

Hochiki Europe (UK) Ltd
SPB-ET Photoelectric Beam Detector
Mounting Guidelines



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SPB-ET Mounting Guidelines

When installing the SPB-ET Beam Detectors, it is important that the following guidelines are adhered to.

- ▶ Do not mount in locations that are exposed to extremely high temperatures or water vapour.
- ▶ Do not mount SPB-ET's within 150mm of any obstruction.
- ▶ Do not mount where the distance between the Emitter and Receiver is less than 5 metres or greater than 100 metres.
- ▶ Make sure that the surface that the SPB-ET's are to be mounted to is rigid (ideally part of the building structure) to avoid any possibility of movement.
- ▶ When fixing the SPB-ET, allow enough space to gain access to the sight hole for aligning purposes, (this is located on the top right hand side of the Receiver unit, when viewed from the front).

List of Parts

The SPB-ET Beam Detector kit consists of three separate parts: -

- ▶ SPB-ET Receiver and Emitter.
- ▶ SPB-ET Receiver and Emitter interface kit (including 2 way and 10 way ribbon cables).
- ▶ Test Filters (25%, 50% and 70%).

Mounting the SPB-ET Beam Detectors (c/w SPB-ET 2WI Interface Kit)

The SPB-ET Beam Detectors are designed to mount vertically onto Dual Gang back boxes (suggested types MK897ALM surface mount or MK862ZIC flush mount). These boxes should be fixed securely to the wall and directly opposite each other, they must also be mounted the same distance from the ceiling at each end.

The SPB-ET Beam Detectors should be powered directly from the conventional zone. The zone cables should be brought through the top of the back box, and terminated into the 8 way Receiver interface kit connector block. Please refer to Fig.1. for connection details.

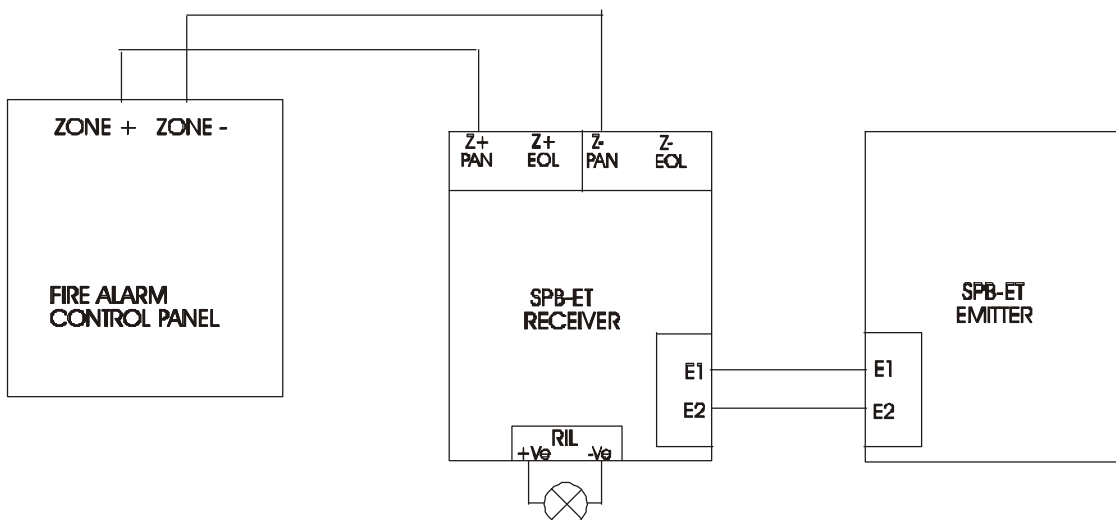


Fig.1.

There are a set of jumpers on the rear of the Receiver interface kit PCB, these relate to three types of zone fault monitoring that can be selected. These are, schottky diode, zener diode and open circuit, the link settings can be found listed below.

Schottky Diode - LK1, LK3, LK4 and LK6 are all made.

Zener Diode - LK2 and LK5 are made.

No line continuity (open circuit) - LK1, LK4 and LK6 are all made.

A two-core cable is also required between the Receiver and Emitter; this should be connected into the terminals marked E1 and E2 (these connections are not polarity conscious). The Receiver interface kit can now be screwed to the Dual Gang back box.

The same procedure should be carried out at the Emitter end by terminating the two way cable from the Receiver through the top of the back box and connecting it into the two way connector block. This should then be pushed onto the two-pin socket located on the rear of the Interface Kit PCB. The Emitter interface kit should then be screwed to the Dual Gang back box.

