Introduction to the *Hi-Protect* Control System

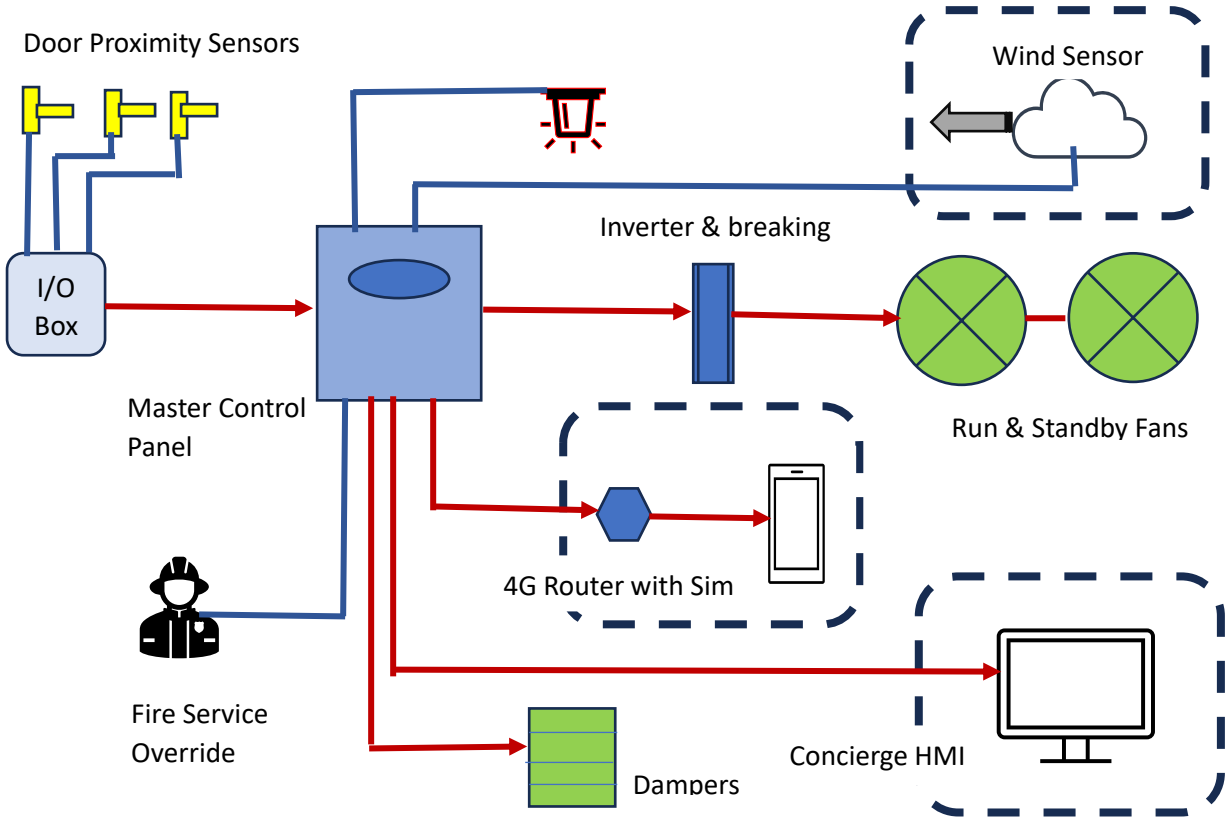
The update of BS9991 requires pressurisation smoke control systems are installed in all single stair buildings exceeding 18m in height as it becomes clear that depressurisation systems fail to provide adequate protection from smoke and heat to escaping occupants and fire fighters accessing the building in the event of fire.

Several years ago, Advanced Smoke Group's research and development team developed a new means of controlling smoke ventilation systems by using the unique Door Proximity Sensor (DPS). This sensor was designed as a means of providing signals to the smoke control system to indicate which doors were open, enabling the system to react to changes in conditions within the building.

This breakthrough in the development program has been further advanced by the development of the control system that runs alongside the DPS; the *Hi-Protect* system. The most important benefit of the control system is that it responds to any variance in conditions within the building rapidly, and in real time; this overcomes the problems of the old means of system control which work in "historical" data.

The sophisticated Hi-Protect "real time" control system provides several advantages over the old style controls:

- **Elimination of pressure sensor and pressure relief terminals**
- **Ease of installation**
- **Real time and rapid control of airflow**
- **Accurate and reliable system performance**
- **Elimination of over pressure on doorways**
- **Ease of commissioning**
- **Ease of ongoing maintenance**



Simple circuit diagram highlighting options

Options

The above simplified system diagram of the *Hi-Protect* system illustrates the options of:

- a wind sensor for tall buildings exposed to possible high and variable wind loads and direction
- Remote system monitoring and control, possibly as part of a maintenance plan
- Concierge display panel

Maintenance

As standard, the *Hi-Protect* system incorporates a self-diagnostic monitoring system. Each door proximity sensor carries its own “address” which enables the system computer to recognise a resistance in signal from any one of the sensors. Similar monitoring of all moving parts, such as dampers and fans, can be incorporated into the management system.