# PERTRONIC INDUSTRIES PTY LTD

**DATASHEET**

**Analogue Addressable Fan Control System**

**AAFCRLY, AAFCRSTLT, AAFCSLU, AAFCU**

*Straightforward automatic control of AS1668 smoke control and air handling systems*
*Flexible, user-friendly installation and operation*
*Economical configuration for small to medium-sized projects*

## Overview

The Pertronic AA Fan Control System is used with Pertronic analogue addressable fire alarm control panels to monitor and control fans associated with AS1668-compliant smoke control or air handling systems. The system controls AS 1668 fans through a building services interface, automatically controlling fans and other air handling devices based on the status of detectors, fan control units and mechanical building services.

A single Fan Control has two main components: The control unit; and the Pertronic Analogue Addressable Fan Control Relay. A fire alarm system based on a Pertronic analogue addressable panel may include many individual fan controls, each of which has at least one control unit and one fan control relay. The fan control relay is usually located near a mechanical services switchboard associated with the fan. Control units are normally mounted on the fire alarm panel.

The Fan Control System is easily configured and incorporated into a Pertronic analogue addressable Fire Alarm System. The controller's simplicity of design and operation, coupled with its microprocessor based solid-state circuitry make the unit flexible to install and reliable to operate. The Analogue Addressable Fan Control Relay and its associated Fan Control Unit(s) communicate over the analogue addressable loop.

The Analogue Addressable Fan Control Relay must be connected to the same loop as its associated control unit(s). Installation and configuration should be undertaken in conformance with the requirements of AS/NZS 1668.


*Analogue Addressable Fan Control Relay*

## Features

- Monitors and controls fans in AS1668-compliant smoke control systems
- Controls AS1668 fans through a building services interface
- Configurable for Clean Air or Smoke Exhaust and Pressurisation operation
- AA Fan Control Unit and AA Fan Control Slave Unit implement timing and control functions to AS1668
- AA Fan Control Relay has a built-in AA loop isolator
- Multiple control option allows several fans to be controlled from a single AA Fan Control Unit
- Each control unit has a window for a slide-in label

## Specification

| | | |
|---|---|---|
| **Operating Voltage (Loop Powered)** | | 15 to 32 V dc |
| **Current Consumption** | **AA Fan Control Relay** | 3 mA |
| | **AA Fan Control Unit** | 10 mA (One LED on) |
| | **AA Fan Control Reset Unit** | 7 mA |
| **Dimensions** | **AA Fan Control Relay** | 125 W x 125 H x 56.5 D mm |
| | **AA Control Units (Typical)** | 38 W x 85 H x 56 D mm |
| **Operating Temperature** | | -10 °C to 50 °C |
| **Humidity** | | 10% to 90% RH non-condensing |

## AA Fan Control System Components:

### Analogue Addressable Fan Control Relay

The AA Fan Control Relay AAFCRLY is usually located adjacent to the mechanical services switchboard which controls the fan. The relay is commanded by the associated fan control unit to start or stop the fan.

The relay reports the fan's status (On, Off, or Fault) to the associated control unit.

### Functions

| Control Relays | |
|---|---|
| Fan ON | 24 V ac, 2 A changeover contacts.<br>Energise for Fan ON |
| Fan OFF | 24 V ac, 2 A changeover contacts<br>Energise for Fan OFF<br>(Fan ON de-energised when Fan OFF active) |

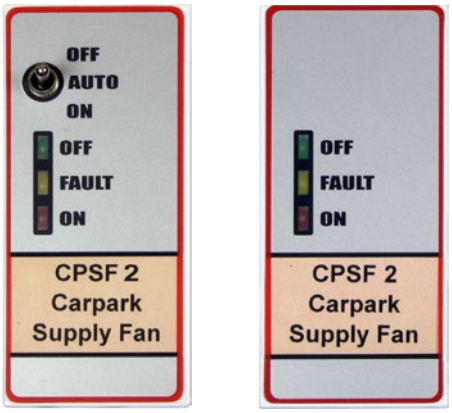
| Monitored Input | | |
|---|---|---|
| 10 kΩ | Fan OFF | Normal condition. |
| Open-Circuit | Fan Fault | Fault condition. |
| Short-Circuit: | Fan ON | Running condition. |

### Control Units

**AA Fan Control Unit (AAFCU):** Incorporates a three-position Mode switch, three indicator LEDs, and timing and control functions to AS1668.

**AA Fan Control Slave Unit (AAFCSLU):** Similar to the AAFCU control unit, this unit includes the Fan State indicator LEDs and the AS1668 timing and control functions. It does not have the three position mode switch.

The AA Fan Control Slave Unit is used when several fans are controlled from a single Mode switch. One fan control unit (AAFCU) controls the OFF – AUTO – ON modes for all fans, together with the LED indication for its associated fan. Each additional fan requires one fan control slave unit for the LED status indication.




