

# VFD CP

## Variable Frequency Drive Control Panel



### QUICK FACTS

- Connected to the V5 damper control system,
- Control of duty stand-by operation,
- Indication of VFD (variable frequency drive) or fan status,
- Fan test functions,
- Fan override option,
- Typically up to eight different fan speeds.

### Variable Frequency Drive Control Panel

The VFD Control Panel is used together with the V5 damper control system.

The VFD Control Panel interfaces with variable frequency drives (VFDs) to control fans and indicate the system status – typically for smoke extract or smoke clearance and for supply of replacement air, but also for daily ventilation.

On receiving the signal from the damper control panel, it enables the fans to run at the speeds programmed for the activated zone (typically up to eight preset speeds depending on the VFD make and model).

The status of each VFD is indicated at the panel.

The VFD Control Panel can also be networked with the firefighter's control panel (via the damper control panel).



**WARNING:** If the equipment is used in a manner not specified by Safeguard Systems Ltd, the protection provided by the equipment may be impaired.

## Technical Information

<b>Components</b> (typically)	<ul style="list-style-type: none"> <li>• Digital Input Output Interface (DIO),</li> <li>• Power supply,</li> <li>• Switches,</li> <li>• Relays,</li> <li>• Timers,</li> <li>• LED lights.</li> </ul>
<b>Customisations</b> (typically)	<ul style="list-style-type: none"> <li>• Lockable glazed door,</li> <li>• Flush mount flange.</li> </ul>
<b>Modbus network system</b>	<ul style="list-style-type: none"> <li>• Radial Circuit, or</li> <li>• Loop Circuit.</li> </ul>

Panel enclosure	
Colour	RAL 7035
Ingress Protection (IP) Rating	IP30
Maximum ambient temperature	60°C (must be in a ventilated environment)

Supply	
Input voltage	(230 ± 23) V AC, 50 Hz
Maximum power consumption	750 VA

Inputs	
Contact type	Volt free dry contacts
Maximum power consumption	10 mA at 12 V DC per input

Outputs	
Contact type	SPCO mechanical relay contacts
Maximum switched load	1 A at 24 V AC/DC

Environmental	
Operating temperature	-5°C to 60°C
Storage temperature	-40°C to 85°C
Humidity	80% RH to 31°C decreasing linearly to 50% RH at 40 °C
Maximum altitude	2000 m

Compliance	
Agency Listing	CE
Electromagnetic Compatibility (EMC)	EN 55011: 2009 + A1:2010 EN 61000-6-1: 2016 EN 61000-3-2: 2014 EN 61000-3-3: 2013
Low Voltage Directive (LVD)	EN 61010-1: 2010 + Corr 1

LEDs and Switches



Image 1. LEDs and Switches.

LED	Description	Function
Power		Power available.
General fault		Fault with the system.
Override		Override active.
System normal		System normal without fault.
System active (fire)		System in fire mode.
System active (environ.)		System in environment mode.
System test		System in test mode.
VFD normal		VFD normal without fault.
VFD fault		VFD is in fault.
VFD run (fire mode)		VFD in operation (fire mode).
VFD run (environ. mode)		VFD in operation (environmental mode).
Fan (e.g A, or B)		Selected duty fan.

Table 1. LEDs.

Switch	Position	Function
Manual Test	Auto	System working as programmed.
	Test	System in test mode.
Duty Select	Fan A	Fan A selected.
	Fan B	Fan B selected.
Lamp Test Push Button	Push	Test LED lamps.

Table 2. Switches.

## Networking (typical)

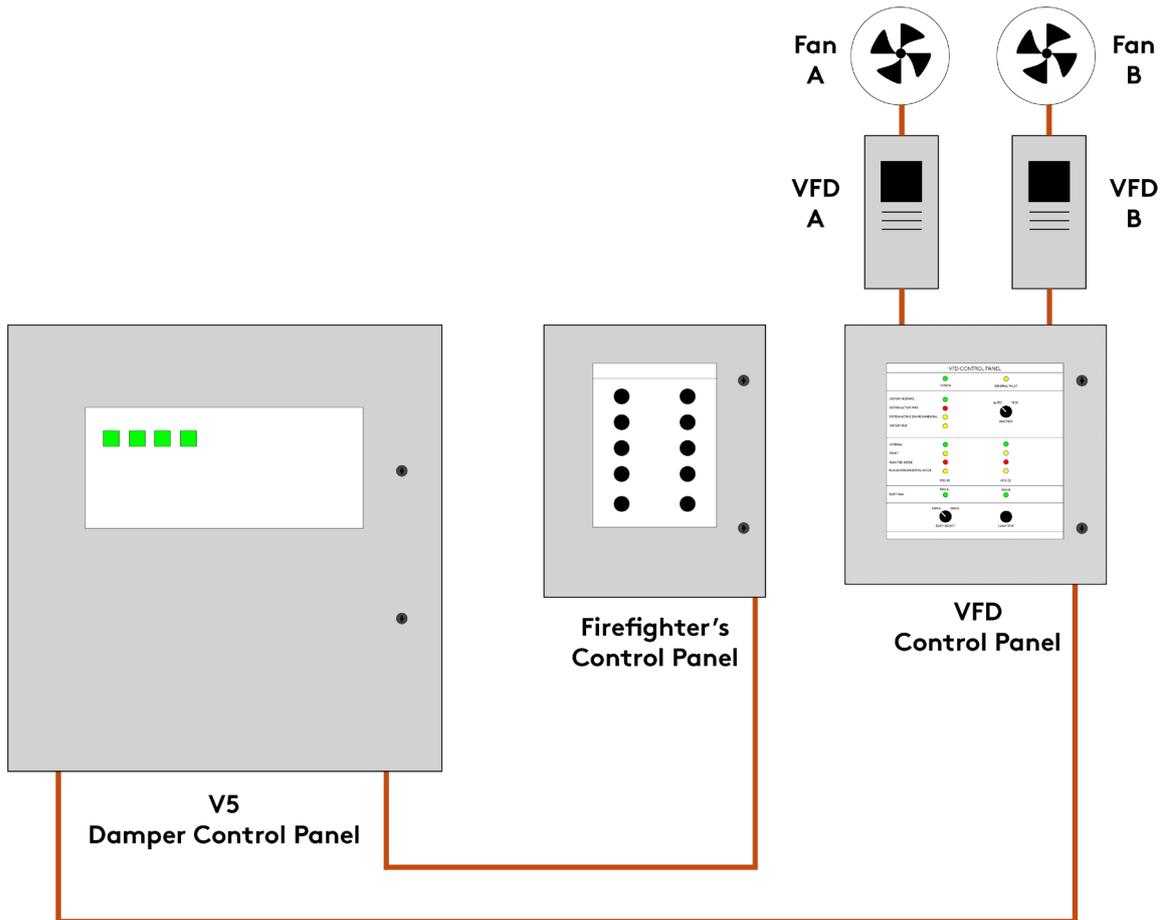


Image 2. Typical Networking.

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