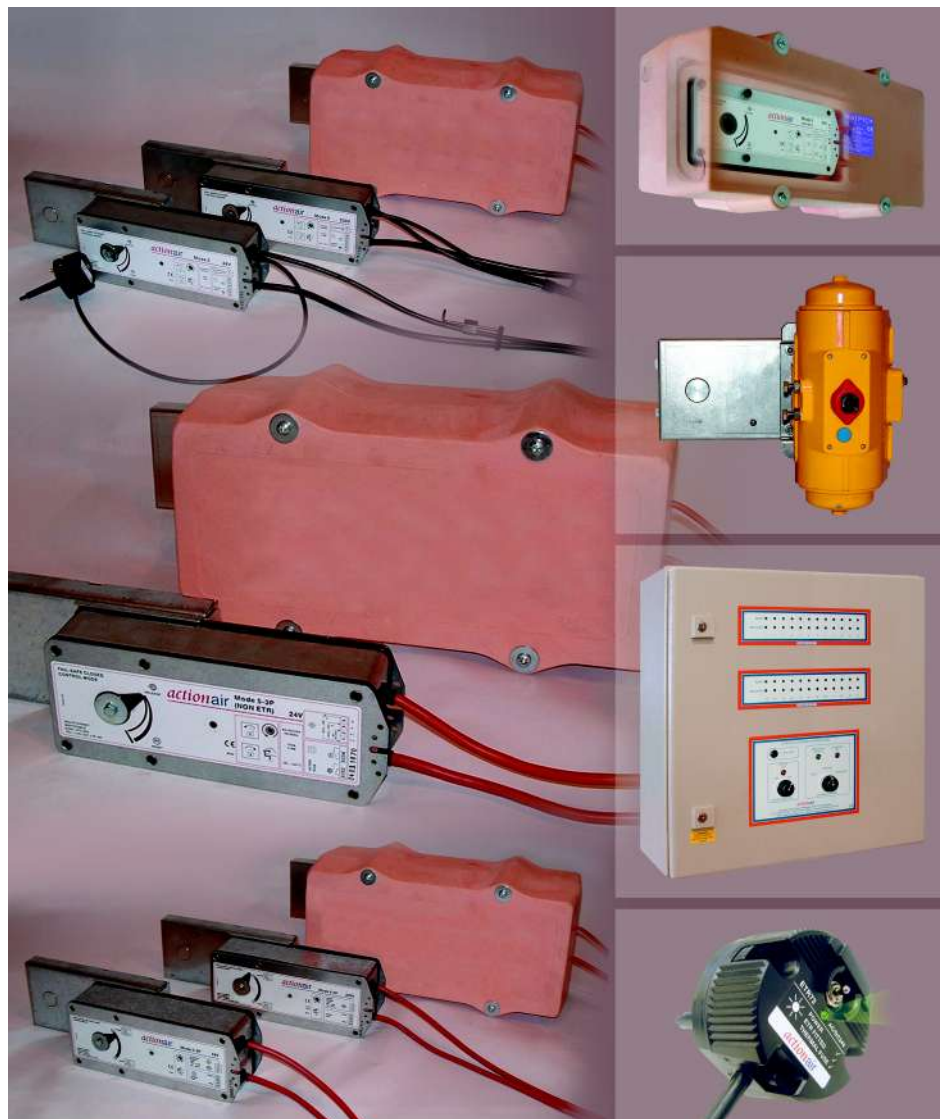


# PTC™ Control Modes and Ancillaries

For many years Actionair has been at the forefront in the development of fire and smoke damper technology. To further enhance this reputation considerable design effort has been put into the new control modes, ensuring the use of up to the minute advances in damper technology, as well as complying with imminent European standardisation for fire and smoke control.

The new comprehensive range of Actionair Control Modes are the ideal solutions to the many variable and complex fire and smoke damper control requirements, and fully complement the PTC damper range, control panels and ancillaries.



