

AOV[®]

10 amp automatic opening vent control panel

A single detection zone smoke vent control panel with integral 10 amp power supply, designed to control 24vdc actuators or magnets.

The panel has battery backup capability and assures that actuators can be powered in the event of a mains failure.

Vent controls and indications are provided on the front of the control panel with integral control inputs to accept signals from remote contacts, smoke detectors, manual controls and emergency push buttons.

The high spec version includes Rain Sensor and PIR inputs for environmental control and trap injury protection, plus O/IOv inputs and outputs to allow control interfacing with BMS systems and positional control of dampers / smoke louvres.

The AOV control panel range has been developed to provide a comprehensive solution to all smoke vent control scenarios.



Features

Main Features

- 10 amp integral PSU
- 1 amp magnetic vent control output
- 10 amp timed polarity reversal actuator control output
- Alarm relay change over contacts
- Fault relay change over contacts
- Trigger input (monitored)
- Smoke detector input (conventional or Twin Wire operation)
- False alarm mode
- Vent control switch input, Open/Close
- Fireman's control switch input, On/Off/Auto
- Disable & Test modes

Additional High Spec Features

- Rain sensor input (monitored)
- PIR sensor input (monitored)
- 12vdc output (100mA) for PIR power
- O/IOv positional control input 10% steps
- O/IOv positional data output

Technical specifications

Enclosure	1.2mm Mild Steel IP30. Colour ref: MW334E Interpon powder coat
Cable Entry	Via 20mm knockouts located in the top and rear of the cabinet
Dimensions	Back box: 450mm W x 300mm H x 110mm D Lid: 460mm W x 310mm H x 25mm D
Mains Supply	10A internal switch mode power supply, Nom 27v DC
Battery Capacity	2 x 12Ah 12v VRSLA
Detection Zones	Single monitored detection zone. EOL = 4K7R
Twin Wire	Selectable in panel (enables AV devices to be connected to det cct)
On Board Relays	1 x Alarm, 1 x Fault, volt free changeover
Fireman's Switch Input	Fireman's control switch input for On/Off/Auto
Vent Control Input	Vent control switch input, Open/Close (rocker switch)
Inputs	Trigger (4700Ohm), rain sensor* & PIR* monitored inputs (*high spec only)
Actuator Output	10A timed polarity reversal actuator control output
Aux Output	28v maintained magnetic vent output, switches off to release magnet in the alarm condition. Max 1A @ 28vdc. This output can be inverted to provide 28v in alarm condition for powering sounders etc.
BMS Connection (high spec version only)	O/IOv positional control input 10% steps, O/IOv positional data output
False Alarm Management	Type A dependency mode, approved by LPCB

Models

AOV-10	10 amp AOV control panel
AOV-10H	10 amp high spec AOV control panel

Specifications

Electrical Specification Inputs & Outputs		
PSU Input, 10A - - +	28vdc supply input. Diode protected for reversal and independent short circuit. Max current 10 amps.	Max input current 10 amps. Input voltage 22vdc to 32vdc.
Common Alarm Relay	Alarm relay contact. Clean C/O. Max 3A @ 30vdc.	Unfused.
Common Fault Relay	Maintained fault relay contact. Clean C/O. Max 3A @ 30vdc.	Unfused.
Aux + -	Maintained magnetic vent output, 28v dc. Max 1 amp.	Fused 1 amp, 20mm glass quick blow fuse.
ACT1 + -	Dual polarity reversal actuator drive outputs, 28v dc. Max 8 amps.	Fused 10 amp, 20mm glass quick blow fuse.
Input + -	Alarm activating input, 470R alarm. 4K7Ohm 5% 0.25W EOL resistor.	Monitoring current limit 14mA, unfused
Detector + -	Fire alarm zone circuit. Conventionally wired detection circuit or Twin Wire combined detection / sounder circuit. 4K7 Ohm 5% 0.25W EOL resistor.	Monitoring current limit 50mA, fused @ 500mA. Typical max load 22 alarm devices @ 18mA each.
12v + -	12v dc supply output for PIR power.	12v dc, fused @ 100mA resettable fuse.

Additional Inputs & Outputs on High Spec Version		
ACT2 + -	Dual polarity reversal actuator drive outputs, 28v dc. Max 8 amps.	Fused 10 amp, 20mm glass quick blow fuse.
Rain + -	Rain sensor signal input. 470R alarm. 4K7 Ohm 5% 0.25W EOL resistor.	Monitoring current limit 14mA, unfused.
PIR + -	PIR input N/C contacts. Alarm = 8K, 4K7 Ohm 5% 0.25W EOL resistor.	Monitoring current limit 14mA, unfused.
O/10v Input	Positional voltage input, 10% steps of motor time.	Max 10v dc, 75K impedance.
Com	Common 0v output.	Reference ground.
O/10v Output	Positional voltage output, 10% steps.	680R impedance, max 10v dc 2mA. Max 20K load.

Power Supply Specification		
Mains supply	230vac +10% -15%	50Hz 1.5A
Mains supply fuse	6.3 Amp (F6.3A 250V)	Not accessible
Power supply rating	10 Amp incl battery charge	Max shared load 10A
Power supply output voltage	26-31.5 vdc	Set for batt charge O/P 27.3v
Maximum ripple	200mV p-p.	
Min/max battery size and type	3.2Ah/12Ah x 2 12volt VRLA Yuasa NP range	
Battery charging voltage	27.3 nom dc	
Battery charging output current	630mA Current limited 10 Ohms	
Max current drawn from batteries	10 Amps. Battery fuse 10A HBC 20mm	

General Specification	
Power supply output voltage	Steel IP30. Epoxy powder coated Interpon Radon, silver grey
Temperature range	-5 deg C to +40 deg C max RH 95%
Number of conventional/Twin Wire detection circuits	1
Conventional/Twin Wire detector compatibility	Apollo: S65, Orbis. / Hochiki CDX. / Nittan EV

Quiescent and Alarm Current Details for Standby Battery Calculations		
Model	Standby Current	Alarm Current
AOV-10	65mA	106mA
AOV-10H	75mA	116mA