HYSPC Three phase unbalance automatic adjusting device

1 Brief introduction and schematic diagram of the automatic adjustment effect

It is very common for three phase unbalance in the low voltage distribution. In the urban network and agricultural network, due to a large number of single-phase load, and it is extremely serious for three phase current unbalance phenomenon. The current unbalance in the power grid will increase the consumption of lines and transformer, lowering the function of transformer, affecting the safe operation of transformer, as well as zero drift, which may lead to three phase voltage unbalance, thus to lower the power supply quality. For the above mentioned condition, in order to optimize the power quality, saving energy and reducing emission, we has specially designed three phase unbalance automatic adjusting device. This device can filter more than 90% of the zero sequence in the rated capacity, and control the three phase unbalance degree within 10%.

Schematic diagram of the automatic adjustment effect of HYSPC three phase unbalance

Imported 100A from phase B, respectively transferred 50A to phase A and phase C, making output balance for phase A, phase B and phase C of the transformer, thus to avoid the power quality problems.

a. Effectively avoid partly heating and aging for the middle lines, even the risk of fire.
b. Effectively equipment error alarming caused by partly voltage unbalance
c. Effectively avoid the risk of systemic weak electric equipment burnt caused by high zero ground voltage.
d. Will not increase the active power consumption

2 Model and meanings

<table>
<thead>
<tr>
<th>HY</th>
<th>SPC</th>
<th>100 / 400 - 4 - W</th>
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<tbody>
<tr>
<td>Outdoors</td>
<td>4:Three phase four wire</td>
<td>3:Three phase three wire</td>
</tr>
<tr>
<td>Voltage grade: 400V</td>
<td>Capacity: 35kvar, 50kvar, 75kvar, 100kvar</td>
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<tr>
<td>Three phase unbalance adjustment</td>
<td></td>
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<tr>
<td>Corporate code</td>
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</table>

3 Normal working condition and installation condition

3.1 Environmental temperature: \(-10^\circ\text{C} \sim +40^\circ\text{C}\)
3.2 Relative humidity: \(5\% \sim 95\%\) without condensation.
3.3 Altitude: \(\leq 1500\text{m}, \text{between } 1500 \sim 4000\text{m},\) according to GB/T3859.2, the power will be lowered by 1% when adding 100m.
3.4 Environmental conditions: no harmful gas and steam, no conductive or explosive dust, no violent mechanical vibration
3.5 Outdoor installation: space of at least 15cm should be retained in the upper and lower outlet of the module, and space of at least 60cm shall be reserved in the front and back of the cabinet to facilitate maintenance.
4 Technical index

4.1 Working voltage range: three phase 400VAC ± 20%.
4.2 Working frequency: 50Hz, allowed deviation of ± 5%.
4.3 Zero sequence current compensation capacity: ≥90% (rated capacity)
4.4 Management capacity of three phase unbalance: ≤10% (rated capacity)
4.5 Full-response time for compensation: <10ms
4.6 Connection mode: Parallel connection
4.7 Power consumption: <2.5% of the capacity

5 Sketch diagram of outline size (100kavr Size diagram)

<table>
<thead>
<tr>
<th>Capacity (kavr)</th>
<th>Size (mm)</th>
<th>Weight (kg)</th>
<th>Installation size (mm)</th>
<th>Installation hole size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>W800 × D460 × H1150</td>
<td>50</td>
<td>610 × 240</td>
<td>4-Ø 13</td>
</tr>
<tr>
<td>50</td>
<td>W800 × D460 × H1150</td>
<td>60</td>
<td>610 × 240</td>
<td>4-Ø 13</td>
</tr>
<tr>
<td>75</td>
<td>W800 × D460 × H1150</td>
<td>75</td>
<td>610 × 240</td>
<td>4-Ø 13</td>
</tr>
<tr>
<td>100</td>
<td>W960 × D455 × H1130</td>
<td>95</td>
<td>770 × 250</td>
<td>4-Ø 13</td>
</tr>
</tbody>
</table>

6 Installation mode

7 Wifi module (mobile APP remote control) or GPRS module (controlled by PC terminal)
8.1 It can additionally be optional for Wifi module (mobile APP remote control) or GPRS module (controlled by PC terminal).

8 Order tips
8.1 Users need to provide some features of the applicable site or to be customized after measuring data.