

<b>INSTALLATION INSTRUCTIONS FOR AS1668 5-WAY &amp; 4-WAY FAN CONTROL MODULES</b>
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## INTRODUCTION

These instructions can be used for installing either the AS1668 5 way fan control module, purchased as:

**KT0478 = KIT,AS1668,5 WAY FAN CONTROL MODULE, C/W 2xFRC 2M**

or the 4 way +master control module

**KT0512 = KIT,AS1668,4 WAY FAN CONTROL+MASTER, C/W 2xFRC 2M**

in two different ways. The first method requires an AS1668 pre-punched inner door. These doors can be purchased from Tyco Safety Products under the following order codes:

**FZ9011 = FP,19" RACK,7U DOOR,DRILLED FOR 5 x AS1668 CONTROLS**

**FZ9012 = FP,19" RACK,7U DOOR,DRILLED FOR 15 x AS1668 CONTROLS**

**FZ9036 = FP,19" RACK,2U DOOR,DRILLED FOR 5 x AS1668 CONTROLS**

The second method assumes a blank panel with no holes drilled.

## LABELLING

Labelling of each control is via a slip-in card inserted into the pocket below each switch. A set of blank labels (LB0636) is included in each kit, the required text can be typed on to the cards. Additionally, LB0636 is also available from the website in Microsoft Word Document form for printing onto paper the names of the zones required. The labelling area for each control can contain up two lines of 5mm text, 15 characters long using the same font as that used on the front panel label.

## EQUIPMENT REQUIRED

### Installation onto pre-punched door:

No other equipment required.

### Installation onto blank panel surface:

Hammer and centre punch.

Electric drill and sharp drill bits, sizes 5.0mm and 10mm.

(6.5mm and 12.0mm drills will also be needed for common controls mounting)

Pencil, rubber, and ruler (for marking out mounting).

## INSTALLATION PROCEDURE

### Installation onto blank panel:

NOTE - If using pre-punched door see following Common Installation section.

1. Remove the front panel label from the kit. With masking tape, tape the labels onto the panel surface in the positions required. Note that the PCB hangs down under the label.
2. Centre punch the hole centres of the labels (i.e. 3 off for LED mounting and 1 off for switch mounting, per AS1668 control).
3. Remove the labels from the mounting surface.
4. Cleanly drill the LED (5.0mm) and switch (10mm) holes in the panel.

### Common Installation Procedure (irrespective of mounting surface):

1. Peel the backing from the adhesive front panel label and apply to the door surface (align the 'holes' of the label with the door holes). NB: Make sure that the label is square and free of bubbles before smoothing it onto the surface.
3. Select the required LED drive on the Fan Control Module:  
For type 3 LED drive cut resistors: R1A, R1B, R1C, R1D, R1E.  
For type 4 LED drive cut resistors: R4A, R4B, R4C, R4D, R4E and diodes: D1A, D1B, D1C, D1D, D1E.  
NOTE: Use an indelible pen to identify which LED drive type the board has been selected for. This identification should be achieved by writing a "TYPE 3" or "TYPE 4" after the screened "1945-14".
4. Mount the rotary switch/module onto the panel:
  - 1) Fit the Fan Control Module to the back of the door, and ensure all switches and LEDs protrude through the holes. Fit the five nuts supplied to the switch threads from the front of the door.  
  
Carefully tighten the switch-nut against the door and label (take care not to scratch the front panel label).
  - 2) Push-fit the 5x black switch knobs over the switch shafts (note that the knob fits in only one position due to a flat on the switch shaft).
  - 3) Place each rotary switch in its centre position then push-fit the coloured switch end-cap into the top of each switch knob. Make sure that the white index line is in line with the line protruding from the "AUTO" position on the panel label. Turn the switch left and right to ensure that the white index line on the end cap aligns with all 3 positions indicated by the door label.

5. Connect the 26 way FRC Looms from the controlling device to the Fan Control Module, so that:
  - 1) The "LED DRIVE" (J3) loom is connected to outputs 1-16 of the IOR/IO-NET or the "Open Collector Outputs" on the MX1 Keyboard/Display Controller.
  - 2) The "FROM IOR/IO-NET SWITCHES"(J1) loom is connected to inputs 1-16 of the IOR/IO-NET. If the controlling device is an MX1 connect the "FROM MX1 SWITCHES" (J40) loom to the "GP Switch Inputs" on the MX1 Keyboard/Display Controller.
  - 3) The "TO NEXT SWITCHES"(J2) loom goes to the "FROM IOR/IO-NET SWITCHES" J1 connector on the next 5 way Fan Control Module (if fitted). Note that MX1 can support only one Fan Control Module.
  
