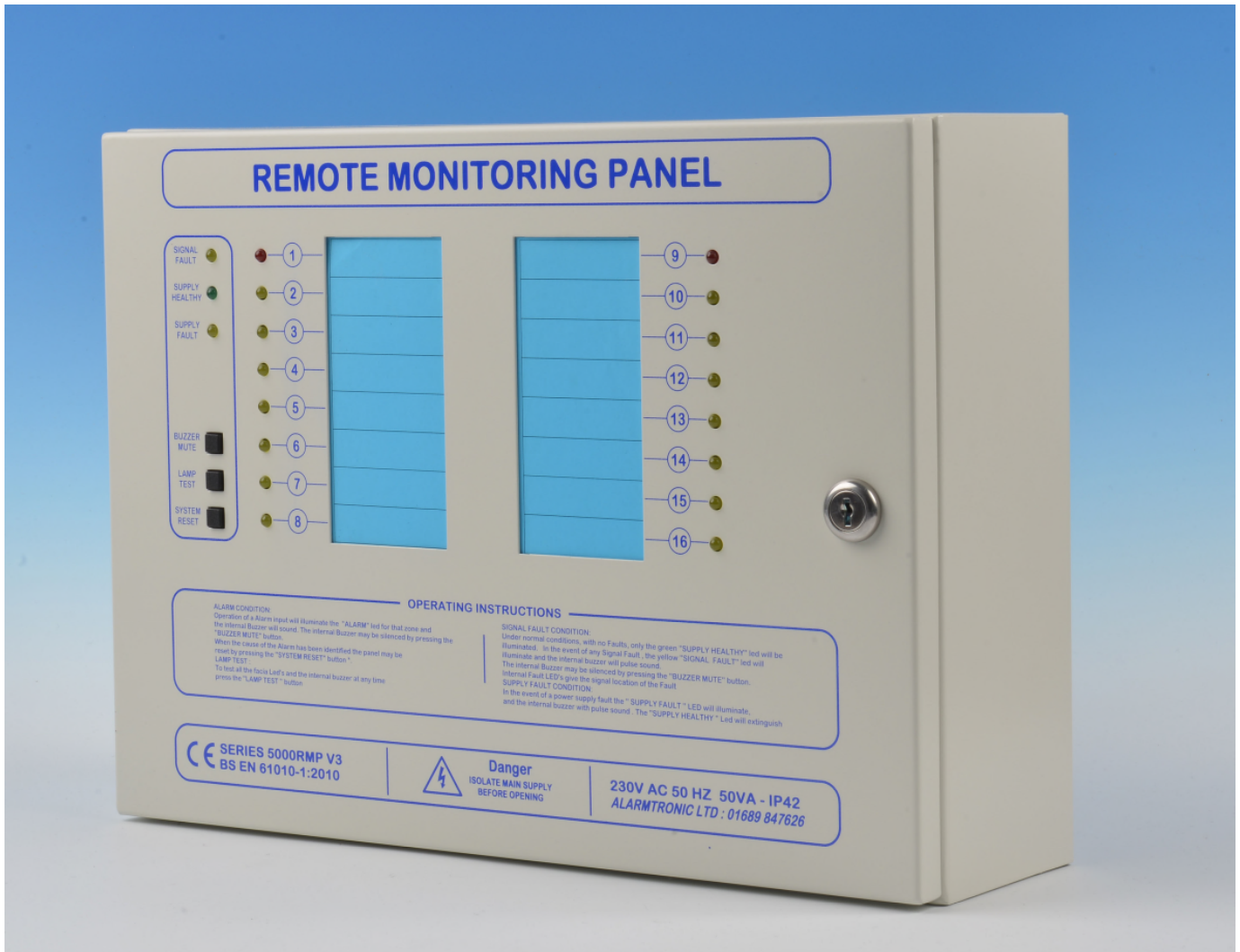**ALARMTRONIC** LTD

OERATING AND INSTALLATION
INSTRUCTIONS FOR THE SERIES 5000RMP – V3
REMOTE ALARM MONITORING PANEL

Complies with BS EN 61010-1:2010
Suitable for use on BS EN 12845/LPC systems

CONTENTS

NOTE – Any details with reference to special modifications to the control panel
      Will be located at the end of this manual.

