GENERAL INSTALLATION DETAILS – 6000/SP – SPRINKLER MONITORING PANEL

* Wiring for EOL & Firing resistors is identical for either N/O or N/C switches – change input Selector switch to suit
* The Controls Enable Key switch must be in the ON for the push switches to be operational
* After Any alarm the "Alarm Accept " button must be pressed before the panel can be Reset

IMPORTANT INSTALLATION NOTES
Ensure the panel is protected via a Breaker protected circuit either locally or at the distribution board and of sufficient current to power the system.
The enclosure is suitable for use in environmental conditions up to IP42

INSTALLATION
The unit is wall mounted with a lockable hinged front door. Connection for the Front Fascia to the motherboards are via pluggable ribbon cables.
The front door can be removed for installation by removing the screws fixing the hinged door to the back box.

FIXING OF ENCLOSURE
The back box is hinged to the front door on the lefthand side. The top of the box has 20mm diameter knockouts. The unit is fixed to the wall via 4 off dished fixing holes located in the corners. The mains supply entry is preferred to be located at the last knockout on the righthand side.

POWER SUPPLY CONNECTIONS
The internal power supply requires the following connections-
1) 230v AC supply to the power supply mains terminals : 2) 24v DC standby Sealed Lead Acid Battery to the connection leads provided

INPUT CHANNEL CONNECTIONS
Each channel input has two Terminals to which the monitored circuit is connected. The –VE input terminal is common to all inputs.
For N/C inputs move the appropriate selector switch position to the ON position

COMMON ALARM AUXILIARY OUTPUTS
Common alarm Auxiliary relays outputs are provided for the Various signals being monitored (see Wiring Schematic) and are located on the Main Motherboard. Each can be either N/O or N/C depending upon the appropriate Jumper setting.

COMMON FAULT AUXILIARY
One set of Fault contacts (either N/C or N/O depending upon Jumper setting) are provided and are located on the Main motherboard. These contacts will operate on any fault condition including a supply fault. This contact is failsafe (the fault relay is normally energised when the panel has no faults) and the Auxiliary contact notation shown is for the relay in its normal mode.

CHANNEL OPTO ISOLATED OUTPUTS
A N/O Opto-Isolated output is provided for each Channel input. These are located on the Output Interface card mounted above the channel input Motherboard. Each channel has two terminals " A " or " B " and depending upon the Jumper setting each signal can be configured for an isolated output, Switched   +VE or Switched -VE output. The outputs will return to their normal state when the panel is Reset.

CHANNEL RELAY AUXILIARY (WHEN FITTED)
The Opto-Isolated Interface card can be replaced with a Relay Auxiliary Output Card. Each input channel has two terminals to give either a N/O Or N/C output depending upon the Jumper Position selected. The contacts will return to their normal position when the panel is Reset.

COMMISSIONING -   IMPORTANT NOTE – CABLES SHOULD BE MEGGERED BEFORE ANY CONNECTIONS ARE MADE

SUPPLY CONNECTIONS
1.1) Ensure all the EOL resistors are fitted and the input selector switch positions are set to N/O (no channel input cables connected)
1.2) With the Control Panel fixed in its location and all internal/fascia cables reconnected, connect the 230v AC Supply to the power supply mains terminals. Ensure that the other cables are not yet connected. Do not touch the printed circuit boards inside the panel.
1.3) Switch on the mains supply and check the following: - the Facia Fault LED is illuminated, the Internal buzzer pulse sounds, and the Internal Supply Fault LED is illuminated. The Power Supply Battery Fault LED will be illuminated.
Press the " Internal Buzzer Silence" switch – the buzzer will silence.
1.4) If any other conditions are indicated, check that the Input Select Switches are in their correct position
1.5) Connect the 24v DC Standby battery and check the following: - the Facia Supply Healthy LED is illuminated, the Facia Fault LED is extinguished, Internal Supply Fault LED is extinguished, the internal buzzer stops. Under normal condition the Green Fault Relay LED will now be illuminated
1.6) Switch off the 230v Supply and check the following: - the Facia Fault LED is illuminated, the Internal buzzer pulse sounds, and the Internal Supply LED is ON. The Power Supply Charger Fault LED will be illuminated.
Reconnect the 240v Supply – The control panel will return to its Normal mode

CHANNEL INPUT CONNECTIONS
2.1) Connect channel 1 Input with End of Line and Firing resistors as shown in the wiring schematic. Set Input selector switch to ON if input Is a N/C signal. Check that all Valve Signal inputs have the Green Device status LED illuminated
2.2) Disconnect Channel 1 input: – Channel 1 Facia Fault LED should illuminate and the Internal buzzer pulse sounds. The Internal Green Fault LED should extinguish. Reconnect Channel 1: – The control panel will return to is Normal mode
2.3)   Short between Channel 1 Input terminals and check the following – Channel 1 Facia Fault LED is flashing and the Internal buzzer pulse sounds. The internal Green Fault LED should extinguish. Remove the Short between Zone 1 Terminals – The control panel will return to its Normal mode
2.4)   Operate Channel 1 contact into Alarm condition, check the following – Channel 1 Facia Alarm LED's are illuminated, the internal Alarm Buzzer sounds, the appropriate Common Relay LED is illuminated. The internal Sounder Relay LED is illuminated. For Valve Signals Green LED should extinguish and the Alarm LED should illuminate.
2.5)   Depress the " Alarm Accept " switch, the internal buzzer will silence and the " Alarm Accept " LED will illuminate. The Sounder relay LED will extinguish. Depress the System Reset button (Alarm condition has been removed) – The control panel will return to Normal Mode
2.6)   Repeat 2.1) to 2.5) for all other Channel inputs used
2.7) Channel Isolate – With any Channel isolate switch in the ON position the appropriate Facia Fault LED will "SLOW FLASH " and the Panel will not respond to any external Alarm or Fault conditions