6. Program the IOR / IO-NET to use 3k3 EOL resistors (high current mode).

Refer to the following pages for wiring diagrams.

Figure 1 shows how 2 x IOR or IO-NET controllers can be used to control and sense up to 15 AS1668 controls on 3 Fan Control Modules. The I/O schedule is shown in Table 1. Note the output designators are repeated for each of the 3 Fan control Modules, but the inputs relate to those all available on J1 "FROM IOR / IO-NET SWITCHES" on the first (Switches 1-5) of the 3 modules.

Figure 2 shows how the spare inputs of the IOR / IO-NET Controller can be accessed by connecting a 16 I/O Termination Board (PA0483 or PA0479) to the J2 "TO NEXT SWITCHES" socket on the first (refer Table 2), or second (refer Table 3) Fan Control Module.

Figure 3 shows how the LEDs and Switches on the Fan Control Module can be accessed for controlling / sensing by external equipment. Table 4 shows the signal designators for controlling the LEDs and Table 5 the input designators.

Figure 4 shows the wiring of a 4xAS1668 + Common using the purchased part KT0512.

Note: In the following diagrams and tables the 5 switches are referred to as Switch 1 to 5, whereas the actual switches on the module are labelled SW1A to SW1E.

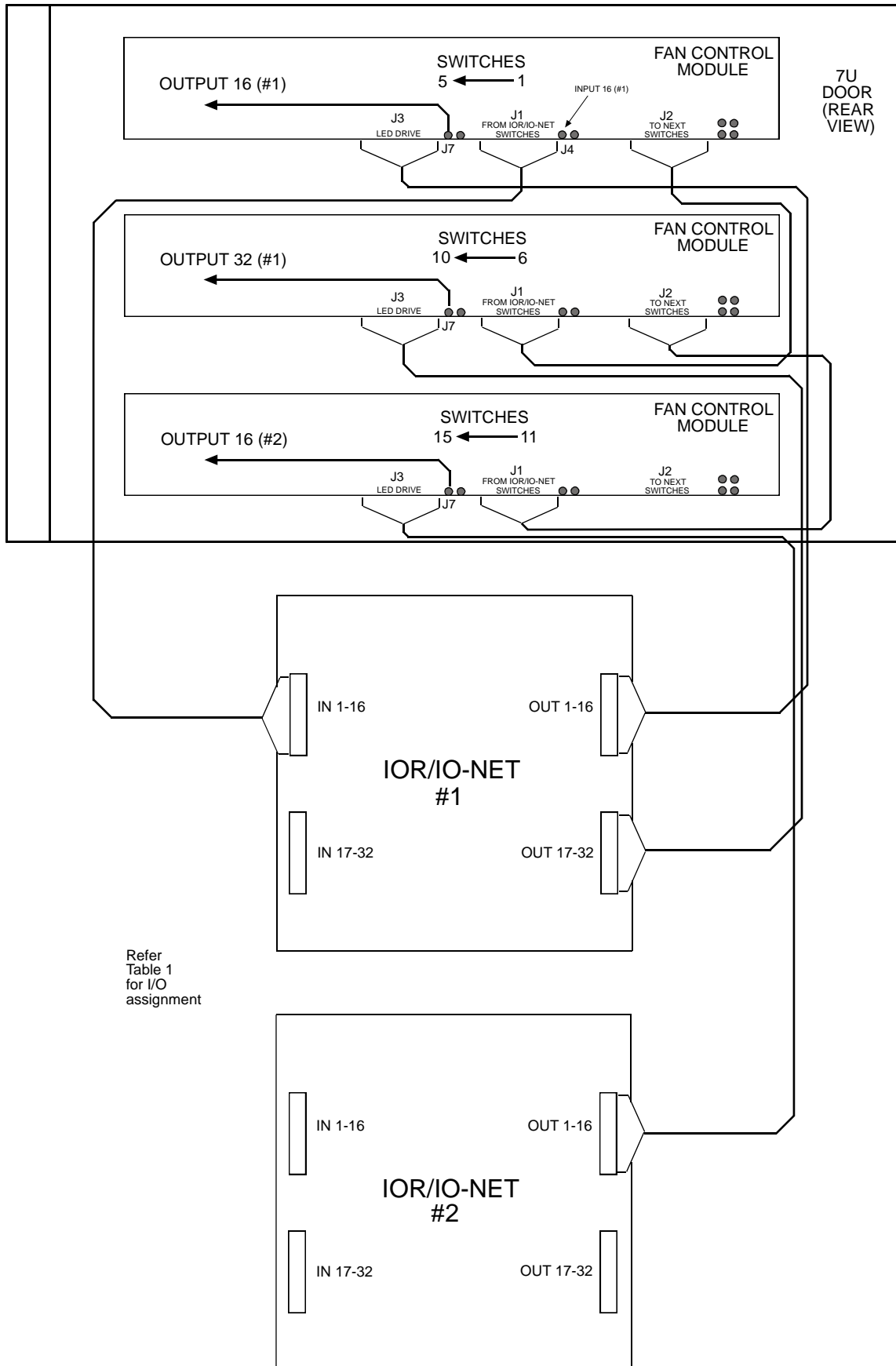


Figure 1  
WIRING IOR / IO-NET TO 3x FAN CONTROL MODULES ON 7U DOOR

Table 1  
INPUT / OUTPUT CONNECTIONS FOR SWITCHES AND LEDS

	I/O LINE	TYPE 3 DESCRIPTION	TYPE 4 DESCRIPTION
D R I V E L E D S	OUT 1	Not used	SWITCH 1, GRN, STOP LED
	OUT 2	SWITCH 1, YEL, FAULT LED	SWITCH 1, YEL, FAULT LED
	OUT 3	SWITCH 1, RED, RUN LED**	SWITCH 1, RED, RUN LED
	OUT 4	Not used	SWITCH 2, GRN, STOP LED
