



Infra Red
Flame Detection

T110/T210
Test Source

Operating Instructions

General

The T110 and T210 Test Source has been designed specifically for the on-site testing of the ADT Fire & Security Range of Infra-Red flame detectors particularly in hazardous areas.

Both test sources are BASEEFA approved for use in all Zone 1 and Zone 2 areas for Group IIC gases or lesser hazards rated T1-T4.

Approval for Zone 0 areas is not available for this type of equipment, although it is understood dispensation may be obtainable on a site-by-site basis from the factory inspectorate.

A series of interchangeable adaptors are provided to accommodate the physical variations of the different detectors.

Description

The Test Sources each consist of a module mounted in a cradle which can be hand held or secured to an extendable pole. The module, which is self-aligning by means of an adaptor plate secured to the front plate of the Test Source, is held against the front of the detector to check both the response time and the sensitivity of the detector.

The Test Source is enclosed in a polyester housing which is approved as an increased safety housing. It contains a lamp which is electrically pulsed by an intrinsically safe circuit to stimulate typical flame flicker. Infra-Red energy from the lamp is focused via a Fresnel lens and a sapphire window onto the detector.

The unit is powered either by a PP3 carbon zinc disposable battery or an R. S. nickel cadmium rechargeable battery. The nickel cadmium battery is supplied is supplied uncharged and must be fully charged "in a safe area" before use.



Test Source Selection

It is important that the correct test source is used with the appropriate detector to be tested. Each test source has been calibrated to ensure that the tested flame detector responds within approximately +10% -30% of the stated nominal detection range value.

In addition to the test source selection, the correct adapted plate for each specific detector should be used when carrying out the test.

Test source and adaptor selection as follows:

T110 Test Source:

- 1) S111, S112, S121, S122
- 2) S131, S161
- 3) MS302, MS502

T210 Test Source:

- 4) S231i, S241i, S251i, S231f, S241f, S251f, S261f

Test Source Adaptor Selection

The required adaptor plate is secured to the front of the Test Source by the three Posidrive screws located on the front of the mounting plate.

When attaching an adaptor to the Test Source, the following precautions must be observed:-

- a) The Test Source mounting plate must be clean and flat. If the mounting plate is bent or distorted in any way, the unit should be returned to ADT Fire & Security for repair.
- b) The adaptor plate must be clean and flat. If the adaptor plate is bent or distorted in any way, the item should be returned to ADT Fire & Security for repair.
- c) No attempt should be made to insert packaging material between the Test Source mounting plate and the appropriate adaptor plate, as this will seriously affect the result of the detectors.

Method of Test

Warning: Testing a detector will produce an alarm signal from the detector. Take the necessary steps to inhibit a full alarm condition at the control panel before proceeding.

1. Fit the appropriate adaptor to the front of the unit. Fig. 1
2. If the detector for test cannot be reached by arm extension, connect up extension poles to required length (up to 4.5) Figs. 2 and 3.
3. Turn rotary switch to detector type under test:-
4. Offer up test unit to front of detector and engage top of front surround on top edge of detector. Fig 4.
5. Push forward on handle or extension poles and Test Source will self-align to the correct position. Fig. 5.
6. Hold in position for 6 to 20 seconds, the detector alarm LED should illuminate, indicating that the detector has responded correctly.
7. Lower test unit and turn rotary switch to 'OFF' position.

Battery Low/Battery Charge Indication

The approximate operating lives of the batteries for the Test Source are:

- | | |
|--|---------|
| a) R.S. Components nickel cadmium R.S. 591-089 rechargeable. (Fully charged) | 3 Hours |
| b) PP3 carbon zinc disposable | 6 Hours |

Note: Alkaline batteries must not be used as they are not rated T4 and only R.S. Components Niccad batteries are acceptable to BASEEFA.

- 1) **BATTERY CHARGED** - Unit working normally when a white pulsing light is visible through the window.
- 2) **BATTERY LOW** - A red light is visible in conjunction with the white light.
- 3) **BATTERY VERY LOW** - Red light only visible, battery must be changed.
- 4) **BATTERY DEAD/BULB FAILURE** - No lights visible, battery must be changed.
If no white light now visible, change bulb.
If not white light now visible, unit defective. Return for investigation/repair.

