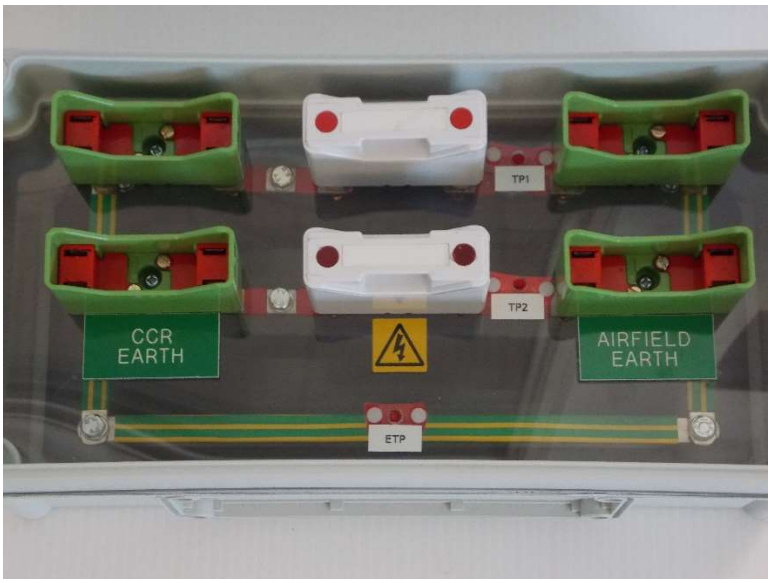
AIRFIELD LIGHTING
SYSTEMS UK LTD

SITU – Safety Isolation & Test Unit

Originally developed in conjunction with BAE Systems Limited, the Safety Isolation and Test Unit is an easy to operate safety device, designed to satisfy the requirements of the Electricity at Work Regulations and UK CAA (CAP 168) recommendations regarding Aeronautical Ground Lighting (AGL) Systems



APPLICATION

AGL Systems include the use of Constant Current series circuits, which present unique problems associated with high voltages and long circuit lengths with cabling laid in potentially harsh ground conditions.

The Safety isolation and Test Unit, when incorporated into the AGL circuit, facilitates the isolation, earthing and testing of the field circuit or the CCR output circuit (cables within the CCR room between the CCR and the isolation unit), hence providing electrical protection for airfield maintenance personnel prior to carrying out work on the AGL circuit.

Simplicity: The device must improve safety and be easily understood with minimum training. Operation should be simple enough that an instruction guide for its safe operation would not be required.

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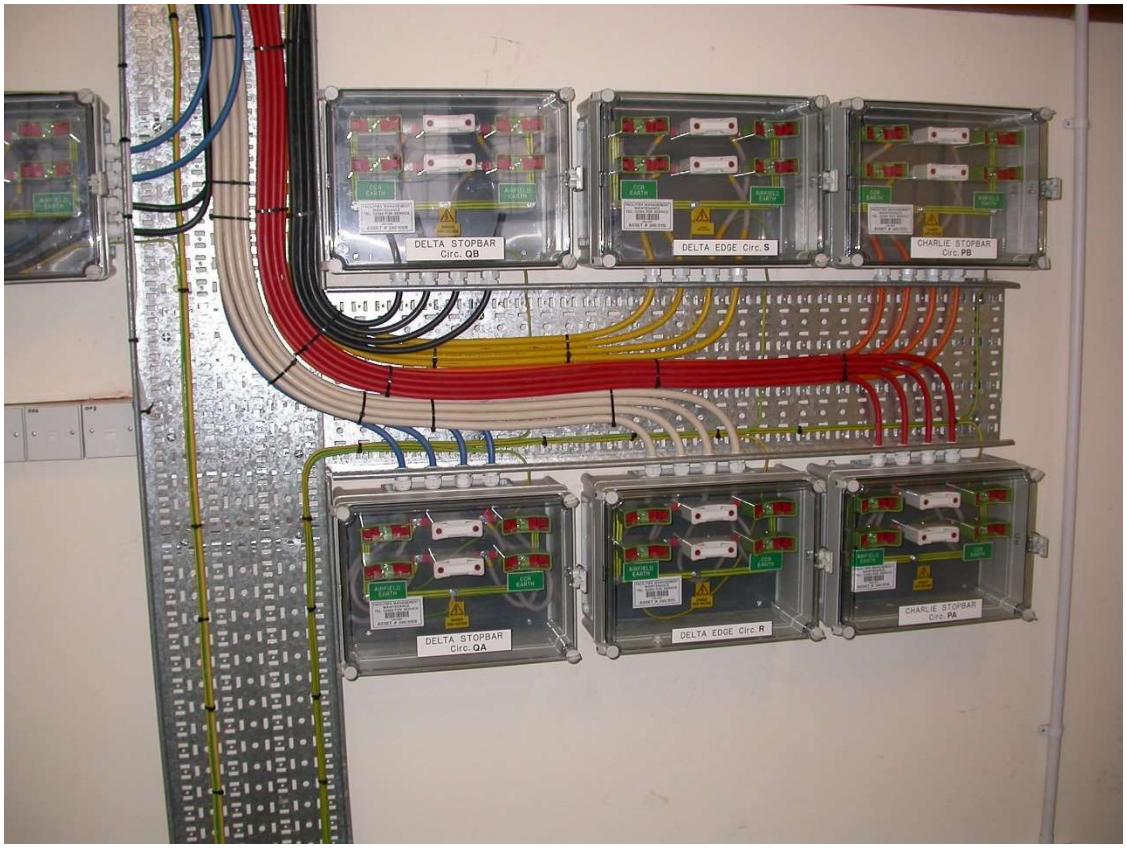
Certification: The device should be tested to confirm it fit for purpose using readily available test equipment and be provided with a certificate of calibration.

