fireray®

Fireray 50R/100R
Technical notes

1. Notes

All current versions of the 50/100R (both Analogue Addressable and Conventional) have Red and Amber LEDs. There are some very old 50/100Rs which have Red and Green LEDs. With this old version, you need to power the Detector down for 2 minutes before doing any re-alignment. When working these old Detectors do not show any LEDs but when in a Fault condition, the Green LED will be on (either flashing or constant). The Alignment procedure is the same, but always seems to be a little slower than the current version.

Without removing the Detector from the wall, the only way you can tell which version of Detector you have is to power it down and then back up again. The 50R will flash its red LED once, the 100R will flash twice. As with the F5000, the 50R Detector should have just one reflector whilst the 100R will have four.

Alignment:

There is a 3 Way Alignment Switch which is on the back of the Detector (see photo), which can be quite difficult to. The easiest way to access it is from the right-hand side of the Detector and then from the middle of the top circle (there are two circles on the front of the Detector which cover the lenses for the transmitter and receiver).

This 3 Way Switch should always be in the Bottom position if the Detector has been Commissioned.
The top 2 positions for the 2-stage commissioning mode.

Commissioning:

1. Set the 3 Way Alignment Switch to the top position (Prism Targeting). If the Detector has a Green LED, the alignment is the same, but you need to power the Detector down for 2 minutes before alignment. What you are looking to do is to use both thumb wheels get the Amber LED on solid. In practice, this might not happen, but what you are looking to achieve is get the most rapidly flashing Amber LED you can. At this point it is important (but seldom in practice) to cover the Reflector(s). This is to ensure that the Beam is being aligned onto the correct object, i.e. the Reflector(s). After covering the Reflector(s), what you were expecting to see is the Amber LED change state. Ideally, the LED will go out, but you should see a change in it. If this does not happen, the Detector could be aligning onto a nearby reflective surface somewhere down the Beams path. If the Reflector(s) are covered and nothing happens to the Amber LED state, the Detector needs to be re-targeted.

2. Set the 3 Way Alignment Switch to the middle (Alignment Mode). Be careful that the switch is in the middle as it's easy for the engineer to get this bit wrong as they can't see what they are doing. When moving the thumb wheels, always to one at a time, only move ¼ turns and always wait for the LEDs (Red and Amber) to go out before moving the thumb wheels again. Follow the alignment procedure in the manual and watch the training video.

When the alignment has been completed (on both thumb wheels), set the switch to the bottom (run position). After 10 seconds, the Detector should be ready to test.

You should always test for fault at the Reflector(s) end to prove that the Detector is aligned onto the correct reflectors. It is very important to remember that the 50/100R can align onto shinny surfaces and if all the testing is done at the Detector end, the engineer does not know what the Beam is aligned too. The Fire test can be done at either the Detector or Reflector end.

LEDs Explained.

1. Current Amber LED 50/100R range:

When the Detector is aligned, you should see the Amber LED flash every 10 seconds.

If the Detector has reached the AGC limit, the Amber LED flashes every 2 seconds. This means the Beam needs to be cleaned and re-aligned. Check the fixing of the Detector/Reflector(s) and for any obstructions close to the Beams path as this could be the reason for the AGC fault.

If the Amber LED is on constantly, then there is no signal getting back to the Detector. This means that the signal could be blocked, the Detector knocked out of alignment, Reflector has fallen, or the Detector could be faulty.

If the Detector is in Fire, the Red LED will be on. If this happens and there isn't any reason for the alarm, check for obstructions in or near the Beams path, reflective surfaces, or the sun shining directly onto the Detector.

2. Green LED version of 50/100R:

When this Detector is working, you should not see any LEDs displayed (this is assuming that it is powered up).

If the Green LED is flashing every 2 seconds, there is an AGC fault. This should be treated in the same way as an Amber LED version.

If the Green LED is on constantly, then there is no signal getting back to the Detector. Resolve as per Amber version.