## *action*air

Dampers Controls Fancoils

Ruskin Air Management Limited  
[www.ruskinuk.co.uk](http://www.ruskinuk.co.uk)

# Control Mode 5 PTC and Control Mode 6 PTC

Control Mode 5 PTC and Control Mode 6 PTC 60 seconds MAX Reset/ 22 seconds Release operation

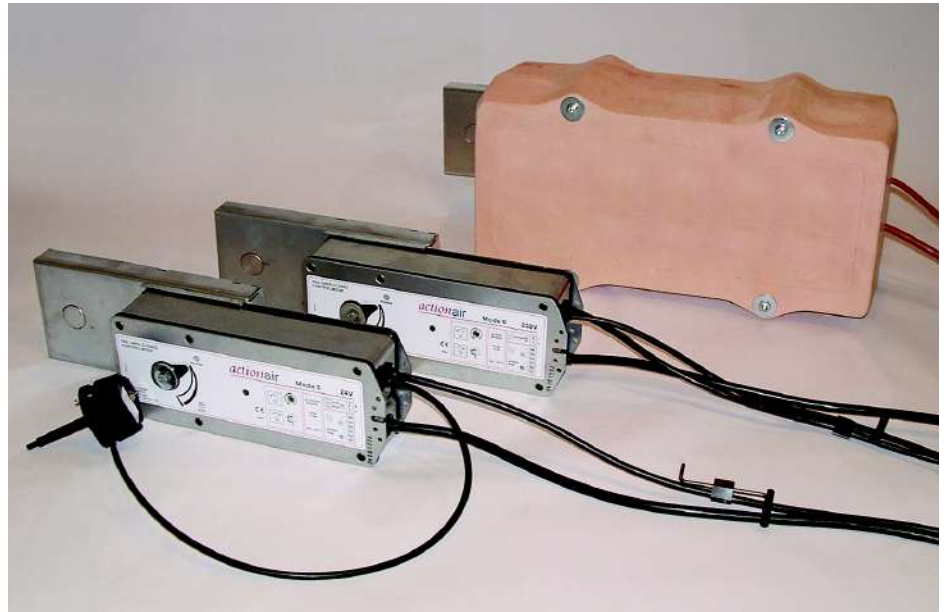
These new series of control modes achieve 60 seconds to drive to the end position, with a 20 second spring return time. This brings Actionair dampers in line with imminent European standardisation for fire and smoke control.

As with all PTC modes, this series uses the *snaplock™* interface. Fire rated dampers are primarily designed to be fitted into a wall or floor, and the interface displaces the mode from the line of the wall. Dampers may be installed and finally the mode removed from storage for easy fitting, thus preventing damage to the mode before it is required. End switches and LSF cable are provided as standard on all modes.

Versions are available to allow fail-safe close for fire safety (SmokeShield) or fail-safe open for smoke extract (VentShield) and may be combined with protective enclosures (HotShield) to provide enhanced operation for 1 hour at 300 °C or 2 hours at 300 °C.

The Electro Thermal Release (ETR) supplied for fire damper use has integral fail-safe devices to ensure that it is installed into the ductwork correctly. ETR units are not supplied with VentShield, HotShield or Hot/VentShield, because these are designed to operate at temperatures in excess of 72 °C, should a fire cause any temperature rise or for smoke extract.

End switches are provided with each mode, so that damper Reset and Release positions may be monitored. The mode is permanently attached to the mechanism driving the damper blades.



### ETR Indication light

As standard, a green LED lamp is built into the ETR housing. This gives the user a simple and clear visual check that the Actuator is receiving power, the ETR is correctly fitted, and the thermal fuse is intact.



