## High speed bi-directional circuit breaker for DC applications
**DCBreak 900/1800 V**

### Main circuit

<table>
<thead>
<tr>
<th></th>
<th>DCBreak 915</th>
<th>DCBreak 1815</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage (Ue)</td>
<td>900 V</td>
<td>1800 V</td>
</tr>
<tr>
<td>Rated insulation voltage</td>
<td>2300 V</td>
<td>2300 V</td>
</tr>
<tr>
<td>Rated impulse withstand voltage</td>
<td>18 kV</td>
<td>18 kV</td>
</tr>
<tr>
<td>Rated operational current (Tamb =+40°C)</td>
<td>1500 A</td>
<td>1500 A</td>
</tr>
<tr>
<td>Conventional free air thermal current (Tamb =+40°C)</td>
<td>1500 A</td>
<td>1500 A</td>
</tr>
<tr>
<td>Rated short-circuit making and breaking capacity</td>
<td>30 kA</td>
<td>30 kA</td>
</tr>
<tr>
<td>Rated time constant T1</td>
<td>30 kA/0 ms</td>
<td>17 kA/0 ms</td>
</tr>
<tr>
<td>Rated time constant T2</td>
<td>30 kA/15 ms</td>
<td>30 kA/15 ms</td>
</tr>
<tr>
<td>Rated time constant T3</td>
<td>30 kA/50 ms</td>
<td>30 kA/40 ms</td>
</tr>
<tr>
<td>Rated time constant T4</td>
<td>30 kA/150 ms</td>
<td>30 kA/100 ms</td>
</tr>
</tbody>
</table>

**Operational performance capability**

- Direct over-current release:
  - 0.9 - 1.1 kA
  - 1.1 - 1.3 kA
  - 1.3 - 1.8 kA
  - 1.8 - 2.5 kA
  - 2.5 - 3.5 kA

- Peak arc voltage x Ue:
  - 2.5

- Power frequency withstand voltage (50 Hz, 1 min):
  - Across main contacts (open): 6.6 kV
  - Main circuit (closed) to earth and control circuit: 6.6 kV
  - Low voltages circuit to earth: 1.5 kV

### Control circuit

**Nominal voltage (DC)**

- 24 / 36 / 48 / 72 / 96 / 110 V

**Nominal closing power (Tamb =+20°C)**

- 1000 W

**Nominal holding power (Tamb =+20°C)**

- 10 W

- Holding resistance (not included)

### Auxiliary contacts circuit

- Number of standard contacts:
  - 2 NO / 2 NC
  - 4 NO / 4 NC
  - 6 NO / 6 NC
  - 8 NO / 8 NC

- Contact material:
  - Hard Silver (gold available)

- Rated voltage (potential free contacts):
  - 24 to 110 V

- Maximum breaking current:
  - Ohmic load at 110 V DC: 1 A
  - Inductive load = 15 ms at 110 V DC: 0.3 A

- Minimum let-through current at 24 V DC 10 mA:
  - 10 mA

### Operating conditions

#### Ambient temperature

- (according to class T1 of IEC60077-1Table 2) T.amb
- Air temperature: -25°C ± +40°C
- Inside vehicle compartment temperature: -25°C ± +50°C
- Inside cubicle temperature: -25°C ± +70°C

#### Relative humidity

- 95% at 40°C

#### Altitude

- 1400 m

#### Mechanical lifetime

- 500 000 operations

#### Humidity max

- 95%

#### Pollution degree

- PD3
<table>
<thead>
<tr>
<th>Minimum flashover distance</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
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<tbody>
<tr>
<td>DCBreak 900 V</td>
<td>90</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>to insulated wall</td>
<td>300</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>to earth (metal wall)</td>
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<td>DCBreak 1800 V</td>
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Main dimensions

DCBreak 915

Key
1 Main connections
2 Fixing points
3 Earthing point
4 Actuator supply point
5 Auxiliary contacts
6 Adhesive rating plate
7 Aluminum rating plate (on request)

Circuit breakerweight (kg) 28

DCBreak 1815

Key
1 Main connections
2 Fixing points
3 Earthing point
4 Actuator supply point
5 Auxiliary contacts
6 Adhesive rating plate
7 Aluminum rating plate (on request)

Circuit breakerweight (kg) 38

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abb.com/contactcenters

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