INTRODUCTION

The Series 5000RMP has been designed for the monitoring the "state "of Alarm or Fault contacts normally required by BS EN 12845:2004 + A2: 2009 for sprinkler pumps and other associated equipment
Available in either 8, 16, 24 or 32 channel inputs, each version has an internal power supply and standby Sealed Lead Battery.
The fascia is equipped with high intensity LED's, System control push switches. Concise user Operation Instructions are screen printed onto the fascia. Each control panel can be surface or flush (via bezel) wall mounted. The Signal inputs can be individual selected for either normally Open or Closed. Outputs are Provided for 2 Alarm relays (1 CHO per relay) and Common Fault (1 set failsafe). Each input can be selected To operated either relay, both relays or no relay operation. A relay option allows for each channel to have clean contact output (N/O or N/C selected by internal jumpers)

CONSTRUCTION

The cabinet enclosure and front fascia are constructed from sheet steel and finished in Grey White (Standard). The main motherboards and the power supply are mounted at the rear of the enclosure. The front panel fascia display PCB's are connected to the main motherboards by pluggable IDT connection cables. The optional Relay output card fits onto spacers located on the motherboard together with an interconnecting loom.
All external connections are by means of screw terminals fitted to the main motherboards capable of accepting Cables up to 2.5mm^2. Knockout cable entries are provided at the top of the panel.

METHOD OF OPERATION

USER WARNING

The equipment operates from 230v AC Mains.
Only authorised and qualified personnel should have access to the internals of the panel.

PANEL OPERATION

NORMAL CONDITION

The Control panel will normally be in its quiescent mode with the Green "Supply Healthy" LED illuminated.

ALARM CONDITION

In the event of any channel Alarm operation the following functions will occur –
   a) The appropriate Channel LED will illuminate
   b) The internal buzzer will sound continuously
   c) The selected Alarm relay will operate
   d) The appropriate output relay (when fitted) will operate

ALARM SILENCING
The buzzer can be silenced by operating the "Buzzer Mute" button momentary. Should a second Channel go into Alarm condition whilst the panel is its silenced mode the buzzer will automatically resound.

ALARM RESET
Once the cause of the alarm has been identified and the condition removed, the panel can be restored to its normal mode by operating the "System Reset "button momentary.

FAULT CONDITION

In the event of a fault occurring within the Remote monitoring system the following functions will occur -
   a) The appropriate Front Display Fault Yellow LED will illuminate
   b) The Internal Buzzer will pulse Sound
   c) The appropriate internal fault LED will illuminate
   d) 1 set of Common Fault Volt free contacts will change state

FAULT RESET
The Fault condition will automatically reset when the fault has been cleared.

FRONT FASCIA INDICATIONS

The following front fascia indicators are provided to give the following functions:
CHANNEL ALARM
This indicates which Channel is in Alarm by either a Red or Yellow LED
SIGNAL LINE FAULT
This indicates a Channel has a Line fault by a Yellow LED
(Each individual channel input is monitored by an "End of Line "resistor)
SUPPLY HEALTHY
Under normal conditions this indicator is normally illuminated (Green)
SUPPLY FAULT
In the event of the following supply faults – Mains failure, Charger failure or Battery disconnection the Supply Fault LED will illuminate (Yellow). The Supply Healthy indication will extinguish

FRONT PANEL CONTROLS

The following front fascia controls are provided to give the following functions:

BUZZER MUTE
Operating this push button will silence the internal buzzer

LAMP TEST
Operating this push button will test all Front LED's together with the internal buzzer

SYSTEM RESET
Operating this push button will reset the control panel to normal.

