



**In neutral phase installations where the voltage exceeds by over or under the allowable limits or when the neutral line falls, these situations can cause irreparable damage to the equipment connected to it. This solution detects this and acts on a relay to activate the necessary protection systems.**



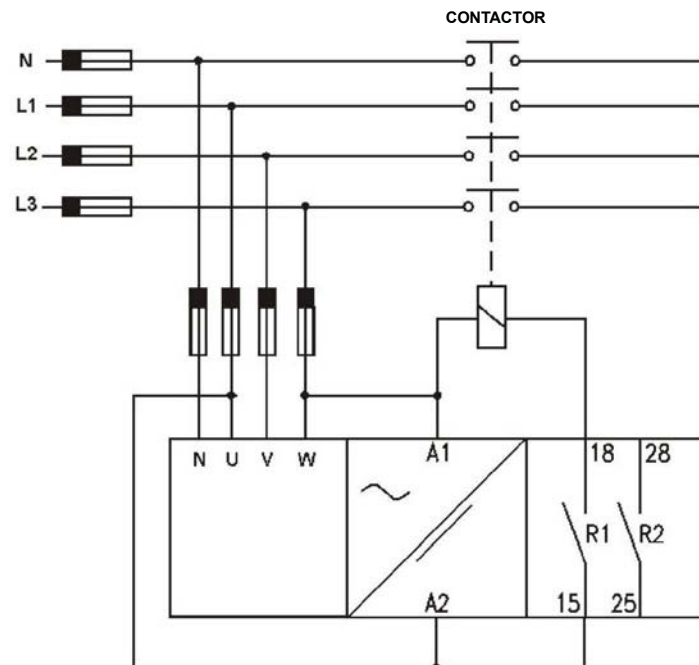
Scope of application	It is used to protect against the effects of overvoltage or undervoltage on low voltage. Overvoltages are controlled over 10% of the nominal value of the network and that last for several cycles or permanently. Rupture of the neutral or a fault with your connection also causes surges to be protected.																																																		
Legal regulations	Article 16 of REBT specifies the maximum value to be borne by receivers against the surge, grouped into four categories (1KV, 2.5 KV, 4kV, 6kV). Similarly, the ITC-BT-23 indicates that indoor facilities connected to a distribution line must be protected necessarily arérea surge.																																																		
Description	<p>Two methods are proposed to carry out this protection:</p> <ul style="list-style-type: none"> <li>- With minimum contactor or coil (using relay R1): By detecting the correct tension activates a contactor which allows the passage of the phase line.</li> <li>- By circuit breaker coil form (using relay R2): By detecting an incorrect voltage is turned off a breaker protection.</li> </ul> <p>The relays are activated by maximum between phase-phase, between neutral and phase-sequence fault.</p> <p>If you use a minimum contactor or coil, in addition, is activated by minimum-phase and phase to phase to neutral.</p> <p>The shot to the fault detection is delayed to ensure a correct reading-related stress levels and avoid small disturbances on the line.</p>																																																		
Advantages	<ul style="list-style-type: none"> <li>- Fast response to fault detection: A start-up: 200 ms Operating: 150 ms</li> <li>- Two modes:</li> <li>· Manual reset: using an automatic switch and a coil of admission.</li> <li>· Automatic start: with only one contactor.</li> </ul>																																																		
Necessary elements	<ul style="list-style-type: none"> <li>· Switch breaker or contactor, depending on the option chosen.</li> <li>· Digital control relay <b>SVPQ2A001 vvv ggg * 1</b></li> </ul> <p>In the case of wanting to change the default values †using a PC, you need:</p> <ul style="list-style-type: none"> <li>· Software media to digital control relays: <b>deCom</b></li> <li>· Programming interfaces <b>CBPZ</b></li> </ul>																																																		
Defaults	<p>For values of detection of the maximum stresses and/or minimum are considered the <math>\pm 10\%</math> of the nominal value. <math>\pm 2\%</math> on these values determine the reset voltage.</p> <p>For the detection timings is considered 80 ms.</p> <p>To reset the timings to 5 seconds is considered.</p>																																																		
Ranges	<table border="1"> <thead> <tr> <th rowspan="3"></th><th colspan="4">PHASE-PHASE VOLTAGE</th><th colspan="4">PHASE-NEUTRAL VOLTAGE</th></tr> <tr> <th colspan="2">MAXIMUM</th><th colspan="2">MINIMUM</th><th colspan="2">MAXIMUM</th><th colspan="2">MINIMUM</th></tr> <tr> <th>Detection</th><th>Reposition</th><th>Detection</th><th>Reposition</th><th>Detection</th><th>Reposition</th><th>Detection</th><th>Reposition</th></tr> </thead> <tbody> <tr> <td><b>400 + N</b></td><td>440</td><td>431</td><td>360</td><td>367</td><td>253</td><td>248</td><td>207</td><td>211</td></tr> <tr> <td><b>230 + N</b></td><td>253</td><td>248</td><td>207</td><td>211</td><td>146</td><td>143</td><td>120</td><td>122</td></tr> </tbody> </table>									PHASE-PHASE VOLTAGE				PHASE-NEUTRAL VOLTAGE				MAXIMUM		MINIMUM		MAXIMUM		MINIMUM		Detection	Reposition	Detection	Reposition	Detection	Reposition	Detection	Reposition	<b>400 + N</b>	440	431	360	367	253	248	207	211	<b>230 + N</b>	253	248	207	211	146	143	120	122
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Special precautions	<p>The supply voltage and auxiliary coil or contactor must be the same and correspond to one of the voltages between phases.</p> <p>The coil of the device must feed on L1-L3.</p> <p>The timing of the detection has to be at least 80 ms.</p> <p>The start time is 120 ms.</p>																																																		



