# **Special Purpose Fuses**

# European Fuses CV4 Flat Fuses 250V to 7.2kVDC - 3.6kV to 10kVAC

## Ferraz Shawmut FLAT FUSE range

High technology Ultra Fast fuses for protection of:

- Voltage commutated inverters (UPS and drives) (from 250 Vdc to 7200 Vdc)
- Medium Voltage drives or softstarters (from 3.6 kVac to 10 kVac)

### Flat fuse bodies offer you:

 A wide range of rated voltages: these flat body fuse links are available in various body sizes

providing protection for high power semiconductors such as diodes, thyristors, GTOs, IGBTs,

built into various devices. Thanks to their long flat bodies, nominal voltage can reach 10 kVac

(CV4 technology size "2 x 15 x 27").

This is a very good solution for Medium Voltage drive or softstarter protection.

Flat fuses have been designed to provide protection solutions for difficult applications (these flat fuses give low I<sup>2</sup>t responses and have extremely high breaking capacities).

- Easy assembly of several bodies connected in parallel to reach a sufficient rating. for example:
  - 325A (one body "2x15x27" 5kV CV4) / 1800A (6 bodies "2x15x27" 5kV CV4 in parallel) 250A (one body "2x15x27" 7.2KV CV4) / 1190A (5 bodies "2x15x27" 7.2KV CV4 in parallel)
- Significant improvement of the current carrying capability of the fuse thanks to the possibility of forced air cooling.
- Low circuit inductance: (from 10 to 50 nH depending on shape and mounting)

#### **Electrical benefits**

In nominal conditions, Flat Fuses add a minimum inductance (necessary in a fast switching converter: they can be used in Voltage commutated inverters).

In case of a fault, the Flat Fuses are able to ensure total protection of a GTO or rupturing case protection of an IGBT (Flat Fuses avoid IGBT case explosion and keep the busbar safe). Also, they are able to ensure quick disconnection of a damaged module in an inverter.

#### **Mechanical benefits**

They are easy to install on a busbar and maintenance is also easy. This is only an outline of the Ferraz Shawmut Flat Fuse's possibilities. Technical Support helps you make the best choice both technically and economically speaking.

For more information on Flat Fuse range, please contact Ferraz Shawmut Technical Support.