INTERNAL LED INDICATORS

There are a number of LED's fitted to the internal PCB's to give the more detail of the status of the system

SIGNAL LINE FAULT
A Yellow LED is provided for each channel input to show a Line fault

For an O/C fault the appropriate Yellow LED will illuminate

For an S/C fault the appropriate Yellow LED will flash

FAULT RELAY
Under normal conditions the Green Fault relay LED will be illuminated

On any fault the LED will extinguish

POWER SUPPLY FAULT
A Green LED is provide to show that the Mains/Charger supply is healthy (normally illuminated)

A Yellow LED s provide to indicate a Battery Fault

CHANNEL ALARM OUTPUT RELAY (OPTIONAL)
A Yellow LED is provided to show that which channel output relay has operated

INTERNAL ISOLATOR SWITCH

An internal 2 way switch (located at the bottom of the Main Motherboard) provides the following functions

Switch position 1 – Buzzer OFF

Switch position 2 – Relay operation OFF

For OFF operation the switch position must be in the OFF position

INTERNAL SELECTOR SWITCHES

1) N/C Alarm : Any input can be selected to be "N/C input "
   Move the appropriate channel selector switch to the "on" position

2) Non Monitoring Input : Any input can be selected to be unmonitored – IE no external
   Resistors need to be fitted. Move the appropriate channel sector switch to the "on" position
   And press "Reset". The factory default setting is for O/C Alarm input. For the input to be N/C
   See "N/C non monitoring Setup" in the commissioning section

3) Alarm Relay operation : Any input can be selected to operate the two Common relays
   Each input has 2 selector switch positions - "A" and "B". Moving the selector switch position to
   "ON" will enable the relay operation for that Input.

TECHNICAL SPECIFICATION
The following information applies only to a standard control panel

POWER SUPPLY
AC Supply input	……	230v AC 50/60 HZ 100VA Maximum
Nominal supply voltage	……	12v DC
Battery float voltage	……	13.75v DC
Power supply type	……	Constant Voltage with current limit back and thermal shutdown

PANEL POWER CONSUMPTION
Quiescent condition	……	8 channel version - 30ma
		16 channel version - 40ma
		24 channel version - 50ma
		32 channel version - 60ma
Alarm condition (one Alarm)	……	8 channel version - 60ma
With relay card option		16 channel version - 70ma
		24 channel version - 80ma
		32 channel version - 90ma

CHANNEL INPUT CIRCUITS
Input Type	……	Either N/O or N/C selected Selector switch
End of line device	……	5K6 Resistor
Alarm monitoring Resistor	……	5K6 Resistor
Monitoring	……	Both open & short circuit with internal LED per zone

AUXILIARY OUTPUTS
Common Alarm Relays	……	Two relays each with CHO rated @ 1 amps 50v DC
Common Fault	……	1 set CHO rated @ 1 amps 50v DC
		(Normally energised – failsafe)
Channel Alarm (Optional)	……	Either N/O or N/C @ 1 amps 50v DC
		(Selected via internal Jumper link per way)

CABINET ENCLOSURE
Back Box	……	18 Gauge Sheet Steel, finished Grey White to RAL 9002
Front Fascia	……	18 Gauge Sheet Steel hinged front door with Cam Lock
		(2 keys supplied) finished Grey White to RAL 9002
		Front Screen printing in Blue
Channel Label	......	Removable Blank label to legend as required
		Word format template available from web site

LEGEND LABEL REMOVABLE
The Legend label is removable after first opening the Control panel door.
The White label will slide upwards from its location. The Channel text can then be added as required.
To replace slide in the top slot between the Blue transparent plastic and the slot
A Word format template is available from our Web site as a download to enable pre legend prior to Installation.

CHANNEL LED COLOUR CHANGE
All channel Facia LED indications are fitted to plug-in sockets to enable on site change of Colour to Suit the installation. One Red LED is fitted for every 8 channel way Facia, the rest being Yellow.
(The LED's fitted are Standard 5mm T-$1^3/_4$ Round Diffused High Brightness)
To change a LED colour the panel MUST BE POWERED DOWN.
1) The Front facia PCB's are held onto the front door by White " Snap Rivets "
   (4 for the Main facia PCB and 2 for the extra facia PCB's)
2) Remove the Top of the snap rivets this will release the PCB from the front door
3) Remove the Appropriate LED together with its spacer
4) Replace with the LED colour required together with its spacer
   The common cathode connection (-VE) is located to the Top pin on the socket
5) Replace the PCB together with the snap rivets

INSTALLATION

The unit is wall mounted with a lockable hinged front door. Connection from the Front Facia to the Motherboards are via pluggable ribbon cables. The front door can be removed for ease of installation By removing the screws (LHS) fixing the hinged door to the back box.

