The Battery Safety Unit (BSU)

THT product code = ARCSYS-BSU

The Battery Safety Unit comprises:

- Microprocessor Control Unit
- High Pressure electrical terminal fittings and cables
- 10 x colour coded PTFE internal flying leads with male connectors

The BSU option is capable of automatically abusing batteries electrically. Implementation of over-voltage charging using a 25V supply at 4.8A + shorting with a maximum impedance of 0.01W (standard open configuration).

The BSU is therefore used to get thermal, and pressure, data from the batteries under these abuse conditions.

Figure 1 shows the BSU setup box. Different connections here will allow the user to set-up different test types.

Figure 2 shows the schematic set-up of a shorting test.
The Battery Safety Unit (BSU) can either be provided as an external box or can be built into the es-ARC housing (Figure 3).

The BSU can be used in conjunction with a THT cycler to monitor voltage during the tests. Test set-up is simple and shorting or overvoltage is controlled by the push button on the front of the BSU. Depending on how you set-up the cables this will alter the test type. Full details are provided in the accompanying manual.

This Option also comes with the required components to allow for all BSU tests to be carried out while external pressure is measured.

Please contact THT or your local distributor for more information.

In Figure 3 you will note the BSU is the second unit from the bottom. Above the PSU and below the KSU (cycler unit).

Example - Shorting Test

The example in Figure 4 shows a shorting test. The important point to note is that after the short the cell does lead to complete disintegration (under adiabatic, ‘worst-case’ condition).