Earth leakage protection devices
Break time - Non-actuating time

The next informations stem from standards to which all Merlin Gerin residual current devices complies with:
- IEC 61008, EN 61008, NF EN 61008 for RCCB
- IEC 61009, EN 61009, NF EN 61009 for RCBO and add-on vigi blocks

Break time
Time which elapses between the instant when the residual operating current (IΔn) is suddenly attained and the instant of arc extinction in all poles.

Non-actuating time
Maximum delay during a value of residual current higher than the residual non-operating current (IΔn0 = IΔn/2) can be applied to the residual current device without causing it to operate.

Standard values of break time and non-actuating time
For operating voltage between 0,85Un and 1,1Un (Un = rated operational voltage).

<table>
<thead>
<tr>
<th>Type</th>
<th>In</th>
<th>IΔn</th>
<th>IΔn</th>
<th>2 IΔn</th>
<th>5 IΔn (1)</th>
<th>IΔt (2)</th>
<th>500 A ou 10 IΔn (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>general</td>
<td>any value</td>
<td>any value</td>
<td>300 ms</td>
<td>150 ms</td>
<td>40 ms</td>
<td>40 ms</td>
<td>40 ms</td>
</tr>
<tr>
<td>S</td>
<td>≥ 25 A</td>
<td>&gt; 30 mA</td>
<td>500 ms</td>
<td>200 ms</td>
<td>150 ms</td>
<td>150 ms</td>
<td>150 ms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>130 ms</td>
<td>60 ms</td>
<td>50 ms</td>
<td>40 ms</td>
<td>40 ms</td>
</tr>
</tbody>
</table>

(1) For the residual current devices of general type with IΔn ≤ 30 mA, 0,25 A may be used as an alternative to 5 IΔn.

(2) Applicable to residual current circuit-breakers with overcurrent protection (RCBO). The test is made with a current IΔ which is the lower of the followings currents: 500A or the lower limit of the overcurrent instantaneous tripping range according to type B, C or D as applicable.

(3) Additional values 5 A, 10 A, 20 A, 50 A, 100 A, 200 A, 500 A or 10 IΔn according to the greatest of these two values.

For the residual current devices of A type, the maximum break times shall also be valid, the current values IΔn, 2 IΔn, 5 IΔn, IΔt, 0,25A, 500A ou 10 IΔn, however, being increased by the factor 1,4 for residual current devices with IΔn > 10mA and by the factor 2 for residual current devices with IΔn ≤ 10mA.