The Emitter unit can now be fixed to the Interface kit, by terminating the two way ribbon cable (brown & red) into the two push friction connectors on the front of the unit (these are not polarity conscious). This is achieved by firstly opening the Emitter cover by pressing the sides of the cover at the top and then lifting and pulling gently (please refer to Fig.2.). The two stripped ends of the cable should then be passed through the back of the Emitter, and located into the two push friction connectors on the front of the unit by gently pushing the white slotted sections of the connector with a small screwdriver. The cables can then be pushed into the holes and the white slotted sections of the connector can be released, this should then grip the cable securely.

The two-part black connector can then be pushed onto the two pins on the front of the PCB. The Emitter can then be mounted onto the Interface kit by aligning the four mounting slots on the rear of the Emitter with the four mounting hooks on the mounting bracket and then sliding the Emitter down gently.

The 10-way ribbon cable can now be fixed to the Receiver. This is achieved by firstly opening the Receiver cover (Please refer to Fig.2.) and passing the cable through the back of the unit. Starting with the black cable in E1, terminate each cable in order finishing with the white cable in the FC connector (Please refer to Fig.3.). The 10-way black connector can then be pushed onto the connector on the front of the PCB. The Receiver can then be mounted onto the Interface kit by aligning the four mounting slots on the rear of the Receiver with the four mounting hooks on the mounting bracket and then sliding the Receiver down gently.

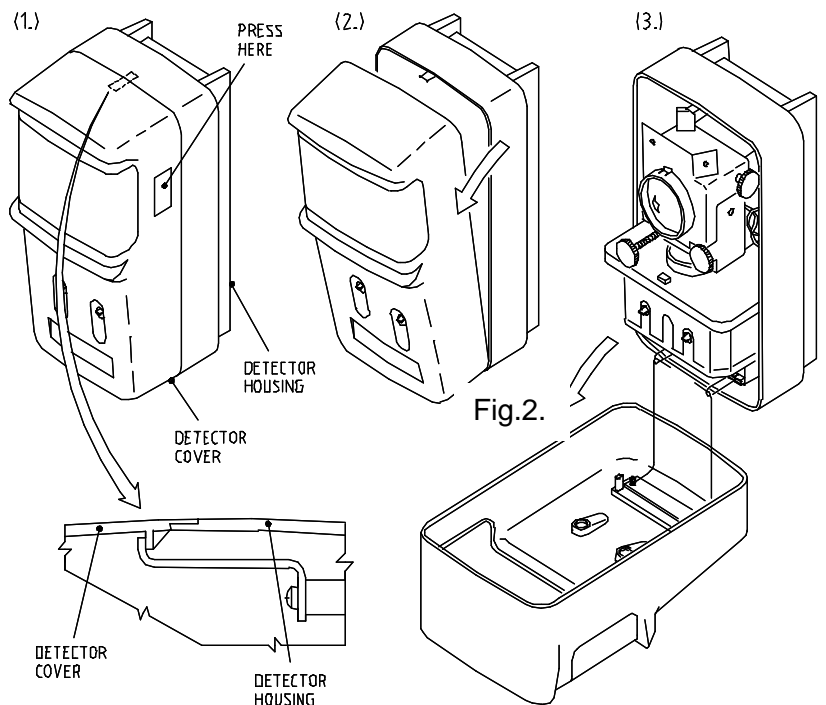
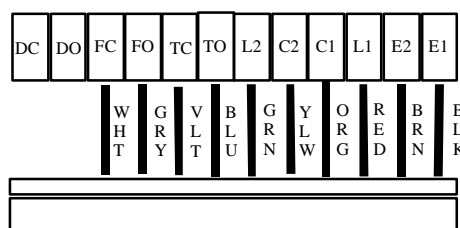


Fig.2.



Aligning the SPB-ET

The Beam Detector can now be aligned. The covers on both the Emitter and Receiver need to be open. The red polling LED on the Receiver should now be flashing once per second.

On the top right of the Receiver there is a sight hole, when looking through this the Emitter should be clearly visible in the centre of this hole (please refer to Fig.4.). If it isn't then using the silver alignment wheels (left wheel horizontal adjustment, right wheel vertical adjustment) the Receiver should be adjusted until the Emitter is clearly visible. This procedure should then be repeated at the Emitter end, and the Emitter cover closed (please refer to Fig.5.).