FIXING OF ENCLOSURE

The back box is hinged to the front door on the left hand 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 right hand side.

TERMINATION TO THE CONTROL PANEL

The connections to the control panel are all via screwed terminals located on the motherboards.
The terminals will accept up to 2.5mm² cables.

MAIN MOTHERBOARD CONNECTIONS

TERMINAL	LEGEND	FUNCTION
TB1-1	1	CHANNEL 1 INPUT
TB1-2	1	CHANNEL 1 INPUT (Common –VE)
TB1-3	2	CHANNEL 2 INPUT
TB1-4	2	CHANNEL 2 INPUT (Common –VE)
TB1-5	3	CHANNEL 3 INPUT
TB1-6	3	CHANNEL 3 INPUT (Common –VE)
TB1-7	4	CHANNEL 4 INPUT
TB1-8	4	CHANNEL 4 INPUT (Common –VE)
TB2-1	5	CHANNEL 5 INPUT
TB2-2	5	CHANNEL 5 INPUT (Common –VE)
TB2-3	6	CHANNEL 6 INPUT
TB2-4	6	CHANNEL 6 INPUT (Common –VE)
TB2-5	7	CHANNEL 7 INPUT (Common –VE)
TB2-6	7	CHANNEL 7 INPUT (Common –VE)
TB2-7	8	CHANNEL 8 INPUT
TB2-8	8	CHANNEL 8 INPUT (Common –VE)
TB3-1	NC	ALARM RELAY " A " – N/C
TB3-2	C	ALARM RELAY " A " – COMMON
TB3-3	NO	ALARM RELAY " A " – N/O
TB3-4	NC	ALARM RELAY " B " – N/C
TB3-5	C	ALARM RELAY " B " – COMMON
TB3-6	NC	ALARM RELAY " B " – N/O
TB3-7	NC	COM FAULT AUX – N/C
TB3-8	C	COM FAULT AUX – COMMON
TB3-9	NO	COM FAULT AUX – N/O

SLAVE MOTHERBOARD CONNECTIONS

TB1-1	1	CHANNEL 9 (or 17/25) INPUT
TB1-2	1	CHANNEL 9 (or 17/25) INPUT (Common –VE)
TB1-3	2	CHANNEL 10 (or 18/26) INPUT
TB1-4	2	CHANNEL 10 (or 18/26) INPUT (Common –VE)
TB1-5	3	CHANNEL 11 (or 19/27) INPUT
TB1-6	3	CHANNEL 11 (or 19/27) INPUT (Common –VE)
TB1-7	4	CHANNEL 12 (or 20/28) INPUT
TB1-8	4	CHANNEL 12 (or 20/28) INPUT (Common –VE)
TB2-1	5	CHANNEL 13 (or 21/29) INPUT
TB2-2	5	CHANNEL 13 (or 21/29) INPUT (Common –VE)
TB2-3	6	CHANNEL 14 (or 22/30) INPUT
TB2-4	6	CHANNEL 14 (or 22/30) INPUT (Common –VE)
TB2-5	7	CHANNEL 15 (or 23/31) INPUT
TB2-6	7	CHANNEL 15 (or 23/31) INPUT (Common –VE)
TB2-7	8	CHANNEL 16 (or 24/32) INPUT
TB2-8	8	CHANNEL 16 (or 24/32) INPUT (Common –VE)

NOTE :
Any channel not used MUST have the "Input mode" selector switched to "Non Monitoring" ON