### SmokeShield and VentShield

M5 PTC	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00015	SmokeShield	Thermal Release / Power Off – Fail-safe Close*
M6 PTC	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00016	SmokeShield	Thermal Release / Power Off – Fail-safe Close*
M5 PTC Vent NON ETR	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00021	VentShield	Power Off – Fail-safe Open
M6 PTC Vent NON ETR	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00022	VentShield	Power Off – Fail-safe Open
M5 PTC NON ETR	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00017	SmokeShield	Power Off – Fail-safe Close
M6 PTC NON ETR	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00018	SmokeShield	Power Off – Fail-safe Close
M5 PTC Vent	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00019	VentShield	Thermal Release / Power Off – Fail-safe Open*
M6 PTC Vent	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00020	VentShield	Thermal Release / Power Off – Fail-safe Open*

\*SmokeShield M5 PTC and M6 PTC are supplied as standard with the Electrical Thermal Release (ETR). The units Fail-safe by means of the unique and patented ETR device which operates at 72 °C, or if the power supply is off/interrupted. Complying with BS 5588 Part 9 1999. Non ETR versions Fail-safe when the power is off/interrupted.

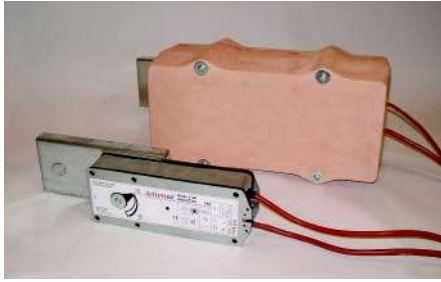
### HotShield and Hot/VentShield

HM5 PTC	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00281	HotShield	Power Off – Fail-safe Close
HM6 PTC	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00282	HotShield	Power Off – Fail-safe Close
HMV5 PTC Vent	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00283	Hot/VentShield	Power Off – Fail-safe Open
HMV6 PTC Vent	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00284	Hot/VentShield	Power Off – Fail-safe Open
HM5-2H PTC	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00285	HotShield	Power Off – Fail-safe Close
HM6-2H PTC	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00286	HotShield	Power Off – Fail-safe Close
HMV5-2H PTC Vent	10/2W (12.5VA <sub>MAX</sub> )	24V end switches SPDT 250V 6(3)A	XNNN00287	Hot/VentShield	Power Off – Fail-safe Open
HMV6-2H PTC Vent	12/4W (14VA <sub>MAX</sub> )	230V end switches SPDT 250V 6(3)A	XNNN00288	Hot/VentShield	Power Off – Fail-safe Open

HotShield and Hot/VentShield Control Modes HM5 PTC and HM6 PTC (operational for 1 hour @ 300 °C) and HM5-2H PTC and HM6-2H PTC (operational for 2 hours @ 300 °C) are not supplied with the Electrical Thermal Release (ETR). They Fail-safe when the power is off/interrupted).

# Control Mode 5–3P PTC

## Control Mode 5–3P PTC with additional facility for third (control) Position



This new 3 position control mode allows a damper to be moved to both the reset and release position, with the additional facility to move the damper to a third control position. The mode is given a 2-10V DC signal, defining the position that the damper needs to be set at.

A return signal of 2-10V DC is provided to allow monitoring of position. To support this actuator and allow positioning to be set local to the damper, Actionair have developed the M5-3P-CMS control unit. As with all PTC modes, this series uses the *snaplock™* interface. Fire rated dampers are primarily designed to be fitted into a wall or floor, and the interface displaces the mode from the line of the wall. Dampers may be installed and then the mode removed from storage for easy fitting, thus preventing damage to the mode before it is required. End switches, LSF cable, and Electro Thermal Release (ETR) are provided as standard on all modes. Versions are available to allow fail-safe close for fire safety or fail-safe open for smoke venting and may be combined with protective enclosures (HotShield) to provide further protection for 1 hour at 300 °C.

## M5 -3P 24V and M5 -3P 230V CMS Control Stations



M5 -3P -CMS



M5 -3P -CMS (230V)

The M5-3P CMS (Control Monitoring Station) this control unit gives the user the opportunity to set a control position using an integral potentiometer, or use an externally supplied control voltage. It provides visual (lamp) and volt free (relay) indication of damper position (Released, at Control Position, Reset). A terminal is provided to allow feedback of the 2-10V DC monitoring voltage. In addition, a fire alarm input may be made (NC) which will cause the damper to Release if the contact is broken. A second input is available to cause the damper to fully Reset to allow full air flow for smoke venting as an example. The fire alarm Release input takes precedence. Switches are provided that allow the unit to be driven to Release or Reset positions for testing purposes.

