecutive address in the module address space. The Fan Control Unit has the lower address (eg. 5), and the Fan Interface Unit must be set at the next higher address (6).

**System Capacity:** up to 25 Fan Control / Interface pairs can be installed on each loop. (13mA current drain per pair).

**Multiple Control Option:** a group of fans may be controlled by one mode switch on a Fan Control Unit.

Each fan will have a Fan Control Unit with it's indicator LEDs, but only one Fan Control Unit of the group will have the mode switch which controls all the units within the group.

**Basic System Layout:**



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