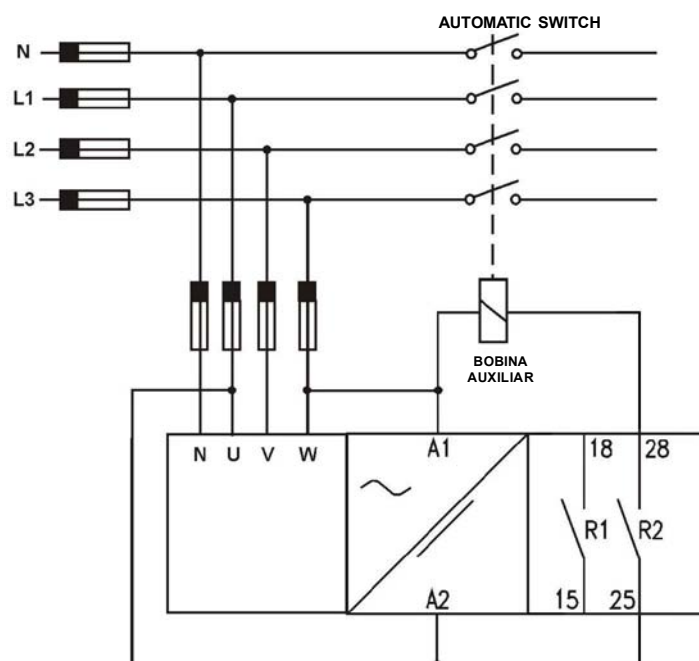
## PROTECTION TO PERMANENT OVERVOLTAGES (ACCORDING ART. 16 AND ITC-B-23 OF REGULATION REBT)

· *SVPQ2A001 vvv ggg<sup>\*1</sup>*

Connection  
by contactor



Connection  
by automatic switch



Note: \*1 vv: supply voltage value / ggg: range value



## PC programming: PROCESS

To install the solution follow these steps:

Run *deCom*



Configure the environment



If the environment is '**Online**' (make sure the appliance is connected to a computer)



· Selection option 'Search devices'



Once the device has been recognized will open a form

· Selection option 'Modify'



Edit the various values in each of the tabs (General, Working Mode and Timing) the characteristics of your installation.

· 'Accept' realize changes



· Update the selected device using 'Send data to device'



· Recommend 'Save file as...'



· If the environment is '**Offline**'



· Push 'SVP' bottom (three-phase relay with neutre)



· Selection 'Open' bottom



Choose the solution file (SVPQ2A001ggg\_sobretension.dgt<sup>2</sup>).

· Selection option 'Modify'



Edit the various values in each of the tabs (General, Working Mode and Timing) the characteristics of your installation.

· 'Accept' change realizes



· Selection option 'Save file as...'



Note: \*2 ggg: range value

For more information refer to 'Help'.