CHANNEL RELAY INTERFACE BOARD CONNECTIONS

TB1-1	1	CHANNEL 1 - N/O or N/C – JUMPER SETTING
TB1-2	1	CHANNEL 1 - COMMON
TB1-3	2	CHANNEL 2 – COMMON
TB1-4	2	CHANNEL 2 - N/O or N/C – JUMPER SETTING
TB1-5	3	CHANNEL 3 – COMMON
TB1-6	3	CHANNEL 3 - N/O or N/C – JUMPER SETTING
TB1-7	4	CHANNEL 4 – COMMON
TB1-8	4	CHANNEL 4 - N/O or N/C – JUMPER SETTING
TB1-9	5	CHANNEL 5 - N/O or N/C – JUMPER SETTING
TB1-10	5	CHANNEL 5 – COMMON
TB1-11	6	CHANNEL 6 - N/O or N/C – JUMPER SETTING
TB1-12	6	CHANNEL 6 – COMMON
TB1-13	7	CHANNEL 7 – COMMON
TB1-14	7	CHANNEL 7 - N/O or N/C – JUMPER SETTING
TB1-15	8	CHANNEL 8 – COMMON
TB1-16	8	CHANNEL 8 - N/O or N/C – JUMPER SETTING

Note - To change the type of output (N/O or N/C) move the appropriate Jumper
      For N/O Jumper position is "A", for N/C Jumper position is "B"

POWER SUPPLY CONNECTIONS
The internal power supply requires the following connections-
1) 240v AC supply to the power supply mains terminals
2) 12v DC standby Sealed Lead Acid Battery to the connection leads provided

FUSES AND RATINGS
The following fuses are fitted to the panel.

FUSE FUNCTION	RATING
MAINS INPUT - Ceramic Type 20mm x 5mm	1.00 Amp HRC
BATTERY OUTPUT - Thermal Type	0.5 Amp

COMMISSIONING
IMPORTANT NOTES: CABLES SHOULD BE MEGGERED BEFORE ANY CONNECTIONS ARE MADE
      : INPUT SELECTOR SWITCH POSITIONS TO BE "UNMONITORED ON "

SUPPLY CONNECTIONS
1.1) With the Control Panel fixed in its location and all internal/facia cables reconnected, connect
The 230v AC Supply to the power supply mains terminals. Ensure that other cables not yet
Connected are not allowed to touch the printed circuit boards inside the panel.
1.2) Switch on the mains supply and check the following-
    a) The Facia Supply Fault LED is illuminated
    b) The Internal buzzer pulse sounds
    c) The Internal Battery Fault LED (Power Supply) is illuminated
1.3) If any other conditions are indicated, check that all end of line Resistors connected / Channel
Inputs are in their normal status. Ensure Input Selector switches are in their correct position
1.4) Connect the 12v DC Standby battery and check the following –
    a) The Facia Supply Healthy LED is illuminated
    b) The Facia Supply Fault LED is extinguished
    c) All Internal Fault LED's are extinguished and the internal buzzer stops
    d) Internal Supply ON LED is illuminated on the Power Supply
    e) The Green Fault relay LED is illuminated
1.5) Switch off the 240v Supply and check the following -
    a) The Facia Supply Fault LED is illuminated
    b) The Internal buzzer pulse sounds
    c) The Internal power supply ON LED is extinguished
    d) The Internal Green Fault relay LED is extinguished
1.6) Reconnect the 240v Supply – The control panel will return to its Normal mode

CHANNEL INPUT CONNECTIONS

Connect channel 1 input with End of Line & Firing Resistor as shown in the Schematic – Move mode Select to OFF (Monitoring Mode) & press Reset. If input to be N/C move Input selector switch to ON Before Reset. Panel will be in its normal mode.

1.1) Disconnect Channel 1 End of Line and check the following –
- a) Common Signal Facia Fault LED is illuminated
- b) The Internal buzzer pulse sounds
- c) The Internal Channel 1 Fault LED is illuminated

1.2) Reconnect Zone 1 End of Line – The control panel will return to its Normal mode

1.3) Short between Channel 1 Input terminals and check the following –
- a) Common Signal Facia Fault LED is illuminated
- b) The Internal buzzer pulse sounds
- c) The Internal Channel 1 Fault LED pulses

1.4) Remove the Short between Zone 1 Terminals – The control panel will return to its Normal mode

1.5) Operate the Channel contact into Alarm condition, check the following –
- a) Channel 1 Facia Alarm LED is illuminated
- b) The internal Alarm Buzzer sounds
- c) The appropriate Alarm Relay has operated (Depends upon Selector switch settings)
- d) The appropriate Channel auxiliary relay LED is illuminated (when fitted)

1.6) Depress the " Buzzer Mute " switch , the internal buzzer will silence

1.7) Depress the System Reset button – The control panel will return to Normal Mode

1.8) Repeat 1.1) to 1.7) for all other Channel inputs used

AUXILIARY CONNECTIONS

1.1) Connect all External auxiliary outputs and check for correct operation

1.2) To Isolate external auxiliary outputs (Alarm only) during routine testing move the internal Isolate Switch 2 to the OFF position

LAMP TEST

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

UNMONITORED N/C INPUT SETUP

The factory default setting for unmonitored inputs is N/O (closing for alarm).

