

# thefirebeam™ protection system

## quick start guide

issue 0025-02

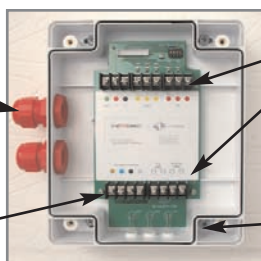
congratulations on choosing the firebeam reflective optical beam smoke detector. please use this quick start guide to commission the firebeam.

### step one. mounting the head

screw the head backing plate to the wall - always try to use as sturdy location as possible, such as brick or major structural steels (avoid mounting to outer metal cladding etc)

2 knock outs are provided on both sides

wire to low level controller using bottom colour coded terminals



wire into system as required  
*See suggested wiring diagrams on the following pages*

screw in through holes provided out side of the rubber seal

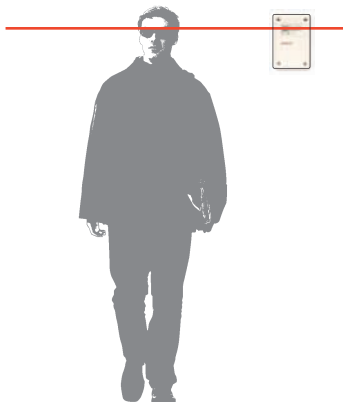
connect the head to the base plate by first plugging in the connector