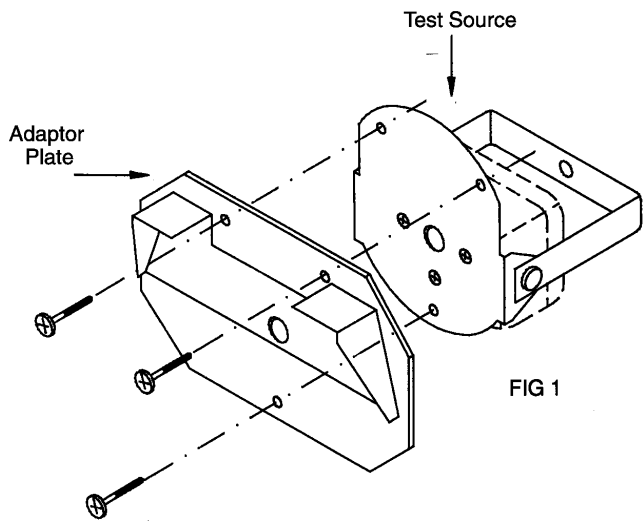


FIG 1

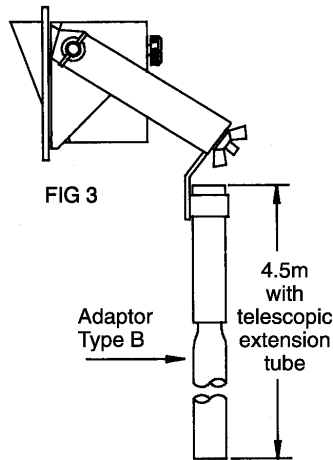


FIG 3

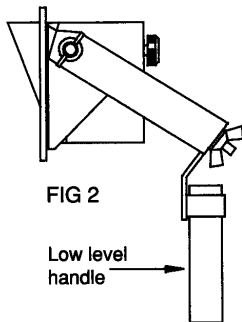


FIG 2

Low level handle

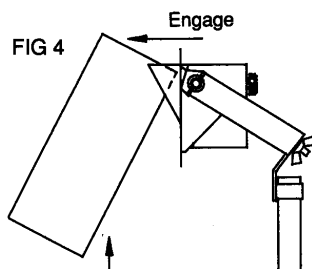


FIG 4

Engage

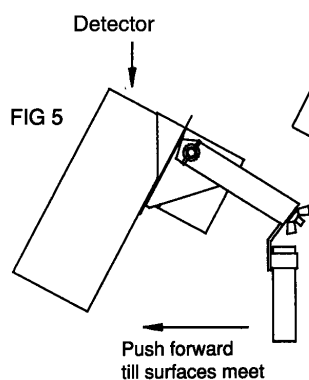


FIG 5

Detector

Push forward till surfaces meet



Battery Charge

Before changing the battery or bulb in the test source, go to a safe, non-hazardous area.

Turn switch to 'OFF', remove the four corner screws and lift off cover. Unclip battery and replace, ensuring correct polarity. Turn switch to 'ON' and check that bulb pulses. Replace cover, replace screws and hand tighten.

Under no circumstances must the battery be replaced while in a hazardous area.

Technical Information

Mechanical

Material:	Glass Filled Polyester (Grey)
Weight:	0.8Kg
Metal Parts:	Front Plate and Cradle Stainless Steel to BS 1449 Pt2

Electrical

Supply Voltage:	9v DC
Batteries:	(a) PP3 Carbon Zinc Disposable (b) R.S. Components Nickel Cadmium Rechargeable Type No. RS 591-089 Operational Duration: Continuous PR3-6 Hours RS 591-089 (Fully Charged) - 3 Hours

Environmental

Operating Temperature Range:	-10°C to + 50°C
Storage Temperature:	-30°C to + 70°C
Humidity:	95% (Non Condensing)
Enclosure to:	IP54
Hazardous Area:	BASEEFA EEx e Ib IIC T4. Suitable for use in zones 1 and 2 where group IIC gases or lesser hazards are sometimes present in explosive concentrations.
Certificate T110/T210	U.K. approved by BASEEFA Certificate No. Ex84B2224

Ordering Information

Description	Part No.
T110 Test Source	592-001-012
Adaptor Plate for S111, S112, S121, S122	592-001-004
Adaptor Plate for S131, S161	592-001-005
Adaptor Plate for MS302,MS502	592-001-007
T210 Test Source	592-001-013
Adaptor plate for S200 Series	592-001-014
Nickel Battery and Charger Kit T110/T210	592-001-010
Carrying Case Test Source	592-001-011
Spare Bulbs T110	599-001-001
Adaptor for use with Apple Picker Poles Type B	517-001-224
Telescopic Extension Poles 1.26m to 4.5M	517-001-230