



# SOLO Control Panel



## O&M Manual

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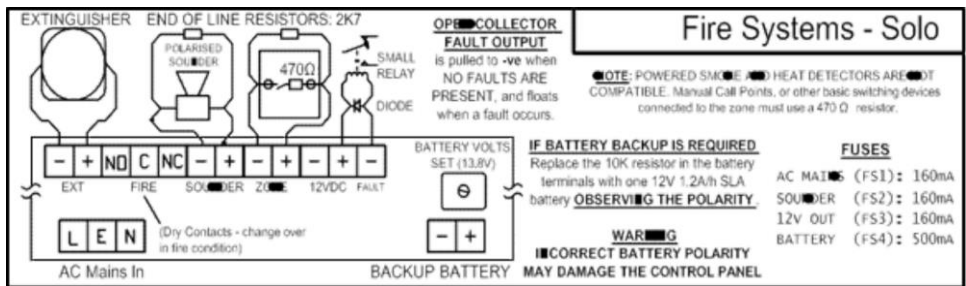
### Amendments:

- 1) Revision to test fuse rating options.
- 2) Revision of manual release test procedure.
- 3) Addition of Fault signaling capability.

The **Stat-x SOLO** electronic control panel is **single zone, single release** output control panel designed to enable the actuation of Stat-X Condensed Aerosol fire suppression systems. It is capable of fully automatic detection using switching type detectors and includes supervision of those circuits. It has a manual release station built into the front of the unit.

### Maximum Device quantity.

1. Stat-X units-maximum of 6 wired in series,



### 1) Detectors.

The detectors that can be used should not require power to operate, i.e. Switching type detectors such as Fenwal Bi-metal strip, linear heat detector cabling and any additional manual call points. These would be installed with 470Ω firing resistors. This circuit is monitored for open/closed circuit faults either of which will result in a common fault LED illuminating on the fascia of the panel and the internal buzzer will sound intermittently.

### 2) Audible/visual warning devices.

The Solo panel has a 90dB internal fire and fault sounder built in. It is capable of driving a further single 12 VDC remote sounder. This circuit is monitored for open/closed circuit faults either of which will result in a common fault LED illuminating on the fascia of the panel and the internal buzzer will sound intermittently.

3) **230VAC power supply. (110V Option special order)**

The Solo panels primary power supply should be 230VAC +10% -15% 50(60)Hz

This circuit is monitored for presence if the backup battery facility is utilized. On mains power failure a common fault LED will be illuminated on the fascia of the panel and the internal buzzer will sound intermittently.

4) **Back up battery.**

A single 12VDC 1.2Ah battery is an option to power the fire system for 24Hrs should the primary power fail. This circuit is monitored for presence and if not connected a common fault and internal buzzer will sound intermittently. If the backup battery is not required then a 10K resistor should be linked between the negative and positive terminals.

5) **12VDC Auxiliary power supply**

The control panel has terminals to provide an auxiliary 12VDC power supply to facilitate connection of remote indicators or relays.

6) **Fire Volt free change over terminals (Clean contacts)**

A volt free normally open (NO) or normally closed (NC) relay is available to interface with shut downs and remote monitoring devices. Max 35VDC 2 amp.

7) **EXT release circuit.**

The control panel has a single actuation circuit which delivers a 5amp for 5-10 milliseconds output in order to actuate the Stat-x fire suppression system. This circuit is monitored for open circuit faults which will result in a common fault LED illuminating on the fascia of the panel and the internal buzzer will sound intermittently.

8) **Fault signaling capability**

The fault output on the SOLO is an open collector type. This allows a relay coil or similar to be connected between the positive 12V terminal and the fault output

terminal. A diode must always be fitted to any relay coil to prevent any back EMF spikes from disrupting the microprocessor. It's fail-safe so the output is pulled down to approximately the same potential as the negative 12V terminal when no faults are present. When a fault occurs, the output is released and floats. If a relay is used as described above for example, the relay will be energized when there are no faults and de-energized when a fault occurs.

### **Installation and commissioning**

The panel is not an IP rated enclosure. To install cables some "Knock outs" are provided on the top of the housing. If more access points are required then holes will need to be drilled into the box to facilitate connections. All cable glanding should be of the appropriate type in order to maintain that integrity.

**Control back panel dimensions (approx.):** 8.625" High x 5.906" Wide (wall mount)

**Control back overall dimensions (approx.):** 8.938" High x 6.313" Wide x 2.914" Deep.

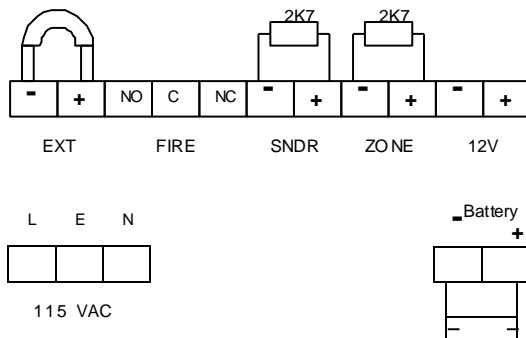
**Weight: 3.9 lbs.**

### **Installation**

*The control panel should be mounted to a firm fixed structure. 4 holes are positioned at each corner of the panel to allow access. Additional knock outs are available inside the panel should the corner holes not be suitable.*

**Initial power up**

The control panel is supplied with **2K7** end of line (EOL) in place across the sounder terminals, the Zone terminals and a **10K** resistor across the battery terminals. A link should be placed in the EXT terminals so that the functionality of the control panel can be tested before any field wiring takes place.



