**VE.Direct communication port**
The VE.Direct port can be connected to:
- A computer (VE.Direct to USB interface cable needed)
- Apple and Android smartphones, tablets, MacBook’s and other devices
  (VE.Direct Bluetooth Smart dongle needed)

Fully configurable:
- Low battery voltage alarm trip and reset levels
- Low battery voltage cut-off and restart levels
- Dynamic cut-off: load dependent cut-off level
- Output voltage 210 - 245V
- Frequency 50 Hz or 60 Hz
- ECO mode on/off and ECO mode sense level

Monitoring:
- In- and output voltage, % load and alarms

**Proven reliability**
The full bridge plus toroidal transformer topology has proven its reliability over many years. The inverters are short circuit proof and protected against overheating, whether due to overload or high ambient temperature.

**High start-up power**
Needed to start loads such as power converters for LED lamps, halogen lamps or electric tools.

**ECO mode**
When in ECO mode, the inverter will switch to standby when the load decreases below a preset value (min load: 15W). Once in standby the inverter will switch on for a short period (adjustable, default: every 2.5 seconds). If the load exceeds a preset level, the inverter will remain on.

**Remote on/off**
A remote on/off switch can be connected to a two pole connector, or between battery plus and the left hand contact of the two pole connector.

**LED diagnosis**
Please see manual for a description.

**To transfer the load to another AC source: the automatic transfer switch**
For our low power inverters we recommend our Filax Automatic Transfer Switch. The Filax features a very short switchover time (less than 20 milliseconds) so that computers and other electronic equipment will continue to operate without disruption.

**Available with different output sockets**

<table>
<thead>
<tr>
<th>Schuko</th>
<th>UK</th>
<th>AU/NZ</th>
<th>IEC-320 (male plug included)</th>
<th>Nema 5-15R</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="schuko.png" alt="Schuko" /></td>
<td><img src="uk.png" alt="UK" /></td>
<td><img src="au_nz.png" alt="AU/NZ" /></td>
<td><img src="iec-320.png" alt="IEC-320" /></td>
<td><img src="nema-5-15r.png" alt="Nema 5-15R" /></td>
</tr>
</tbody>
</table>

**DC connection with screw terminals**
No special tools needed for installation
Phoenix Inverter

<table>
<thead>
<tr>
<th>Voltage</th>
<th>12 Volt</th>
<th>24 Volt</th>
<th>48 Volt</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/250</td>
<td>250VA</td>
<td>250VA</td>
<td>250VA</td>
</tr>
<tr>
<td>24/250</td>
<td>375VA</td>
<td>375VA</td>
<td>375VA</td>
</tr>
<tr>
<td>48/250</td>
<td>500VA</td>
<td>500VA</td>
<td>500VA</td>
</tr>
<tr>
<td>12/500</td>
<td>800VA</td>
<td>800VA</td>
<td>800VA</td>
</tr>
<tr>
<td>24/500</td>
<td>1000W</td>
<td>1000W</td>
<td>1000W</td>
</tr>
<tr>
<td>48/500</td>
<td>1200W</td>
<td>1200W</td>
<td>1200W</td>
</tr>
<tr>
<td>12/800</td>
<td>200VA</td>
<td>200VA</td>
<td>200VA</td>
</tr>
<tr>
<td>24/800</td>
<td>300VA</td>
<td>300VA</td>
<td>300VA</td>
</tr>
<tr>
<td>48/800</td>
<td>400VA</td>
<td>400VA</td>
<td>400VA</td>
</tr>
<tr>
<td>12/1200</td>
<td>600VA</td>
<td>600VA</td>
<td>600VA</td>
</tr>
</tbody>
</table>

Cont. power at 25°C (1)
- 250VA
- 375VA
- 500VA
- 800VA
- 1000VA
- 1200VA

Cont. power at 25°C / 40°C
- 200 / 175W
- 300 / 260W
- 400 / 350W
- 650 / 560W
- 1000 / 850W

Peak power
- 400W
- 700W
- 900W
- 1500W
- 2200W

Output AC voltage / frequency (adjustable)
- 230VAC or 120VAC +/- 3% 50Hz or 60Hz +/- 0.1%

Input voltage range
- 9.2 - 18.4 - 34.0 - 56.0V

DC low shut down (adjustable)
- 9.3 / 18.6 / 37.2V

Battery charged detect (adjustable)
- 9.3 / 18.6 / 37.2V

Max. efficiency
- 87 / 88 / 88%
- 89 / 90 / 90%
- 90 / 90 / 91%
- 90 / 90 / 91%
- 91 / 91 / 92%

Zero-load power
- 4.2 / 5.2 / 7.9W
- 5.6 / 6.1 / 8.5W
- 6 / 6.5 / 9.9W
- 6.5 / 7 / 9.5W
- 7 / 8 / 10W

Default zero-load power in ECO mode
- 0.8 / 1.3 / 2.5W
- 0.9 / 1.4 / 2.6W
- 1 / 1.5 / 3.0
- 1 / 1.5 / 3.0
- 1 / 1.5 / 3.0

ECO mode stop and start power setting
- Adjustable

Protection (2)
- a - f

Operating temperature range
- -40 to +65°C (fan assisted cooling)
- -40 to +65°C (fully configurable)
- Derate 1.25% per °C above 40°C

Humidity (non-condensing)
- max 95%

Material & Colour
- Steel chassis and plastic cover (blue Ral 5012)

Battery-connection
- Screw terminals

Maximum cable cross-section
- 10 mm² / AWG8
- 10 mm² / AWG8
- 10 mm² / AWG8
- 25/10/10mm² / AWG8/8/8
- 35/25/25 mm² / AWG2/4/4

Standard AC outlets
- 230V: Schuko (CEE 7/4), IEC-320 (male plug included)
- UK (BS 1363), AU/NZ (AS/NZS 3112)
- 120V: Nema 5-15R

Protection category
- IP 21

Weight
- 2.4kg / 5.3lbs
- 3.0kg / 6.6lbs
- 3.9kg / 8.5lbs
- 5.5kg / 12lbs
- 7.4kg / 16.3lbs

Dimensions (hwxwd, mm)
- 86 x 165 x 260
- 86 x 165 x 260
- 86 x 172 x 275
- 105 x 216 x 305
- 117 x 232 x 327

Weight
- 2.4kg / 5.3lbs
- 3.0kg / 6.6lbs
- 3.9kg / 8.5lbs
- 5.5kg / 12lbs
- 7.4kg / 16.3lbs

Dimensions (hwxwd, inch)
- 3.4 x 6.5 x 10.2
- 3.4 x 6.5 x 10.2
- 3.4 x 6.8 x 10.8
- 4.1 x 8.5 x 12.1
- 4.6 x 9.1 x 12.9

Accessories
- Remote on-off
- Automatic transfer switch

Standards
- Safety
  - EN-IEC 60335-1 / EN-IEC 62109-1
- EMC
  - EN 55014-1 / EN 55014-2 / IEC 61000-6-1 / IEC 61000-6-2 / IEC 61000-6-3

Battery Alarm
An excessively high or low battery voltage is indicated by an audible and visual alarm, and a relay for remote signalling.

BMV Battery Monitor
The BMV Battery Monitor features an advanced microprocessor control system combined with high resolution measuring systems for battery voltage and charge/discharge current. Besides this, the software includes complex calculation algorithms to exactly determine the state of charge of the battery. The BMV selectively displays battery voltage, current, consumed Ah or time to go. The monitor also stores a host of data regarding performance and use of the battery.

VE.Direct Bluetooth Smart dongle
(must be ordered separately)