### SmokeShield and VentShield

M5-3P PTC	24V 7/2W (10VA) end switches SPDT 250V 6(3)A	XNNN00289	SmokeShield	Thermal Release / Power Off – Fail-safe Close	2-10V Set Position
M5-3P PTC Vent NON ETR	24V 7/2W (10VA) end switches SPDT 250V 6(3)A	XNNN00293	VentShield	Power Off – Fail-safe Open	2-10V Set Position
M5-3P PTC NON ETR	24V 7/2W (10VA) end switches SPDT 250V 6(3)A	XNNN00291	SmokeShield	Power Off – Fail-safe Close	2-10V Set Position
M5-3P PTC Vent	24V 7/2W (10VA) end switches SPDT 250V 6(3)A	XNNN00292	VentShield	Thermal Release / Power Off – Fail-safe Open	2-10V Set Position

SmokeShield M5–3P PTC are supplied with the Electrical Thermal Release (ETR). The units Fail-safe by means of the unique and patented ETR device which operates at 72 °C, or if the power supply is off/interrupted. Complying with BS 5588 Part 9 1999. Non ETR versions Fail-safe when the power is off/interrupted.

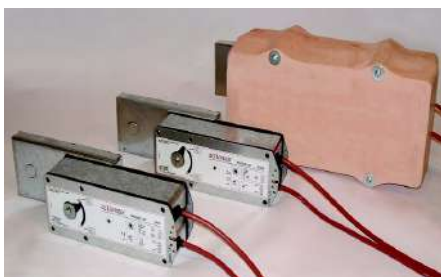
### HotShield and Hot/VentShield

HMV5-3P PTC	24V 7/2W (10VA) end switches SPDT 250V 6(3)A	XNNN00294	HotShield	Power Off – Fail-safe Close	2-10V Set position
HMV5-3P PTC Vent	24V 7/2W (10VA) end switches SPDT 250V 6(3)A	XNNN00295	Hot/VentShield	Power Off – Fail-safe Open	2-10V Set position

HotShield and Hot/VentShield Control Modes HM5–3P PTC (operational for 1 hour @ 300 °C) are not supplied with Electrical Thermal Release (ETR) and Fail-safe when the power is off/interrupted. NOTE: 1 hour version only available.

# Control Mode 5–2P PTC and Control Mode 6–2P PTC

Drive open / Drive closed. 60 seconds operation



This new 2 position control mode has been developed to provide drive open/drive closed damper operation and it brings Actionair dampers in line with imminent European

Standardisation for fire and smoke control, where for a given smoke control philosophy, or smoke source, a damper may be required to open or close to vent or contain the smoke. This is a radical alternative to the traditional spring return actuator, where upon power failure, instead of moving to fail-safe position, it remains in its desired emergency position. For any smoke control emergency situation, this is an absolute necessity. **These modes do not have ETR's.** As with all PTC actuators, this series uses the *snaplock™* interface. All modes have LSF cables. Versions are available combined with protective enclosures (HotShield) to provide further protection for 60 mins at 300 °C or 30 mins at 600 °C.

# Mode 9 PTC



This mode has been developed to provide pneumatic operation of the damper and is available in spring return versions for fail-safe operation. A pneumatic thermal release (PTR) assembly is available to react to fire conditions. As with all PTC actuators, this series uses the *snaplock™* interface. Switch box and solenoid accessories available, in addition a 250 °C for 1 hour hot version is available.