Security: The device must provide secure isolation, secure earth, CLEARLY VISIBLE status, and easy access for functional live testing without exposure to risk.



DESCRIPTION

The device consists of an insulated enclosure with moulded on gland plate faces and transparent polycarbonate hinged fixing cover. This enclosure forms the outer body and contains a transparent polycarbonate chassis. The function of this chassis is to both support the electrical links, locking device and also act as an insulation screen to provide “VISIBLE INDICATION” of the circuitry and its integrity.

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The internal electrical conductors are formed from copper strip to provide mechanical strength, clear identification, and low thermal dissipation under all operational conditions. Control and transfer of electrical energy around the system is by the use of BS88 fuse bases and carriers.

The fuse carriers are modified, tested for circuit voltages up to 5000V and must be purchased (Standard fuse carriers without modification are rated at 690V 20A).

The fuse carrier section is fitted with solid copper links. Placing the links to the left or right position will provide effective isolation and earthing of the circuit cables. The door hinge clasp provides a padlock facility that affords an effective means of securing the chosen position.

Test points (TP1 and TP2) are provided within the unit to enable the user to prove that the series circuit is dead before removing links. An Earth Test Point (ETP) is also provided to enable insulation resistance testing to be carried out locally if there is no suitable conveniently positioned earth bar available.

The units are supplied in enclosures suitable for surface mounting to ease installation and to enable simple integration with existing AGL circuits- usually at the point where the circuits exit the substation building.

Normal Position

In the normal position (white links in centre white holders) electrical current is passed from the Constant Current Regulator (CCR) through the links and out to the airfield lighting circuit.

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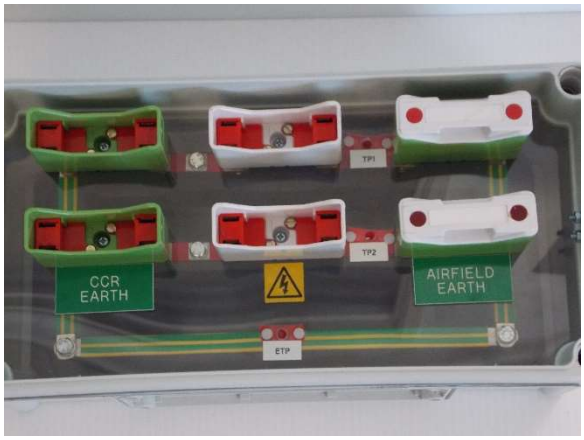
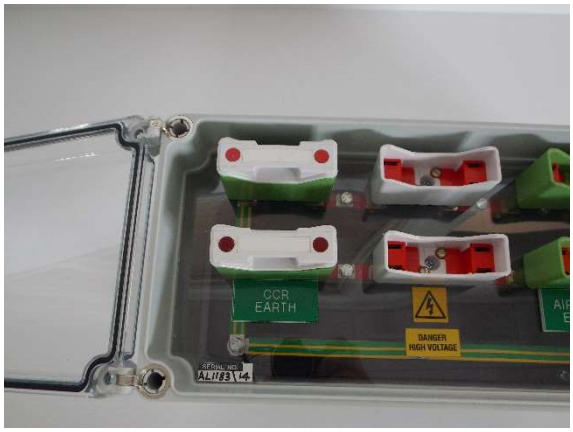
Airfield Earth Position



If the links are placed in the right position, then it can be clearly seen that the cables from the Safety Isolation and Test Unit out to the Airfield lighting circuit are connected to earth via the internal earth circuit. With the links in this position, the lid returned to the normal position, and a padlock fitted to the securing device then secure isolation and earthing has been achieved and the airfield lighting circuit to be worked upon is at, or near, earth potential.

CCR Earth Position



If the links are placed in the left position, then it can be clearly seen that the cables from the CCR to the Safety Isolation and Test Unit are connected to earth via the internal earth circuit. With the links in this position, the lid returned to the normal position, and a padlock fitted to the securing device then secure isolation and earthing has been achieved and the circuit cables within the CCR room/substation to be worked upon are at, or near, earth potential.

Physical Dimensions

Height: 190mm
Width: 400mm
Depth: 182mm

Weight: 3.7kg