*Above left: AA Fan Control Unit*
*Right: AA Fan Sub-Control Unit*

### Functions

| Three-Position Mode Toggle Switch | |
|---|---|
| OFF | Fan is turned off manually |
| AUTO | Fan is controlled by the fire panel |
| ON | Fan is turned on manually |

| Indicator LEDs | |
|---|---|
| OFF | Indicates the fan is off |
| FAULT | Indicates the fan is in a fault condition |
| ON | Indicates the fan is running |

**AA Fan Control Reset (AAFCRST),**

This unit is used to unlatch a group of fan control relays from the fire state.

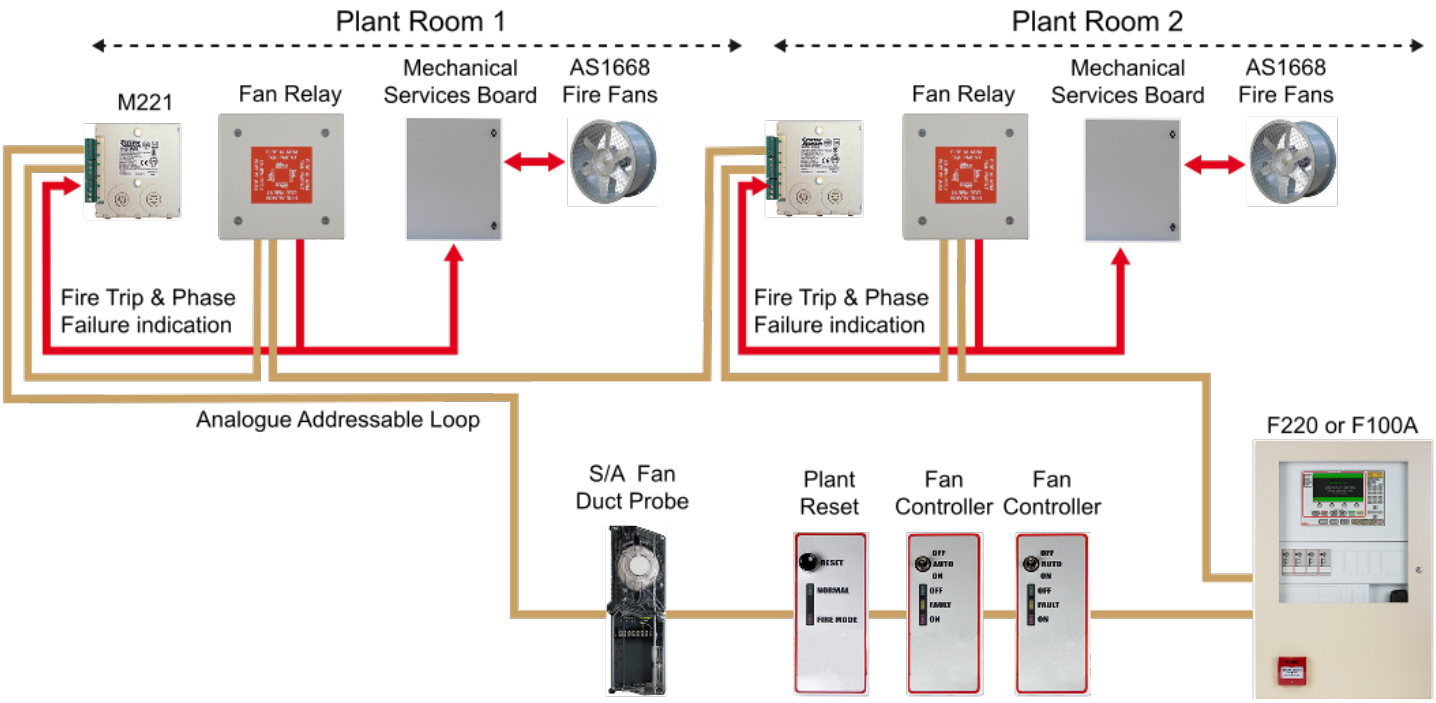
The unit provides a momentary RESET press button, NORMAL indicator, and FIRE MODE indicator.


*AA Fan Control Reset Unit*

## General Purpose Control Units

Pertronic Industries manufactures a range of General Purpose Control Units for the Pertronic Analogue Addressable Fire Panels. Refer to the Pertronic Industries website (www.pertronic.com.au) for information about readily-available General Purpose Control Units, or contact your nearest Pertronic Industries to discuss specific project requirements.

## Typical Fan Control System Layout




## Ordering Information

| Product Code | Description |
|---|---|
| AAFCRLY | Analogue Addressable Fan Control Relay in 125 x 125 x 56.5 mm Enclosure |
| AAFCRST | Analogue Addressable Fan Control Reset Unit |
| AAFCSLU | Analogue Addressable Fan Control Sl. Unit |
| AAFCU | Analogue Addressable Fan Control Unit |