	OUT 5	SWITCH 2, YEL, FAULT LED	SWITCH 2, YEL, FAULT LED
	OUT 6	SWITCH 2, RED, RUN LED**	SWITCH 2, RED, RUN LED
	OUT 7	Not used	SWITCH 3, GRN, STOP LED
	OUT 8	SWITCH 3, YEL, FAULT LED	SWITCH 3, YEL, FAULT LED
	OUT 9	SWITCH 3, RED, RUN LED**	SWITCH 3, RED, RUN LED
	OUT 10	Not used	SWITCH 4, GRN, STOP LED
	OUT 11	SWITCH 4, YEL, FAULT LED	SWITCH 4, YEL, FAULT LED
	OUT 12	SWITCH 4, RED, RUN LED**	SWITCH 4, RED, RUN LED
	OUT 13	Not used	SWITCH 5, GRN, STOP LED
	OUT 14	SWITCH 5, YEL, FAULT LED	SWITCH 5, YEL, FAULT LED
	OUT 15	SWITCH 5, RED, RUN LED**	SWITCH 5, RED, RUN LED
	OUT 16	SPARE	SPARE
F R O M I O - N E T P O R T	IN 1	SWITCH 1, 1ST FAN CTRL MODULE	SWITCH 1, 1ST FAN CTRL MODULE
	IN 2	SWITCH 2, 1ST FAN CTRL MODULE	SWITCH 2, 1ST FAN CTRL MODULE
	IN 3	SWITCH 3, 1ST FAN CTRL MODULE	SWITCH 3, 1ST FAN CTRL MODULE
	IN 4	SWITCH 4, 1ST FAN CTRL MODULE	SWITCH 4, 1ST FAN CTRL MODULE
	IN 5	SWITCH 5, 1ST FAN CTRL MODULE	SWITCH 5, 1ST FAN CTRL MODULE
	IN 6	SWITCH 1, 2ND FAN CTRL MODULE	SWITCH 1, 2ND FAN CTRL MODULE
	IN 7	SWITCH 2, 2ND FAN CTRL MODULE	SWITCH 2, 2ND FAN CTRL MODULE
	IN 8	SWITCH 3, 2ND FAN CTRL MODULE	SWITCH 3, 2ND FAN CTRL MODULE
	IN 9	SWITCH 4, 2ND FAN CTRL MODULE	SWITCH 4, 2ND FAN CTRL MODULE
	IN 10	SWITCH 5, 2ND FAN CTRL MODULE	SWITCH 5, 2ND FAN CTRL MODULE
	IN 11	SWITCH 1, 3RD FAN CTRL MODULE	SWITCH 1, 3RD FAN CTRL MODULE
	IN 12	SWITCH 2, 3RD FAN CTRL MODULE	SWITCH 2, 3RD FAN CTRL MODULE
	IN 13	SWITCH 3, 3RD FAN CTRL MODULE	SWITCH 3, 3RD FAN CTRL MODULE
	IN 14	SWITCH 4, 3RD FAN CTRL MODULE	SWITCH 4, 3RD FAN CTRL MODULE
	IN 15	SWITCH 5, 3RD FAN CTRL MODULE	SWITCH 5, 3RD FAN CTRL MODULE
	IN 16	SPARE	SPARE