M9 PTC Pneumatic	Air Off – Fail-safe Close	XNNN00300
M9 PTC Vent Pneumatic	Air Off – Fail-safe Open	XNNN00303
HM9 PTC Pneumatic	Air Off – Fail-safe Close	XNNN00301
HM9 PTC Vent Pneumatic	Air Off – Fail-safe Open	XNNN00304

### SmokeShield and VentShield

M5-2P PTC	24V 12W 0.5W (18VA), end switches SPDT 250V 6(3)A	XNNN00296
M6-2P PTC	230V 8W 0.5W (15VA), end switches SPDT 250V 6(3)A	XNNN00297

### HotShield and Hot/VentShield

HM5-2P PTC	24V 12W 0.5W (18VA), end switches SPDT 250V 6(3)A	XNNN00298
HM6-2P PTC	230V 8W 0.5W (15VA), end switches SPDT 250V 6(3)A	XNNN00299

## Ancillaries

The Actionair Control Modes are supported by various additional panels/equipment. These range from comprehensive smoke control systems (Actionpac LNS3) and bespoke electromechanical panels (Actionpac EMB), which are described in other publications (available from the website), to those items described below which are available as standard accessories.

**Please note: Actionpac EMS Control Panel is not suitable for 2P or 3P Type Control Modes.**



### Actionpac EMS Control Panel

This product has been developed to provide a standard solution for the control of small groups of dampers. The panels can control up to 12, 24 or 36 dampers respectively. The panels offer individual damper position status, zonal damper testing, max 2 zones of 6 (per 12 dampers), fire alarm inputs per group of 12 dampers and volt free outputs for BMS monitoring in the case of alarms or faults. This product has its own detailed catalogue available and the Actionair Sales Office may be contacted for specific details.

EMS 12 - 24	24V AC	XNNN00268	Actionpac EMS 12 - 24
EMS 12 - 230	230V AC	XNNN00267	Actionpac EMS 12 - 230
EMS 24 - 24	24V AC	XNNN00270	Actionpac EMS 24 - 24
EMS 24 - 230	230V AC	XNNN00269	Actionpac EMS 24 - 230
EMS 36 - 24	24V AC	XNNN00272	Actionpac EMS 36 - 24
EMS 36 - 230	230V AC	XNNN00271	Actionpac EMS 36 - 230

## Accessories

### Other Electrical Accessories

A range of indicator panels, push button switches and damper test units are also available. The housing for these units are manufactured in rigid ABS plastic. The Damper Connection Box is in galvanised steel.

	<b>Damper Test Unit</b> Reset and release indication. Spring bias (power OFF) test switch. Power normally ON.	DTU24	24V AC/DC	XNNN00010
		DTU120	120V AC	XNNN00305
		DTU230	230V AC	DNNN00029
	<b>Damper Status Indicator</b> Reset and release indication.	DSI24	24V AC/DC	DPNN00412
		DSI120	120V AC	XNNN00308
		DSI230	230V AC	DPNN00413
	<b>Damper Control Unit</b> Switch ON/OFF function. Reset and release indication.	DCU24	24V AC/DC	XNNN00309
		DCU120	120V AC	XNNN00310
		DCU230	230V AC	XNNN00311
	<b>M5 and M6 - 2P Damper Control Unit</b> Switches power and open/closed. Open and closed indication.	M52PDCU	24V AC/DC	XNNN00313
		M62PDCU	230V AC	XNNN00314
	<b>Damper Connection Box</b> (All Voltages)	DCB	24V - 230V AC/DC	XNNN00312
	<b>M5 - 3P - CMS Control Unit</b>	M5 - 3P - CMS	24V AC/DC	XNNN00315
	<b>M5 - 3P - CMS (230V)</b>	M5 - 3P - CMS (230V)	230V AC	XNNN00599
	<b>Damper Release and Indication Module (DRIM)</b> This is designed for control and monitoring of the electrically operated SmokeShield PTC™ Fire and Smoke dampers. It will operate from 24, 120 or 230 volt supplies, 50 or 60 Hz. Selection of the operating voltage is by	use of internal links on the PCB, prior to installation and connection of actuator and supply. The DRIM may be used singly to provide local damper control, or in pairs to provide control from either side of a damper. It can also operate 2 actuators when dampers are provided in 2 multiple sections	LED position and operation indication is provided. Operation is by push button to close and twist to re-open damper. Tested to BS EN 61010 -1: 2001 and is CE compliant. IP44 rated. Operating range 5 - 40 degrees C.	DRIM   24V - 230V AC/DC   XNNN00589

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Dampers Controls Fancoils

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