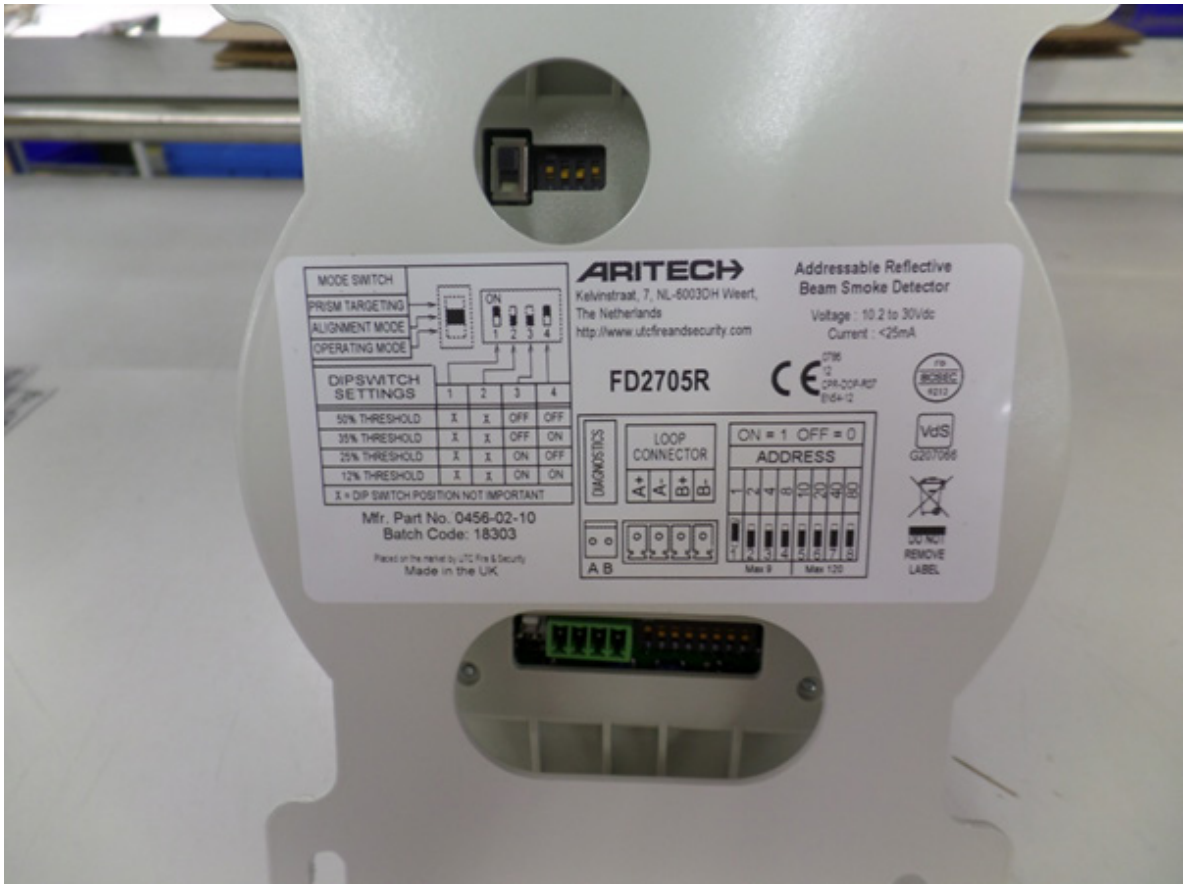
If the Red LED is on constantly, then the Detector is in Fire. Resolve as per Amber version.

3. Analogue Addressable Versions.

FFE make Analogue Addressable (AA) versions of the 50/100R for several customers including Apollo, Eaton and UTC (Aritech).

The AA versions are identified by the 8-Way DIP switch and the Green 4-Way connector on the back of the Detector.

An AA Detector does not use a power supply. A cable from the Fire Panel (which is known as an Addressable Fire Panel) is rooted round the building and this contains what is known as a Loop Bus. The 8-Way DIP switch selects a unique address on the Detector and the Loop Bus is connected to the Green 4-Way connector. The Loop Bus provides power to the Detector.



Prism targeting on AA 50/100Rs is different from the Standard 50/100Rs, but ultimately achieves the same thing. You will need to refer to the manual for each AA Beam as the procedure is not the same for all the AA 50/100Rs.

Alignment, however is the same across the AA range and is the same as the standard 50/100Rs.
LEDs. The LEDs on the AA 50/100Rs do not do anything if the Detector is aligned.