\*\*NOTE THAT FOR TYPE 3 CIRCUITS WHEN THE RED LED IS NOT BEING DRIVEN THE GREEN LED IS ON.

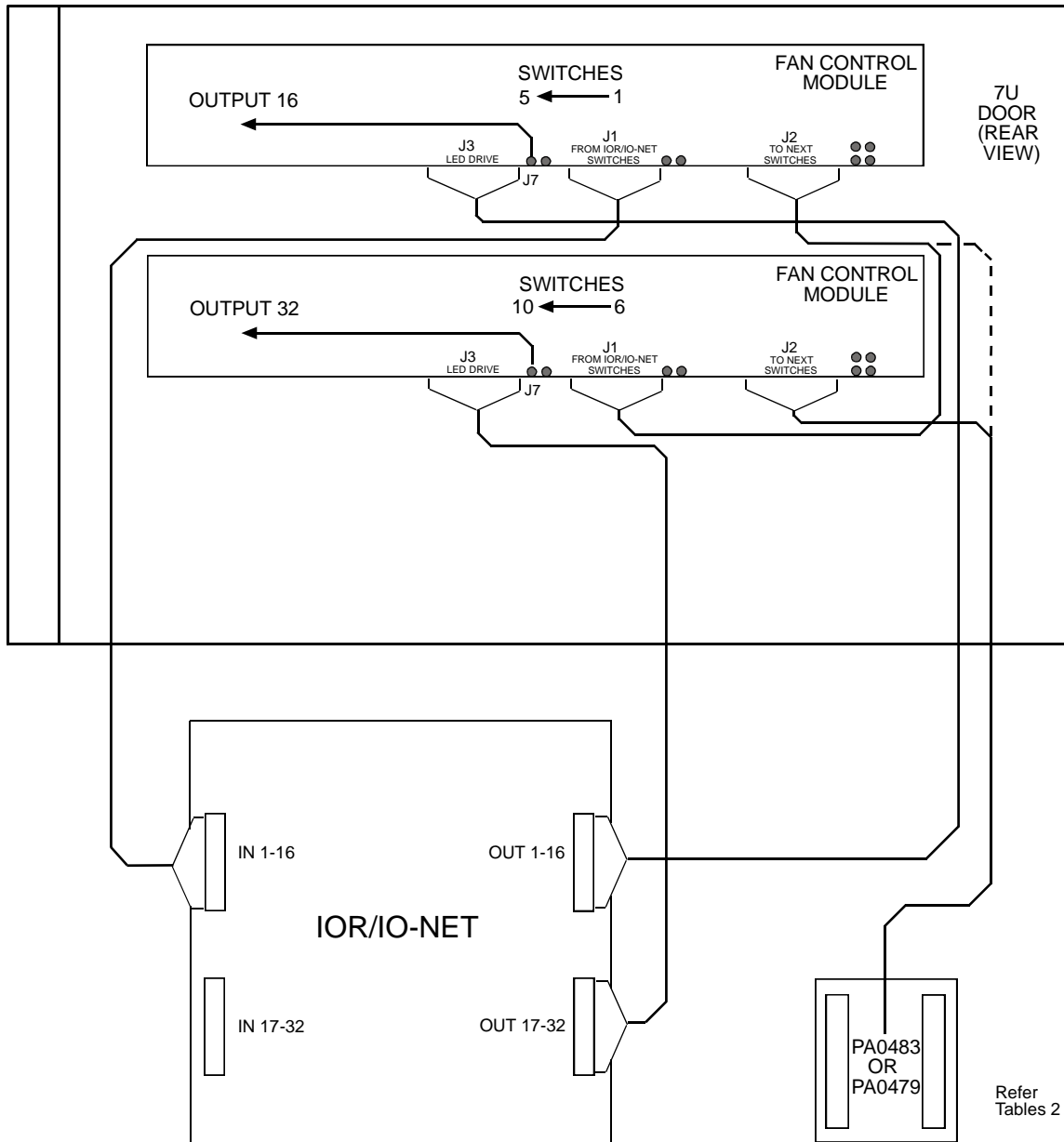


Figure 2  
(5 OR) 10x FAN CONTROLS, ACCESSING SPARE INPUTS

Refer  
Tables 2 & 3.

If a Termination Board is connected to the first Fan Control Module, 10 inputs to the IOR / IO-NET are available:

Table 2

IOR/IO-NET INPUT	TERMINAL BOARD INPUT
IN 6	1
IN 7	2
IN 8	3
IN 9	4
IN 10	5
IN 11	6
IN 12	7
IN 13	8
IN 14	9
IN 15	10

If a termination board connected to the second AS1668 5Way Fan Control Module, 5 inputs to the IOR / IO-NET are available:

Table 3

IOR/IO-NET INPUT	TERMINAL BOARD INPUT
IN 11	1
IN 12	2
IN 13	3
IN 14	4
IN 15	5

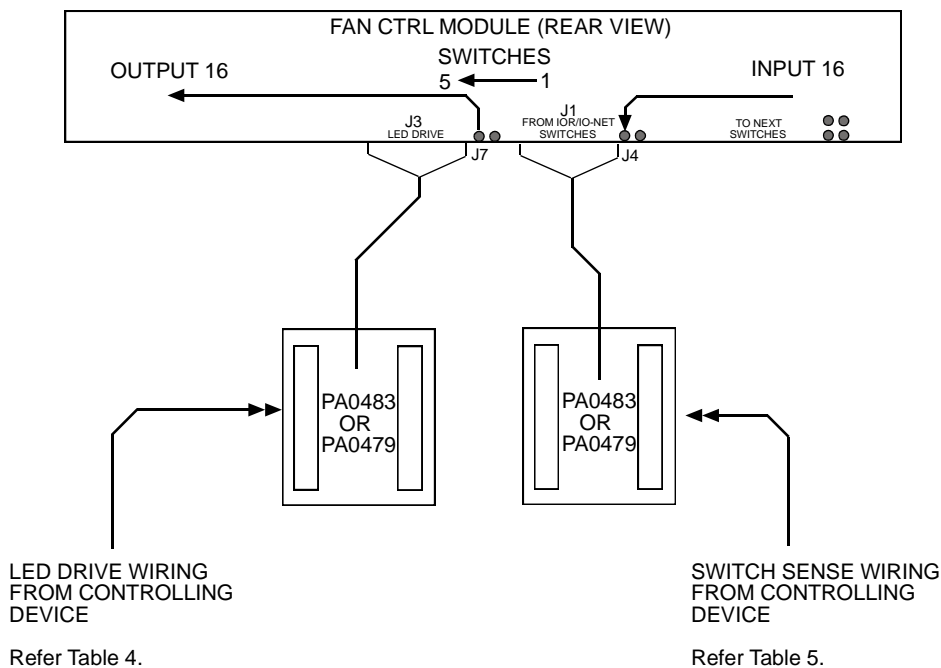


Figure 3  
USING TERMINATION BOARDS TO DRIVE FAN CONTROLS

Table 4  
LED DRIVE WIRING

TERMINAL NUMBER	TYPE 3 DESCRIPTION	TYPE 4 DESCRIPTION
1	Not used	SWITCH 1, GRN, STOP LED
2	SWITCH 1, YEL, FAULT LED	SWITCH 1, YEL, FAULT LED
3	SWITCH 1, RED, RUN LED**	SWITCH 1, RED, RUN LED
4	Not used	SWITCH 2, GRN, STOP LED
5	SWITCH 2, YEL, FAULT LED	SWITCH 2, YEL, FAULT LED
6	SWITCH 2, RED, RUN LED**	SWITCH 2, RED, RUN LED
7	Not used	SWITCH 3, GRN, STOP LED
8	SWITCH 3, YEL, FAULT LED	SWITCH 3, YEL, FAULT LED
9	SWITCH 3, RED, RUN LED**	SWITCH 3, RED, RUN LED
10	Not used	SWITCH 4, GRN, STOP LED
11	SWITCH 4, YEL, FAULT LED	SWITCH 4, YEL, FAULT LED
12	SWITCH 4, RED, RUN LED**	SWITCH 4, RED, RUN LED
13	Not used	SWITCH 5, GRN, STOP LED
14	SWITCH 5, YEL, FAULT LED	SWITCH 5, YEL, FAULT LED
15	SWITCH 5, RED, RUN LED**	SWITCH 5, RED, RUN LED
16	SPARE	SPARE

\*\*NOTE THAT FOR TYPE 3 CIRCUITS WHEN THE RED LED IS NOT BEING DRIVEN THE GREEN LED IS ON.