MONITORED ALARM SOUNDER OUTPUT
3.1) Disconnected the monitoring resistor – Check that Facia Fault LED flashes, Internal buzzer pulse sounds, Internal Sounder Fault LED Illuminates. The Green Fault Relay LED is extinguished. Reconnect monitoring resistor; panel will return to normal mode
3.2) Short Circuit the monitoring resistor – Check that Facia Fault LED flashes, Internal buzzer pulse sounds, Internal Sounder Fault LED Flashes and the Green Fault Relay LED is extinguished. Reconnect monitoring resistor; panel will return to normal mode

AUXILIARY CONNECTIONS
4.1) Connect all External auxiliary outputs and check for correct operation
4.2) To Isolate external auxiliary outputs during routine testing Press "Auxiliary Isolate" switch. Auxiliary Isolated LED will illuminate
To return Auxiliary relay operation to Normal depress Auxiliary Isolate Switch again

LAMP TEST
To test all facia LED's and the internal buzzer, Depress the Lamp Test button, all external and Internal LED's (except the PSU LED's)
will illuminate and the buzzer will sound. Release the button – the panel will return to its normal mode

INTERNAL BUZZER ISOLATE SWITCH (*engineer's use only*)
The internal buzzer can be Isolated by moving the DIL switch position 2 to the OFF position. This switch is located on the main motherboard

MASTER ISOLATE SWITCH (*engineer's use only*)
The Panel has a "HARD "reset switch. Move the DIL switch position 1 to the OFF position. This switch must be returned to the ON position for the panel to be operationally This switch is located on the main motherboard

6000SP - WIRING SCHEMATIC

230A AC INPUT

L N E

POWER SUPPLY

BATT | 24V O/P | 24V O/P | FAULT AUX
+ - | + F | + - |

- 24V DC BATTERY +

RED
BLACK

OUTPUT CONNECTIONS :

ISOLATED OUPUTS :- A +VE : B -VE
JUMPER +VE :- A = COM , B = SW+VE
JUMPER -VE : B =COM , A = SW -VE
(NOTE : ONLY ONE JUMPER PER OUTPUT)

INPUT CHANNEL OUTPUTS
(OUTPUT RATING :- 50mAMP @ 50 V DC)

1 2 3 4 5 6 7 8
A B | A B | A B | A B | A B | A B | A B | A B

NO JUMPER - ISOLATED OUTPUT
-VE JUMPER SETTING
+VE JUMPER SETTING

8 WAY OPTO ISOL OUTPUT BOARD

CONNECTOR

FIT LOOM CONNECTOR TO MOTHERBOARD CONNECTOR

OUTPUT CARD PUSH FITTED ONTO PLASTIC SPACERS ON MOTHERBOARD

OPTIONAL RELAY OUTPUT CARD - IF FITTED

CHANNEL RELAY OUTUTS
1 2 3 4 5 6 7 8

1 | 3 | 6 | 8
2 | 4 | 5 | 7

A = N/O
B = N/C

JUMPER " A " FOR N/O
JUMPER " B " FOR N/C

END OF LINE RESISTOR
FIRING RESISTOR
SET N/C SELECTOR SWITCH TO "ON"

4K7
470R
N/C

4K7
470R
N/O

1
2

-VE COMMON TO ALL INPUTS

EOL 4K7 FITTED FOR UNUSED INPUTS

1 2 3 4 5 6 7 8
+ - per input

INPUT MODE SELECT

N/C INPUTS / ISOL INPUTS
5 6 7 8 / 1 2 3 4

TO ISOL INPUT MOVE SELECTOR SWITCH TO ON

COMMON RELAY OUTPUT SECTION
5 6 7 8
VALVE FIRE PLANT

COMMON RELAY OUTPUT SECTION
1 2 3 4
VALVE FIRE PLANT

FIT JUMPER FOR APPROPRIATE OUTPUT ****

24V DC
IN / OUT
+ - / + -

OUT

SIGNAL O/P CONNECTION
FIT JUMPER FOR N/O OUTPUT ISOLATE

IN

FRONT CONNECTOR

6000SP 8 WAY INPUT MOTHERBOARD

4K7 EOL RESISTOR
POLARISED SOUNDER
+ -

RESET
ACCEPT

FAULT REF +VE

AUXILIARY OUTPUTS
(EITHER N/O OR N/C)

COM FAULT
COM PLANT
COM FIRE
COM VALVE
COM ALARM

24V DC AUX
+ - / + -

FAULT RELAY NORMALLY ENERGISED

SNR RELAY

BUZZER

NORMALLY ON

FAULT / PLANT / FIRE / VALVE
N/O N/C

FAULT RELAY
PLANT RELAY
FIRE RELAY
VALVE RELAY
COM RELAY

PLANT
FIRE
VALVE

BUZZER ON/OFF
MASTER RESET

ON OFF

SUPPLY FLT
CHARGER = CONT
AUX 24V = PULSE

SOUNDER FLT
O/C = CONT
S/C = PULSE

24V DC
IN / OUT
24V +VE 0V / 24V +VE 0V
+ - / + -

FAULT +VE
F
+VE FLT I/P

FIT JUMPERS FOR EITHER N/O OR N/C OPERATION

JUMPERS FITTED FOR COMMON RELAY OPERATION

FRONT CONNECTOR

6000SP MAIN MOTHERBOARD

**** NOTE :
JUMPERS ARE ALREADY FITTED AS REQUIRED AT THE FACTORY