The Voltage Battery Guard WVG 40/60 is an overvoltage threshold can be easily programmed. It does not need to be set manually. Both under and battery voltage (12V or 24V) of the system is, so that the WVG and in the programming mode the LED indicates the output status (on/off) of the WVG 40/60 as close as possible to the battery (maximum distance: 50cm).

Only in this way can the voltage be monitored exactly. Any programming of the WVG 40/60 must take place before the equipment (users) can be connected. For the minus connection use a cable of 1.5 mm² which goes directly from the battery to the WVG 40/60 and do not use this connection for anything else.

SAFETY
- The product should only be connected by skilled fitters / mechanics, who are aware of the regulations for working with high battery voltages.
- Live parts must not come into contact with the housing of the BG.
- Use of bad material and / or too thin wires can damage the BG.
- A short circuit between the positive and negative terminals of the battery may cause severe damage to your system.
- Always use fuses (of the correct value).

OPERATION
Once the WVG 40/60 is connected it will connect its output+ with the input+ after 5 seconds. This will remain so until an undervoltage, overvoltage or overcurrent is detected, or the user uses the remote input to switch off the WVG 40/60 manually.

Undervoltage
As soon as the voltage has been under the selected undervoltage value for 15 seconds, the alarm output switches on. A minute later the WVG 40/60 will switch off. If position 13 is selected, the alarm output switches off again, but if position 14 is selected the alarm output will only switch off the moment the reset value has been reached and the WVG 40/60 is switched on once more.

Overvoltage
When the voltage gets above the selected overvoltage value, the WVG 40/60 will switch off immediately. If position 13 is programmed, the alarm output will flash. If position 14 is selected the alarm output will do nothing.

Overcurrent
As soon as the WVG 40/60 has detected that a too large a voltage is running through the device, it will switch itself off. After one minute the WVG 40/60 will then switch itself on again.

Charger on the output
When an (active) charger is connected to the output, the WVG 40/60 will switch on so that the battery can be charged on the input. Irrespective of whether the charger remains on the output, the WVG 40/60 will now only switch off the moment that an undervoltage is detected or if too much current is passing from the input to the output. If this mode is reached, the user will not be able to program and/or switch off the WVG 40/60 via the remote. This function will not be available if the WVG 40/60 has detected that an (active) charger is connected to the output in order to prevent damage to the product.

Remote ON/OFF
You can connect a switch to the OFF terminal of the BG. If the OFF terminal is connected to the Minus the WVG 40/60 will immediately switch off the attached devices. If the switch is opened again, the WVG 40/60 will switch on again after about 5 seconds. Since the current through the switch is zero (<10mA) a small switch can be used. This function will not be available if the WVG 40/60 has detected that an (active) charger is connected to the output in order to prevent damage to the product.

PROGRAMMING
To start the programming mode a connection must be made between the Program Input and Input+. The LED will flash. The number of flashes indicates the program position (see table) that the WVG 40/60 is in. Once the desired program position is reached the connection (between the Program Input and the Input+) must be broken. The WVG 40/60 will repeat the number of flashes to confirm the program position. If it does not match your selection, you can repeat the steps.

Three settings can be applied. Positions 1 to 10 adjust the threshold and reset values for undervoltage. Positions 11 & 12 adjust the threshold and reset values for overvoltage, and with positions 13 and 14 the operation of the alarm function can be adjusted. These settings must be applied separately.

When removing the battery voltage the programmed positions remain retained. Once the programming is complete, the equipment can be connected. First disconnect the battery connection, connect the equipment to the Output+ and then reconnect the battery.

Note:
- Before programming first disconnect the equipment from the battery guard.

WARRANTY
Faulty units returned to us will be repaired or replaced free of charge without quibble. Usually, repaired faulty items are dispatched within 48 hours at being received. We have no control over the way the units are installed, the type of electrical system the units are installed on and the condition of such electrical systems, neither can we control the kind of load that is applied and the operating environment on which the units are used. So our guarantee is limited to the replacing of a failed unit, and we will not pay for any consequential damage.