then screw down the head screws with the 3mm allen key provided

### step two. mounting the controller

Important mount the controller at eye level and with easy access



screw in through holes provided out side of the rubber seal



wire to head using colour coded terminals

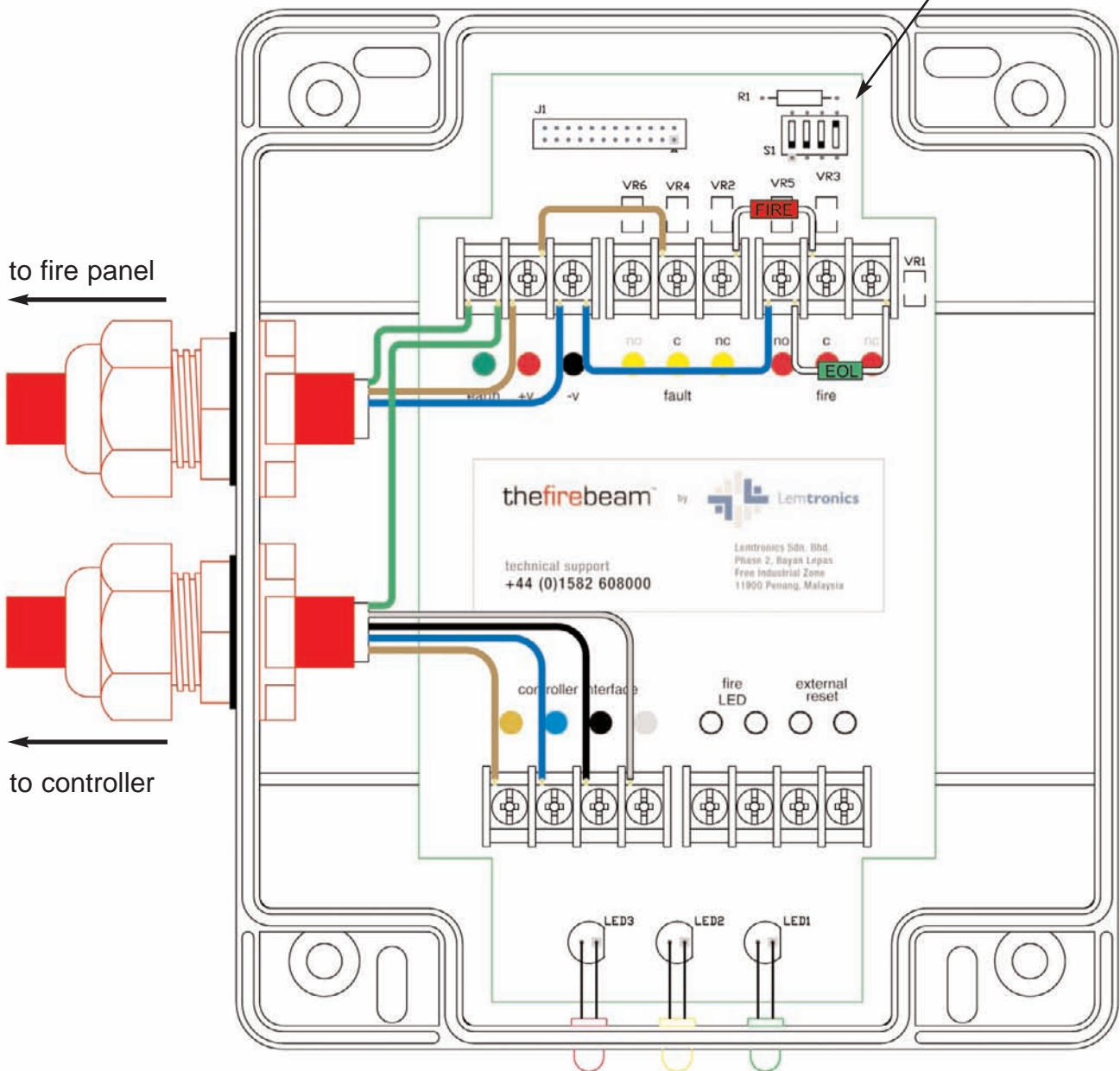
# recommended wiring configurations

Check with panel manufacturer that the zone output can support the 3mA current required by the firebeam system

Using these configurations any component / wire / terminal failure will produce a fault condition

