High Power Switches

High Current Disconnectors

- Accept busbar dilatations thanks to built-in deformability (Flexible joints are not necessary)
- Low and constant voltage drop
- Self-cleaning effect on contact
- High short-circuit current withstand
- Large insulation and creepage distances
- Easy connections to:
  - Aluminium busbars by welding
  - Copper busbars by bolting
- Large customization possible with:
  - Actuators (motor, pneumatic, manual)
  - Auxiliaries (limit switches, locks, control boxes)
  - Adaptation to the connecting busbars.
- According to IEC 60947-3 / IEC 60077-1 (NFF 16101 / 16102)

**Main technical characteristics**

**Electrical Data**
- Temperature rise at nominal current (with 40°C max. Ambient temperature) less than: 65°C
- Typical temperature rise at nominal current (with 40°C max. Ambient temperature): 15°C above busbars
- Typical voltage drop at nominal current: 40 mV
- Peak short-circuit current withstand (upon circuit configuration): 8 x (Nominal current)
- Dielectric withstand strength:
  - Between live parts in open position: 10 kV - 50 Hz - 1 min
  - Between live parts and earth: 10 kV - 50 Hz - 1 min
  - Between auxiliary contacts and earth: 2.5 kV - 50 Hz - 1 min
  - Between motor (AC) and earth: 2 kV - 50 Hz - 1 min
- SCR leakage current breaking capacity (upon request): 1 A - 100 V DC L/R = 5 ms
- Power breaking capacity up to 100 kA - 100 V DC - L/R < 20 msec: Upon request

**Mechanical Data**
- Built-in standard deformability (longitudinally [dL] / transversally [dT] / axially [dA]) (higher values available upon request): 25 / 80 / 10 mm
- Mechanical endurance (with respect to maintenance instructions). Higher endurance upon request: 20 000 Cycles
- Typical duration of opening or closing operation:
  - With motor operation: 3 to 12 seconds
  - With pneumatic operation: Less than 1 second
- Ponctual contact temperature on live parts withstand without equipment damages: 140°C
**Technology**
- Visible break by direct seeing of the mobile silver-plated copper contacts
- Mechanically independant mobile contact arms with high-pressure springs
- Electrical contact with silver to silver contact
- Insulation with Fiberglass reinforced polyester insulators
- Operation mechanism of bichromate galvanized steel by a toggle closed system
- Disconnectors are self-supporting - Busbars support must be sized to withstand the disconnector additional weight
- Upon request, choice of input and output terminals in aluminium or silver-plated copper
- Upon request, two poles or change-over design by side association of two disconnectors

**Main dimensions**

<table>
<thead>
<tr>
<th>Nominal current (kA)</th>
<th>No. mobile contacts</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>12</td>
<td>200</td>
<td>90</td>
<td>130</td>
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<td>18</td>
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<tr>
<td>70</td>
<td>68</td>
<td>970</td>
<td>97</td>
<td>485</td>
</tr>
</tbody>
</table>

\[
\begin{array}{|c|c|c|c|c|c|}
\hline
\text{In} & C & C’ & D & E & E’ \\
\hline
>47 \text{ kA} & 892.5 & 460 & 842.5 & 820 & 460 \\
\leq 47 \text{ kA} & 802.5 & 432.5 & 780 & 792.5 & 432.5 \\
\hline
\end{array}
\]

**Deformability**
(Factory settings at: \( dL: \pm 12.5 \) - \( dT: \pm 40 \) - \( dA: \pm 5 \))

**Typical bolting scheme on copper connecting plates chosen from 0 to 60 mm**
Aluminium type

Copper type
Aluminium/Copper type

Copper/Aluminium type

FERRAZ has it all for defining and offering customized solutions to meet your most specific requirements:
- Adapted drives or control units
- Enclosures for switch protection
- Adapted technical performances (short-circuit current capability, endurance, grounding contacts)