

The new line of GHISALBA contactors for applications up to 1000V DC in the photovoltaic electricity generation systems

The photovoltaic panels for generating electricity usually work in the field of low voltages (typically between 450 and 1000VDC).

The energy is then converted into alternating three-phase through a static converter and supplied to the end user (in case of an exchange with power supply, this one is often transformed to MV).

Between the panels and the converter a PV supply device is prescribed (CEI 0-16). Its aim is to divide the portion of generation from the transformation one. These devices are placed across the series of strings that form the photovoltaic field.

The converters used in these applications have an input characterized by a low inductance value, then the shut-off devices are generally sized in DC-1, ie a ratio of inductance and resistance equal to 1ms. The recovery-voltage and the arc energy are lower when compared to loads such as motors with excitation series (DC-5) or shunt (DC-3).

The up-to-date design philosophies use components currently available on the market such as load break switches or circuit breakers. These devices have the disadvantage that they can be operated manually and only admit a number of electrical and mechanical operations inherently low.

The new line of contactors Ghisalba introduces itself as the best alternatives to those devices.

To overcome the disadvantages of mandatory manual operations and the limited number of operations, you need a contactor for voltages and currents used in these systems, used instead of the devices mentioned above. Until now, in the photovoltaic sector the contactors were mainly used only as a device interface (DDI) between output ac and end users.

The new line of contactors for loads Ghisalba DC-1 to 500A 1000VDC can be used as a PV supply device in every applications where is used a load break switch.

The Ghisalba contactors enable to operate the remote control connection / disconnection of the panels from electronic conversion and has also smaller dimension; besides, they allow the connection of an higher number of auxiliary contacts or block signaling higher (min.8 cont. Aux). They have a high rate of closure / opening, and thus allows a rapid circuit-breaker in case of emergency or automatic adjustment of the plant.

Another significant feature of the use of contactors Ghisalba is a more efficient and safe extinguishing electrical arcs that are generated in the stages of connection / disconnection of the panels.