## 2 wire zone interface connections

switch 4 on all rest off

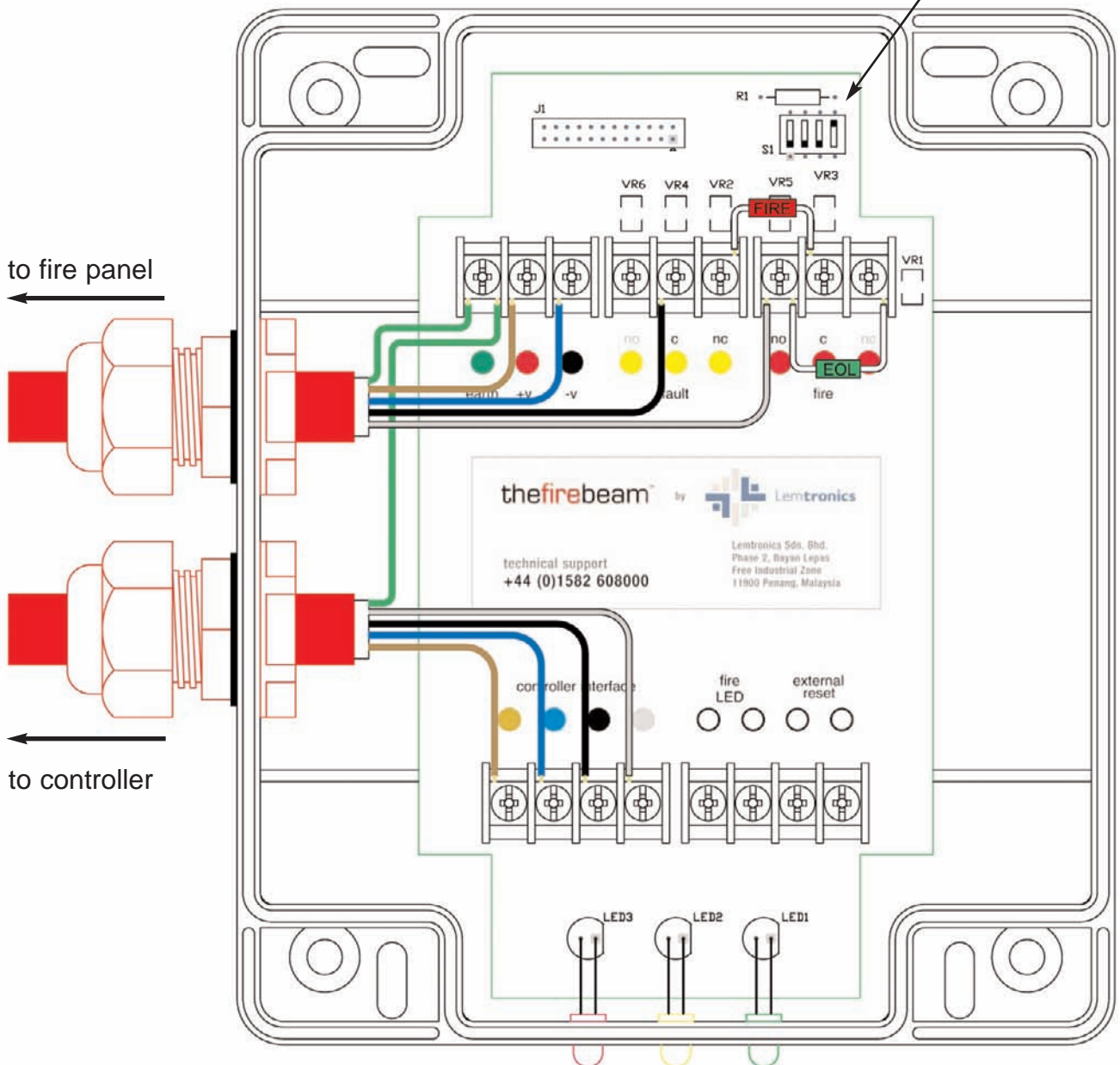


- BROWN ● zone +
- BLUE ● zone -
- GREEN ● earth (screen)

FIRE and EOL components as specified by the panel manufacturer

# 4 wire zone interface connections

switch 4 on all rest off

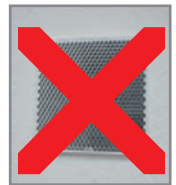


- BROWN ● + supply (10.2-30 Vdc)
- BLUE ● - supply (return)
- BLACK ● zone +
- GREY ● zone -
- GREEN ● earth (screen)

FIRE and EOL components as specified by the panel manufacturer

# stepthree. commissioning

to commission the fire beam you must follow the simple procedure below



1. do **NOT** put up the reflector or **COVER** it if in place already!

2. power up the unit - you will see

```
thefirebeam  
protection sys
```

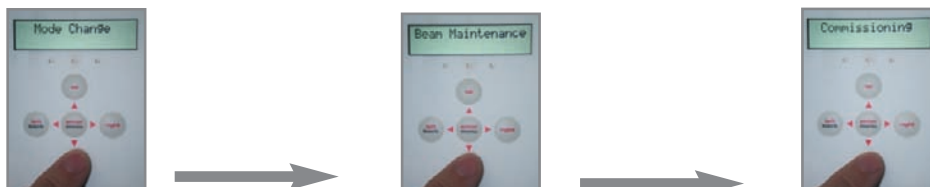
then the screen will default to

```
Air Quality 0%  
Status - FAULT
```

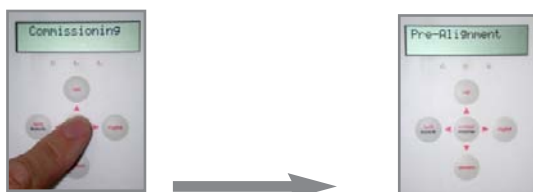
3. access the menu system by pressing **enter**



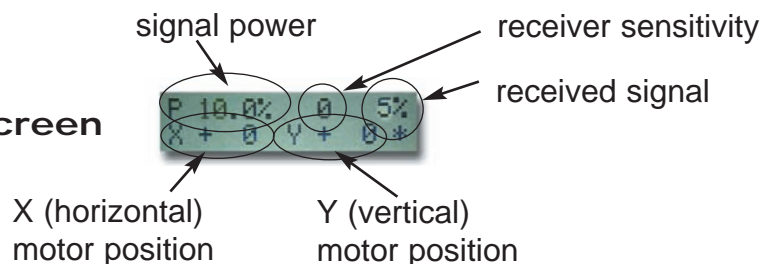
4. scroll through the menus until you get to commissioning