Table 5  
SWITCH SENSE WIRING

TERMINAL NUMBER	TYPE 3 DESCRIPTION	TYPE 4 DESCRIPTION
1	SWITCH 1	SWITCH 1
2	SWITCH 2	SWITCH 2
3	SWITCH 3	SWITCH 3
4	SWITCH 4	SWITCH 4
5	SWITCH 5	SWITCH 5

\*\*\*NOTE THAT THE END OF LINE RESISTANCE VALUE (EOLA...E) MAY NEED TO BE CHANGED DEPENDING ON THE CONTROL DEVICE BEING USED.



Installation of KT0512 onto a Door:

Firstly, refer to the 'Common Installation Procedure' on page 2 of this manual to install the label, circuit board, switch knobs and switch end caps.

With this done install the panel mount LED and the two push button switches from the front of the door and carefully tighten the switch nuts. Note that the "LAMP TEST" switch has black / blue wires and the "FIRE MODE RESET" switch has black / white wires. Connect the switch and LED wiring to the terminal block provided so the finished wiring resembles the diagram below, when looking at the back of the door.

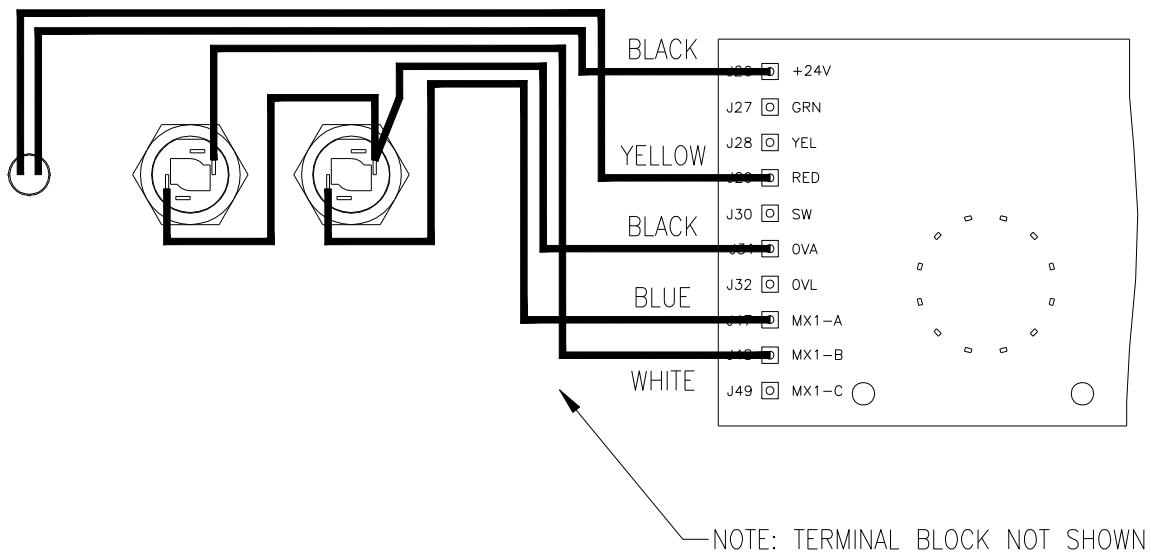


Figure 4  
INSTALLING KIT, KT0512 ONTO A DOOR

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