To change to an N/C (opening for alarm) unmonitored input the following procedure must be Carried out:-

1.1) The appropriate input(s) channel must be fitted with N/C link or input

1.2) Press "Reset & Lamp Test" switches at the same time

1.3) Release the "Reset" switch

1.4) Release the " Lamp Test " switch

1.5) The appropriate unmonitored Alarm LED's will illuminate (including N/O inputs)

1.6) Each "Alarm" LED will then extinguish in turn. When all "Alarm" LED's are off the input mode Has been set

ENGINEER'S FACILITES

The following facilities should only be used by Commission and Service Engineer's

BUZZER ISOLATE SWITCH

The internal buzzer can be disconnected by moving the DIL switch position 1 to the OFF position.
The switch is located on the main motherboard

RELAY ISOLATE SWITCH

All Alarm relays can be isolated from operating by moving the DIL switch position 2 to the OFF position.
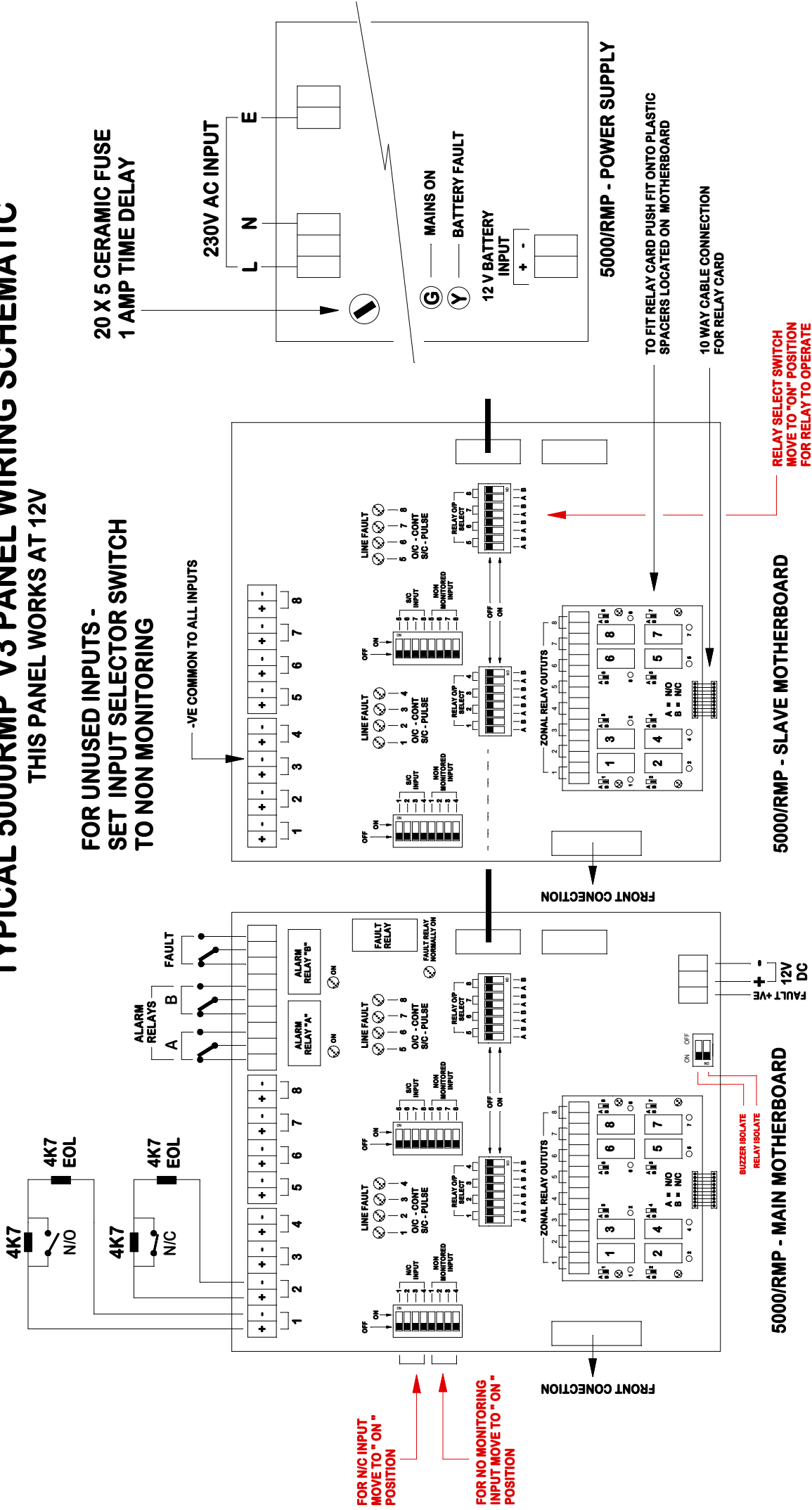The switch is located on the main motherboard