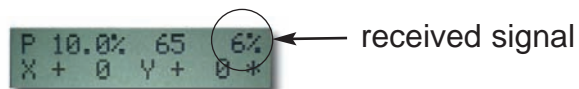
5. **enter** commissioning and **enter** pre-alignment



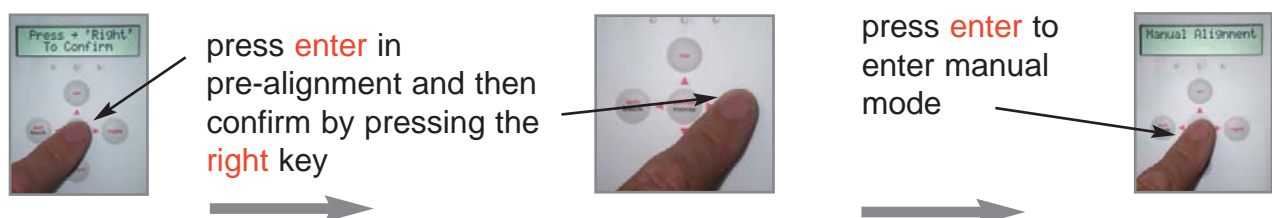
6. you will see this screen



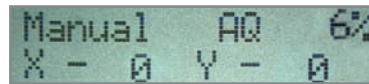
7. signal power starts at 10% and the receiver sensitivity starts at 5% and automatically increases until a received signal from the blank wall without the the reflector of between 5 and 7% is achieved, it will then stop



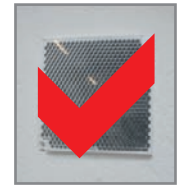
8. Now press enter and confirm by pressing the right key. The manual alignment menu will appear press **enter** to enter.



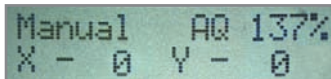
you will now see this screen



9. **NOW** place or uncover the reflector on the blank wall directly opposite the beam head with a clear path though obstructions such as girders etc.



Once the reflector is in place the AQ value should jump up meaning that the head is now seeing the reflector.



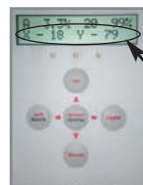
The minimum response you need to see is 40% (below this figure the beam will not self align in the next procedure) the higher the number the better - this can be over 100%

10. if you **do not see** a rise in received signal strength move on to **12. manual alignment**

11. if you have received a received signal reading of over 40% press **back** and scroll down to **Auto Alignment**



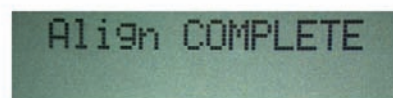
press **enter** and the beam head will automatically align on the reflector



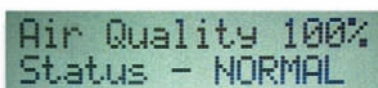
first you will see the signal power readings and receiver sensitivity drop if the received signal reading is over 100%. once at 100% or if the reading is under 100% the **firebeam** will automatically move its X and Y axis until it is positioned on the reflector. (This operation could take 20 minutes)



**Note:** if you break the beam whilst it's auto aligning it will automatically abort, reset by pressing the **left back** button and pressing **enter** to re-start auto alignment



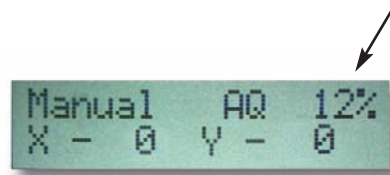
the alignment could take to 20 minutes or more depending on how much aligning is required. Once complete you will see a Align Complete notification, simply press the **left back** button to exit and your **firebeam** is now ready and commissioned



