**Load break switch INOSYS LBS from 160A to 800A – Up to 1500 V d.c.**

To answer to the high requirements of DC / PV environments, load break switches must be able to be integrated easily in these installations (junction box, grouping unit, PV inverter or battery systems) and particularly for firefighters applications with emergencies in case of fire.

**GENERALITIES**

* Direct or external front operation
* The switch must be able to supply in 2 poles for Ue = 1000 V d.c. or Ue = 1500 V d.c and 3 poles for Ue = 1500 V d.c., and Ie = the rating
* The switch must provide an isolation voltage Ui of 1500 V d.c.
* The switch must be specified for DC or PV and/or Photovoltaic, tested for the small currents and critical currents according to IEC 60947-3, annex D.
* The load duty category must be DC21 up to a nominal voltage of 1000 V d.c. and 1500 V d.c.
* Black or red handle, padlockable by 3 padlockes in 0 position for the direct or external handle
* The product could be integrated in a modular enclosure
* The switch must comply to IEC or EN 60947-3 standard specifying the electrical characteristics for load break switch

**SECURITY**

The load break switch must allow a rapid shutdown at distance when the power off is requested. Its operation must be reliable for maximum availability and without nuisance tripping.

Tripping function

* In standard, the product must be equipped with a remote activation system with shunt trip coil or undervoltage release to ensure an emergency cut off function
* The trip mechanism must be sudden and completely independent of the speed of the operator with a simultaneous opening of all power contacts.

Breaking system

* Technology of double sliding contact in rotation with magnets and arc chamber system to ensure a fast arc extinction and limitation of energy
* The breaking must be at the rear of the viewing window to limit the inherent risk of flash arc
* The breaking system must be greased for life with a mineral grease to be used in any type of environment even highly polluted.
* The load break switch must be designed to be "maintenance free"
* The switch must have a double-breaking upstream / downstream by poles, with visible breaking and visible indicators on the handle and printed directly on each moving bars
* The ON, OFF and TRIP positions must be stable and resistant to external perturbations. The isolation must be guaranteed in the OFF and TRIP position.
* The real isolation must comply fully with the IEC and NEC installation standards.
* The creepage distances must be at least 53 mm to ensure that there is no insulation failure.
* The switch must be lockable in the OFF position directly on the product and on the external handle via a locking tab, plastic or metallic

**PERFORMANCE**

Raw materials

* The breaking frame must be in white polyster reinforced with fiber glass to ensure high mechanical strength, high temperature stability (RTI of 130 ° C) and high dielectric performance (high CTI / tested according to ASTM D 2303).
* The white polyester shade is imperative for visual monitoring and to fast identify premature aging in case of abnormal heating.

Temperature & humidity

* The switch must be tropicalized in standard according to tropicalization experiment Category B of annex IEC 60947-1 Environment subject to temperature and humidity
* The switch-disconnector allows installation in a wide operating temperature range from -25 ° C to + 70 ° C.
* It must also be without derating up to 55 ° C around the LBS. For higher temperatures the appliance must ensure proper operation by the application of derating coefficients that the manufacturer must provide.
* The switch must be also without derating up to 2000 meters above sea level. Beyond this, the load break switch must ensure proper functioning by application of derating coefficients which the manufacturer must provide.

**INTEGRATION**

Installation

* To allow wiring flexibility and connection of all types of connections, the device must be non-polarized and access to the terminals must be free.
* The fixing of the switch must be possible between the poles or the external fixing brackets.

Connection

* Free access to the terminals will allow connection by bars, cables or lugs by the front and / or rear of the terminals. For ease of wiring, an accessory holding a nut in place during the connection of the bars or cables must be able to be installed on the load break switch.
* The switch must allow connection of copper or aluminum conductors without additional accessories (the section is suitable for the equipment used).

This device must be SOCOMEC switch type "Inosys LBS" or equivalent