<table>
<thead>
<tr>
<th>序号</th>
<th>名称</th>
<th>单位</th>
<th>参数</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>静触头间距</td>
<td>mm</td>
<td>9 ± 1</td>
</tr>
<tr>
<td>2</td>
<td>动触头行程</td>
<td>mm</td>
<td>2 ± 0.5</td>
</tr>
<tr>
<td>3</td>
<td>分闸速度</td>
<td>m/s</td>
<td>1.2 ± 0.2</td>
</tr>
<tr>
<td>4</td>
<td>合闸速度</td>
<td>m/s</td>
<td>0.8 ± 0.2</td>
</tr>
<tr>
<td>5</td>
<td>分闸弹簧时间</td>
<td>ms</td>
<td>&lt;2</td>
</tr>
<tr>
<td>6</td>
<td>间距中心距离</td>
<td>mm</td>
<td>340 ± 1.5</td>
</tr>
<tr>
<td>7</td>
<td>三相分合闸同期度</td>
<td>ms</td>
<td>&lt;2</td>
</tr>
<tr>
<td>8</td>
<td>合闸线圈电阻</td>
<td>Ω</td>
<td>&lt; 20</td>
</tr>
<tr>
<td>9</td>
<td>合闸时间</td>
<td>ms</td>
<td>25~60</td>
</tr>
<tr>
<td>10</td>
<td>分闸时间</td>
<td>ms</td>
<td>18~45</td>
</tr>
<tr>
<td>11</td>
<td>存储电容额定功率</td>
<td>W</td>
<td>40</td>
</tr>
</tbody>
</table>

### Switch Isolator Parameters

<table>
<thead>
<tr>
<th>序号</th>
<th>名称</th>
<th>单位</th>
<th>参数</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>额定电压</td>
<td>kV</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>额定电流</td>
<td>A</td>
<td>630</td>
</tr>
<tr>
<td>3</td>
<td>热稳定电流有效值</td>
<td>kA</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>动稳定电压峰值</td>
<td>kV</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>机械断口</td>
<td>kV</td>
<td>48</td>
</tr>
<tr>
<td>6</td>
<td>每相操作电压</td>
<td>U</td>
<td>&lt; 60</td>
</tr>
<tr>
<td>7</td>
<td>非同步性</td>
<td>mm</td>
<td>&lt; 2</td>
</tr>
</tbody>
</table>

**Product Features**

- This device is completely self-contained, and does not affect the normal operation of the original equipment and control of the circuit breaker.
- The sensor life is up to 100,000 cycles;
- Reflect the running state of the circuit breaker in real-time manner;
- Predict the potential failure and give sound and light alarms,
- Compare the SFT curve during opening/closing with the envelope of the manufactured products to determine any change in features of the circuit breaker;
- Make real-time monitoring on the opening and closing coils of the circuit breaker and play protective functions, and give alarm when the coil current is abnormal;
- Automatically save the data and graphics on operating characteristics, and correspond to the operation time;
- Allow with standard RS485/232 communication interface, and use modbus communication protocol to realize data transfer. All the monitoring parameters can be sent to the background terminal.
在线监测带来的变化

- 实时监控设备状态，避免设备过度使用或损坏。
- 提供实时的状态数据，便于及时调整维护策略。
- 通过智能诊断，预测设备故障，减少停机时间。

环境条件

- **环境温度**
  - 最高温度：+45℃
  - 最低温度：-25℃（允许在-30℃储存）
- **环境湿度**
  - 相对湿度：≤95%
  - 月平均相对湿度：≤90%
- **地基条件**
  - 无振动、无腐蚀性气体、无严重灰尘。
- **使用条件**
  - 无易燃和爆炸危险。

Changes brought by Online Monitoring

- Achieve transition from regular & scheduled maintenance to condition-based maintenance;
- Command the features and states of equipment in real-time manner, and offer maintenance service as required;
- Avoid excessive maintenance and running with faults;
- Upload the equipment status on as-needed basis to the centralized control room, and remotely monitor the status of the circuit breaker.

监测内容及意义 Monitoring Content and Significance

- 监测项目：合闸时间
  - 可以反映断路器动、静触头的特性，并可由标准曲线生成的假设图分析。
  - Monitoring item: Time displacement curve for closing

- 监测项目：断路器分闸行程
  - 确保分闸速度和分闸速度，确保触头分离符合产品要求。
  - Monitoring item: Over-travel of circuit-breaker

- 监测项目：断路器合闸时间
  - 合闸时间的变化反映机构的灵活性及机构磨损情况。
  - Monitoring item: Circuit breaker closing time
  - The change in closing time reflects the information on the mechanism flexibility and the mechanism abrasion.
Changes brought by Online Monitoring

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- Command the features and states of equipment in real-time manner, and offer maintenance service as required;
- Avoid excessive maintenance and running with fault;
- Upload the equipment status on as-needed basis to the centralized control room, and remotely monitor the status of circuit breaker.

Environmental Conditions for Use

- Ambient temperature:
  Maximum temperature: +45 °C
  Minimum temperature: -25 °C (allowable for storage and transportation at -30 °C)
- Environmental Humidity:
  Daily average relative humidity: ≤ 95%
  Monthly average relative humidity: ≤ 90%
- Earthquake intensity not more than 8grade;
- Usage conditions without water, oil, explosive and hazardous risks, no explosion risk, no existence of toxic gas or corrosive gas, no violent vibration.
**Monitoring item: Average closing speed of circuit breaker**

The average closing speed reflects the mechanism flexibility, while any change in closing energy can be found through the average speed. For spring mechanism, such change may be caused by decrease in the stiffness of closing spring.

**Monitoring item: Speed at instant of circuit breaker closing**

It can accurately calculate the closing speed at the instant of closing the circuit breaker. Over-low closing speed easily lead to welding fusion of contact when the making short-circuit has faults.

**Monitoring item: Time displacement curve for opening**

It can accurately reflect the opening features of dynamic contact for circuit breaker, and compare with the envelope generated by standard curve.

**Monitoring item: Average opening speed of circuit breaker**

The average opening speed reflects whether the force situations on the circuit breaker are normal during the process of opening. Over-high average speed will aggravate the mechanism strength of the circuit breaker and the operating vibration problems, and over-low average speed will affect the breaking current. In summary, the average speed must be adjusted to a reasonable extent.
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Monitoring from: Speed at instant of circuit breaker opening
The speed at instant of opening is the most critical data to determine if the circuit breaker successfully breaks the short-circuit current. When the speed at instant of opening fails to meet the requirements, extended arcing time will be caused when the short-circuit breaks, and the ablation of contacts will be aggravated.