You will now see this screen. Air Quality may fluctuate slightly around a couple of % above and below 100

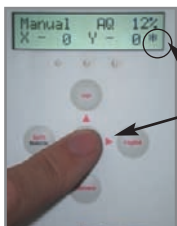
## 12. If you **don't see** a rise in received signal strength

You will be presented with the screen below (AQ-air quality could be any number up to 40%)

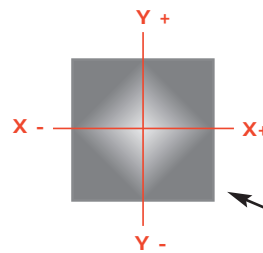


Now look at the position of the reflector in relation to the beam head. You will need to angle the beam toward the reflector by moving the head about its X or Y axis using the internal motors

In the example below you will notice that the reflector is below the line of fire of the beam. So in this case you would need to lower the angle of the beam (-Y) until you receive a AQ (Air Quality) reading above 40% sensitivity. (40 steps of the motor = 1 degree of movement)



To make adjustments to the X and Y axis you need to press **enter**. This will then display an **\***(*adjustment mode*) beside the X and Y co-ordinates



Adjustments can now be made to the X and Y axis by using the **left(x-)**, **right(x+)**, **up(y+)**, **down(y-)** keys. **Looking at the reflector** this will move the beam across the reflector like so (40 steps = 1degree) (you can hold the key down for faster increments)



in the example above moving the y axis **down(y-)** results in a greater % air quality

now press **enter** to exit **\***(*adjustment mode*) and view changing x and y values. Re-press **enter** to display **\***(*adjustment mode*) to stop movement or to make a further change to values



Try and achieve as good a result as possible - it must be **over 40%** or auto align will abort. (the better the result the shorter the auto align time will be - a result over 100 is good!)



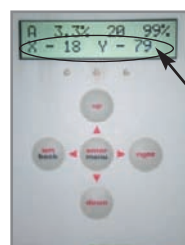
Press **enter** to exit adjustment mode(\*) and then **left-back** to exit manual alignment to return to the commissioning menu.



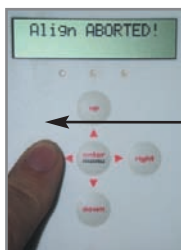
Press **enter** and scroll **down** to auto alignment



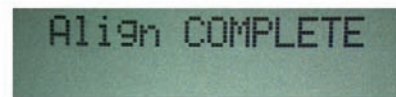
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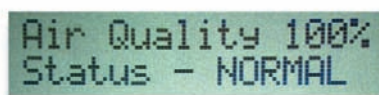
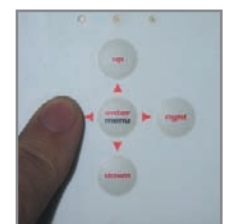
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the alignment could take up to 20 minutes or more depending on how much aligning is required. Once complete you will see a Align Complete notification, simply press the **left back** button to exit and your **fire** beam is now ready and commissioned



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# stepfour. testing

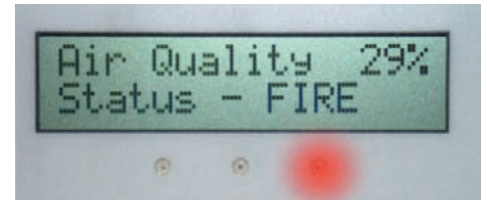
to test that the firebeam is aligned correctly you will need to carry out two tests.

## 1. a filter test for 'Fire'



place the filter provided over the eyes of the firebeam

having done this the red fire LED will flash on both the head and on the controller and the word FIRE will replace NORMAL on the low level controller display



## 2. a reflector test, to check that the beam is reflected back from the reflector



cover the reflector completely within one second. If the beam is correctly targeted on the reflector a fault condition will occur. A amber LED will flash on both the head and on the controller, the word FAULT will appear in the display



Your firebeam has now been commissioned and tested.

If you do have any problems you can call the [firebeamcompany](http://www.firebeamcompany.com) on +44 (0)1582 608000