This device complies with the EU directive 2004/108/EC. The type plate is located on the top of the device.
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Article Nr.</th>
<th>WVG-40</th>
<th>WVG-60</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60110240</td>
<td>60110250</td>
</tr>
</tbody>
</table>

#### Cable diameter
- WVG-40: 10mm²
- WVG-60: 15mm²

#### Automatic detection of 12V or 24V system
- WVG-40: 8-20V
- WVG-60: 20-35V

#### Adjustable undervoltage programs
- WVG-40: 10
- WVG-60: 15

#### Overvoltage disconnect voltage
- WVG-40: 12V mode 16V, 24V mode 32V
- WVG-60: 12V mode 16V, 24V mode 32V

#### Maximum load / shutdown
- WVG-40: approx 40A - 45A
- WVG-60: approx 60A - 65A

#### Surge
- WVG-40: 120A
- WVG-60: 120A

#### Voltage drop
- WVG-40: 0,1V @ 40A
- WVG-60: 0,1V @ 60A

#### Current consumption
- WVG-40: Output active: 4mA
- WVG-60: Output active: 2mA

#### Shutdown at overload / short circuit
- After 5 seconds (switch on again after 1 minute)

#### Voltage accuracy
- WVG-40: 2%
- WVG-60: 2%

#### Current accuracy
- WVG-40: 20%
- WVG-60: 20%

#### IP-code
- WVG-40: IP66
- WVG-60: IP66

#### Dimensions (H*W*D)
- WVG-40: 82x41x65mm
- WVG-60: 61x112x120mm

#### Weight
- WVG-40: 185g
- WVG-60: 730g

### 12 VOLT MODE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Undervoltage</th>
<th>Reset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position 1*</td>
<td>10,5V</td>
</tr>
<tr>
<td>Position 2</td>
<td>10,0V</td>
</tr>
<tr>
<td>Position 3</td>
<td>9,5V</td>
</tr>
<tr>
<td>Position 4</td>
<td>11,25V</td>
</tr>
<tr>
<td>Position 5</td>
<td>11,5V</td>
</tr>
<tr>
<td>Position 6</td>
<td>10,5V</td>
</tr>
<tr>
<td>Position 7</td>
<td>11,5V</td>
</tr>
<tr>
<td>Position 8</td>
<td>11,8V</td>
</tr>
<tr>
<td>Position 9</td>
<td>12,0V</td>
</tr>
<tr>
<td>Position 10</td>
<td>10,0V</td>
</tr>
</tbody>
</table>

### 24 VOLT MODE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Undervoltage</th>
<th>Reset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position 1*</td>
<td>21,0V</td>
</tr>
<tr>
<td>Position 2</td>
<td>20,0V</td>
</tr>
<tr>
<td>Position 3</td>
<td>19,0V</td>
</tr>
<tr>
<td>Position 4</td>
<td>22,5V</td>
</tr>
<tr>
<td>Position 5</td>
<td>23,0V</td>
</tr>
<tr>
<td>Position 6</td>
<td>21,0V</td>
</tr>
<tr>
<td>Position 7</td>
<td>23,0V</td>
</tr>
<tr>
<td>Position 8</td>
<td>23,6V</td>
</tr>
<tr>
<td>Position 9</td>
<td>24,0V</td>
</tr>
<tr>
<td>Position 10</td>
<td>20,0V</td>
</tr>
</tbody>
</table>

### CONFIGURATION TABLE

<table>
<thead>
<tr>
<th>Undervoltage</th>
<th>Reset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position 11*</td>
<td>10,5V</td>
</tr>
<tr>
<td>Position 12</td>
<td>11,5V</td>
</tr>
</tbody>
</table>

* Default settings.

**Normal alarm**
- Alarm output is activated in case of emergency:
- Deactivation after 1 minute.

**Relais function**
- Alarm is activated in case of emergency:
- Deactivation upon reaching the reset voltage

#### Wiring diagram
- Input+
- Output+
- Fuse
- Alarm/Buzzer
- On/Off (Closed=Off)
- Prop.
- Alarm
- Default
- Manual
- Off

---

WhisperPower BV Kelvinlaan 82, 9207 JB Drachten, The Netherlands, Tel: +31 (0) 512 571 550, Fax: +31 (0) 512 571 599, info@whisperpower.com, www.whisperpower.com