

SECTION THREE – AUTOMATIC DISTRESS SIGNALLING UNIT

INTRODUCTION

An automatic distress signalling unit is provided on each operational BA set. The unit currently in use with in Shropshire Fire and Rescue Service is the **Firefly II** ADSU. It conforms to JCDD 38 and is certified intrinsically safe to **EEx ia IIC T4**.

DESCRIPTION

A ball bearing is held within a motion sensor incorporating a printed circuit board. The movement of the bearing around the sensor is detected by the printed circuit board and prevents the alarm being given. However, should no movement be detected for a period of approximately **20 seconds**, then a pre alarm will sound (Intermittent tone of reduced volume). Should no movement be detected for a further **eight seconds** then the full automatic alarm will sound (**continuous pulsed tone @ 90dBA**). *Once the unit has operated in the full alarm mode, it can only be switched off by the key held on the BA tally.*

Should the need arise, a **manual override** slide button is also incorporated and the pressing of this switch will send the unit into full alarm mode.

THE OPERATING KEY LOCATING LUG IS OVAL SHAPED AND SHOULD ONLY BE INSERTED IN THE SLOT WITH THE LONGER END TO THE REAR OF THE SLOT. ON NO ACCOUNT SHOULD THE KEY BE TURNED 180 DEGREES IN ANY DIRECTION.

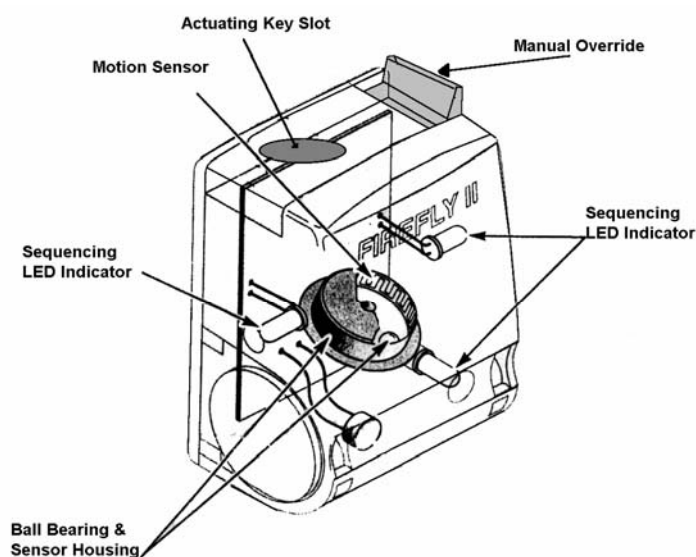


Fig 2. Firefly II ADSU

METHOD OF OPERATION

- Turn the operating key 1/4 (one quarter) turn **clockwise** and remove. The Firefly II will emit an alarm sound and the LED's will flash to indicate the unit is switched on.
- If the unit remains stationary for approximately 20 seconds it will emit a pre-alarm warning. Movement of the unit will cancel this pre-alarm.
- If no movement occurs during the pre-alarm period (eight seconds) the full alarm will sound. This can only be cancelled by replacing the key and turning 1/4 (one quarter) turn **anti clockwise**.
- The unit can also be operated manually by depressing the red override slide switch. Once activated. The alarm can only be reset by replacing the operating key and turning 1/4 (one quarter) turn anti clockwise.
- **When the ADSU is operated it shall be capable of operating at full alarm signal for a minimum of 1 hour.**

When the battery is near the end of its life, the Low Battery Warning will sound. (Short bleep every five seconds). The battery should be changed as soon as possible and not be allowed to run down further. Only **Rayovac Vidor (MN1604) or Duracell** batteries are to be used and the use of any other battery will invalidate the intrinsic safety certification.

THE LOW BATTERY WARNING WILL NOT SOUND IF THE PRE-ALARM OR FULL ALARM IS SOUNDING.

STANDARD TEST

The following procedure should be followed every time that a BA set is taken over or when an ADSU is accepted following repair/maintenance/battery changing.

Manual Operation

Remove the key by turning 1/4 turn clockwise to activate the unit. (towards the front of the unit). Depress the manual override button and check for correct operation. Reset the unit by replacing the key and turning 1/4 turn anti clockwise.

Pre-alarm Cancellation

Remove the key by turning 1/4 turn clockwise to activate the unit. Leave the unit stationary until the pre-alarm sounds. Cancel the pre-alarm by moving the unit gently.

Automatic Operation

On completion of the pre-alarm cancellation test, leave stationary until the pre-alarm sounds followed by the full alarm. Reset the unit by replacing the key and turning 1/4 turn anti clockwise (towards the rear of the unit)

BATTERY REPLACEMENT

Batteries are replaced by station personnel.

The following procedure is to be used for battery replacement:

- Open the battery compartment. (single allen key screw)
- Ensure the ADSU key is inserted and the unit is switched off *before* disconnecting the battery.
- Disconnect the old battery and fit a new battery, ensuring the correct terminals are connected together.
- Re-fit the battery compartment lid and secure using the allen key screw.
- Carry out a full check of the unit (manual switch, pre-alarm cancellation and auto alarm)

THE ADSU KEY MUST BE INSERTED PRIOR TO REMOVING AND REPLACING THE BATTERY TO AVOID A POWER SURGE FROM THE BATTERY

TECHNICAL DETAILS

DIMENSIONS	61mm X 46mm X 86mm
WEIGHT	210 grams (including battery)
AUDIO OUTPUT	90dBA at 2 metres
PRE ALARM	Intermittent bleep of reduced volume
FULL ALARM	Continuous pulsed tone at full volume
LOW BATTERY WARNING	Short bleep every 5 seconds
BATTERY TYPE	MN1604 9V alkaline (RAYOVAC VIDOR OR DURACELL only to be used)
LED INDICATORS	Approximately 3 second flashing alternately front & side
CONTROLS	Rotating Key: Turn and remove to switch on/off Manual alarm: Depress slide button
COLOUR	It should be noted that later models are black rather than blue. However, there is no other change to the specification

DEFECT REPORTING

Should an ADSU develop a fault it should be removed from use and replaced with a spare. Technical Services should be informed and they will arrange for the faulty unit to be collected and a replacement left in its place.

ADSU's are **NOT** covered by the Interspiro BA total care contract.