



# USER'S MANUAL

## WP-WVG 40/60

### Voltage Guard



- The Voltage Battery Guard WVG 40/60 is an intelligent, fully waterproof, battery guard with expansion capabilities for an on/off switch, alarm buzzer or relay and our Battery Watch (not supplied).
- The LED indicates the output status (on/off) of the WVG and in the programming mode the LED indicates the program position. The WVG is provided with an 'Automatic board system detection' with which the WVG automatically detects what the battery voltage (12V or 24V) of the system is, so that it does not need to be set manually. Both under and over voltage thresholds can be easily programmed.

### INSTALLATION

Mount the WVG 40/60 on a cooling (metal) surface so that it can release the developed heat. Connect 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 mm<sup>2</sup> 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.



CONFIGURATION TABLE	12 VOLT MODE	
SPECIFICATIONS	Undervoltage	Reset
Position 1*	10,5 V	12, V
Position 2	10, V	11,5 V
Position 3	9,5 V	11,5 V
Position 4	11,25 V	13,25 V
Position 5	11,5 V	13,8 V
Position 6	10,5 V	12,8 V
Position 7	11,5 V	12,8 V
Position 8	11,8 V	12,8 V
Position 9	12, V	13, V
Position 10	10, V	13,2 V

CONFIGURATION TABLE	24 VOLT MODE	
SPECIFICATIONS	Undervoltage	Reset
Position 1*	21 V	24, V
Position 2	20 V	23 V
Position 3	19 V	23 V
Position 4	22,5 V	26,5 V
Position 5	23 V	27,6 V
Position 6	21 V	25,6 V
Position 7	23 V	25,6 V
Position 8	23,6 V	25,6 V
Position 9	24 V	26, V
Position 10	20 V	26,4 V
	<b>Alarm function</b>	
Position 11*	Normal alarm	
Position 12	Relais function	

\* Default settings.

Normal alarm ▶ Alarm output is activated in case of emergency;  
Deactivation after 1 minute.

Relaisfunction ▶ Alarm is activated in case of emergency;  
Deactivation upon reaching the reset voltage

	WVG-40	WVG-60
Article Nr.	60110240	60110250
<b>TECHNICAL SPECIFICATIONS</b>		
Cable diameter	10mm <sup>2</sup>	15mm <sup>2</sup>
Automatic detection of 12V or 24V system	8-20V ▶ 12V mode 20-35V ▶ 24V mode	
Adjustable undervoltage programs	10	
Overvoltage disconnect voltage	12V mode ▶ 16V 24V mode ▶ 32V	
Maximum load / shutdown	approx 40A -45A	approx 60A -65A
Surge	120A	
Voltage drop	0,1V @ 40A	0,1V @ 60A
Current consumption	Output active: 4mA Output active: 2mA	
Shutdown at overload / short circuit	After 5 seconds (switch on again after 1 minute)	
Voltage accuracy	2%	
Current accuracy	20%	
IP-code	IP66	
Dimensions (H*W*D)	82x41x65mm	61x112x120mm
Weight	185g	730g

Wiring diagram / Anschlussschema / Schéma des connexions / Aansluitschema