The next step is to set the signal strength, this is displayed by six LED's mounted just above the four-part DIL switch on the front of the Receiver. The two yellow LED's indicate a weak signal strength, the two green LED's indicate that the signal strength is correct and the two red LED's indicate that the signal strength is too strong.

Using the two black thumb wheels located at the top left and right of the Beam assembly (left wheel coarse adjustment, right wheel fine adjustment) adjust these until the green signal strength LED is flashing.

Once this has been achieved the 4-part DIL switch needs to be set. Bit 4 should always be in the on position (up) and bit 3 should always be in the off position (down), bits 1 and 2 are set according to which signal strength is required; there are three choices available, 25%, 50% and 70%.

The cover on the Receiver can now be closed (please refer to Fig.5.), this should be done carefully, avoiding the possibility of moving the SPB-ET out of alignment. Once the cover is closed, the Receiver polling LED will flash once every 3 seconds. The Emitter or Receiver should not be obscured during the first couple of minutes as the SPB-ET performs a calibration and self-test function.

After the SPB-ET has completed its initialisation it should be tested using the filters supplied. The range 1 filter relates to 25%, the range 2 filter relates to 50% and the range 3 filter relates to 70%. Firstly place the no alarm side of the filter in front of the SPB-ET for at least one minute this should cause no fire or fault signals. Next place the alarm side of the filter in front of the SPB-ET for at least one minute. During this time a fire alarm should occur, if no alarm occurs, then the SPB-ET is not operating as expected.

Fig.4.

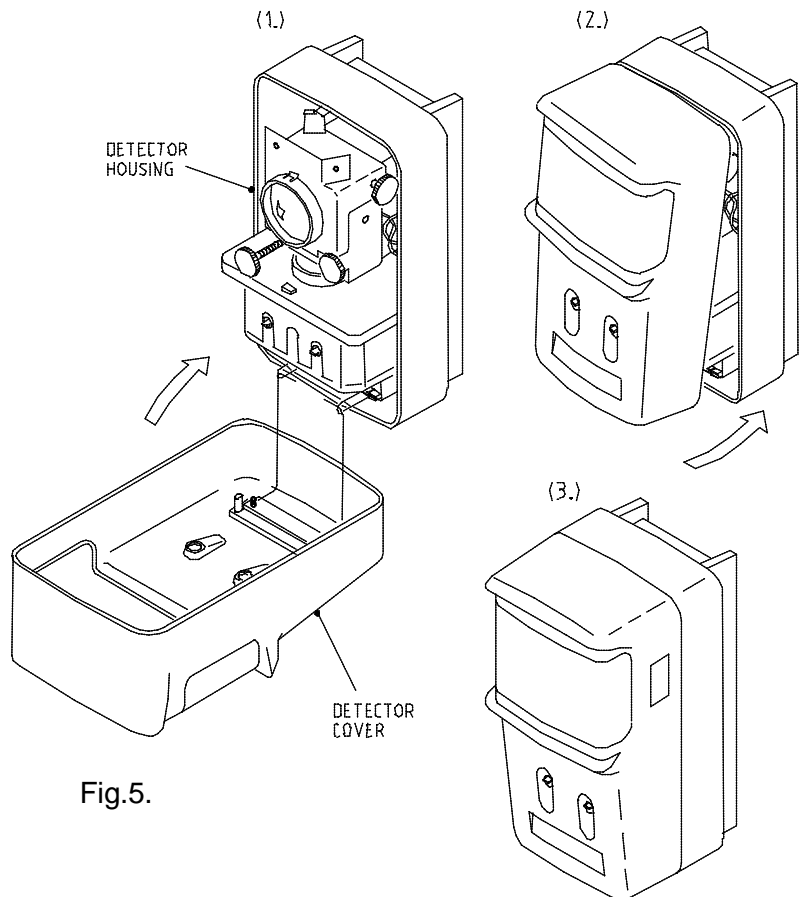
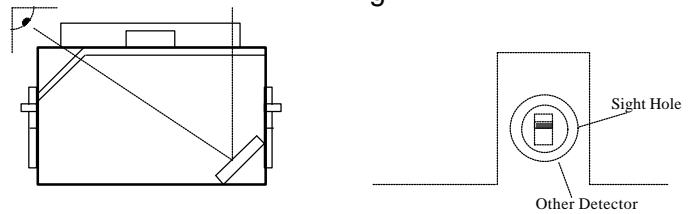


Fig.5.