NOTE – Location of selector switches/ Internal LED's are shown on the typical wiring Schematic

TYPICAL 5000RMP V3 PANEL WIRING SCHEMATIC

THIS PANEL WORKS AT 12V

FOR UNUSED INPUTS -
SET INPUT SELECTOR SWITCH
TO NON MONITORING

20 X 5 CERAMIC FUSE
1 AMP TIME DELAY

230V AC INPUT

L N E

G — MAINS ON
Y — BATTERY FAULT

12 V BATTERY
INPUT   + −

5000/RMP - POWER SUPPLY

TO FIT RELAY CARD PUSH FIT ONTO PLASTIC
SPACERS LOCATED ON MOTHERBOARD

10 WAY CABLE CONNECTION
FOR RELAY CARD

RELAY SELECT SWITCH
MOVE TO "ON" POSITION
FOR RELAY TO OPERATE

DRG REF : 5000RMP-MANUAL SCHEMATIC " C "

-VE COMMON TO ALL INPUTS

1 2 3 4 5 6 7 8

LINE FAULT
5 6 - 7 8
O/C - CONT
S/C - PULSE

RELAY O/P
SELECT

S/C INPUT
NON MONITORED INPUT

LINE FAULT
1 2 3 4
O/C - CONT
S/C - PULSE

RELAY O/P
SELECT

ZONAL RELAY OUTUTS

1 3 6 8
2 4 5 7

A = N/O
B = N/C

FRONT CONECTION

5000/RMP - SLAVE MOTHERBOARD

ALARM RELAYS
A   B   FAULT

ALARM RELAY "A"   ALARM RELAY "B"

FAULT RELAY
FAULT RELAY NORMALLY ON

4K7
N/O   4K7 EOL

4K7
N/C   4K7 EOL

1 2 3 4 5 6 7 8

LINE FAULT
5 6 - 7 8
O/C - CONT
S/C - PULSE

RELAY O/P
SELECT

12V DC
FAULT +VE

S/C INPUT
NON MONITORED INPUT

LINE FAULT
1 2 3 4
O/C - CONT
S/C - PULSE

RELAY O/P
SELECT

ZONAL RELAY OUTUTS

1 3 6 8
2 4 5 7

A = N/O
B = N/C

BUZZER ISOLATE
RELAY ISOLATE

NON MONITORED INPUT

FOR N/C INPUT
MOVE TO " ON "
POSITION

FOR NO MONITORING
INPUT MOVE TO " ON "
POSITION

FRONT CONECTION

5000/RMP - MAIN MOTHERBOARD

NOTE :
THE FACTORY DEFAULT FOR " NON MONITORING " INPUT IS FOR NORMAL O/C INPUTS
FOR NORMAL N/C INPUT SEE " N/C SETUP " DETAILS IN THE GENERAL INSTRUCTIONS