- a) Switch the panel mode key to “Normal” position with all the resistors and links in position and apply the 240V or 120V mains power to the control panel. The internal buzzer will sound momentarily and then the control panel should show the “Supply” Green LED only.
- b) Place the key operated switch into “Disable” mode to test this function. The internal buzzer will sound intermittently and the yellow “Fault” LED will flash.
- c) With the key in “Disable” using the manual release test key, try to actuate the system. The system **should not** actuate. Remove test key.
- d) Place the key operated switch in the “Normal” position, using the manual release test key, try to actuate the system. The system **should** actuate and the “Released” LED should illuminate combined with the internal buzzer sounding constantly. Remove test key. Turn the key operated switch to the “Reset” position and then back to the “Normal” position. The control panel should return to quiescent mode with only the “Supply” LED illuminated.
- e) With the key switch in “Normal” systematically remove and replace each of the resistors and the link in turn to check that the control panel registers a fault signal. On each occasion a “fault” LED and intermittent buzzer should be displayed and heard, and on replacement the panel should return to quiescent mode.

### **Installing battery backup**

If the control panel is to be connected to an uninterruptible power supply the battery does not need to be used and the 10K resistor can be left in position. If it is required to use a battery then the following steps should be taken.

- a) Remove the resistor from the battery terminals. From the packet provided install the battery leads and connectors. **ENSURE POLARITY IS CORRECT.** Meter the charging output across terminals. This should read 13.8V. If it is incorrect adjustment can be made to the variable resistor positioned above at “VR1” position on the circuit board.

- b) Install a single rechargeable 1.2AH 12VDC sealed lead battery. (Auxiliary device dependent)

**Once installed and the control panel is tested “POWER DOWN” the control panel completely.**

### **Field wiring.**

#### **Detection**

Install the fire detection circuits. The control panel is designed to operate with switching type detectors and will require a 470Ω firing resistor.

For end of line monitoring a 2K7Ω resistor should be installed.

#### **Sounders**

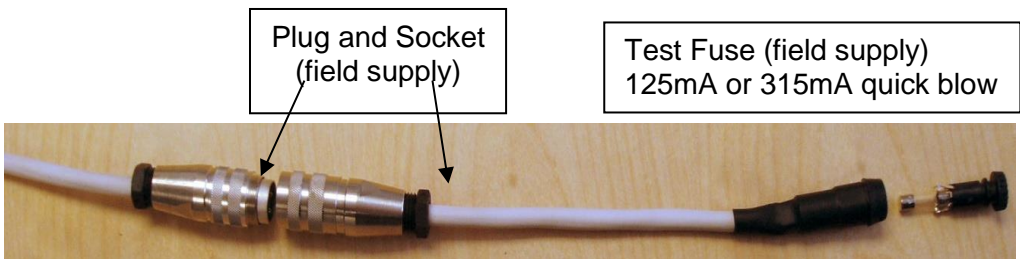
An additional 12VDC sounder can be installed. An EOL 2K7Ω resistor should be installed.

#### **Ancillary devices**

These can be installed as required by onsite conditions.

#### **Actuation Circuit (EXT)**

A field test harness can be fabricated by our distributor (not factory supplied). Installed on one end is a plug assembly. The test harness assembly can consist of a lead, socket and test fuse holder. As an example the image below illustrates a DIN plug and socket however any other make can be used.



1. Remove the link from the EXT terminal and replace with the actuation lead field wiring. (Polarity is not important). Place a 1 amp quick blow fuse in the test lead fuse holder.
2. **POWER UP** the control panel and check that no faults exist on the installed circuits.
3. With the key switch in the "Normal" position insert the manual release test key to initiate a fire condition. The control panel will discharge and blow the fuse proving the circuit and the output pulse form the capacitors.
4. Replace the fuse with another and reset the control panel.
5. Repeat the test procedure with the detection system.
6. Replace the fuse and ensure that the control panel returns to the quiescent mode.
7. Turn the key operated switch to disable mode.
8. Remove the test lead assembly and plug in the fire suppression system making sure the thumb wheel on the plug is made in finger tight.
9. Return the control panel to "Normal" mode.

**The control panel is now live and the system is armed.**

**Fault LED**      Flashes Simultaneously

PSU fault      1 x flash

EXT            2 x flashes

SOUNDER    3 x flashes

ZONE           4 x flashes

If more than one fault exists then the faults will be displayed in the order above. For example, if there is a PSU fault and a sounder fault, the fault LED will flash once on the first piezo beep and then three times on the next piezo beep. This is then repeated.

Open and short circuit faults are treated the same.





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