VarioTrack
VT-65, VT-80

MPPT solar charge controller 65 / 80A
Up to 150V (Voc) PV input
IP 54 enclosure and fully protected against wrong wiring

The VarioTrack solar charge controller maximizes the energy generated from solar panels in any solar installation. It contains an MPPT (Maximum Power Point Tracking) algorithm that continuously tracks the maximum power point and automatically charges the batteries in an optimal way with all the available solar power.

- Easy and safe commissioning with full protection against incorrect wiring
- Rugged and durable, this device is designed to perform in harsh environmental conditions (IP54)
- High conversion efficiency, 99%
- Up to 15 VarioTrack in parallel
- 4 step charger fully programmable for longer battery life
- Low self-consumption: < 1,2W in night mode
- Display with 7 LEDs showing status and battery current
- 5kW per unit and up to 15 units in parallel: 75kW
- Optimal usage in an Xtender system with synchronized battery management
- Suitable for any solar system
- Web access through Xcom-LAN or Xcom-GSM (opt.)
- 2 aux. contacts with module ARM-02 (opt.)

Designed to perform in harsh environment...
## Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>VT-65</th>
<th>VT-80</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance of the device</strong></td>
<td></td>
<td></td>
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<tr>
<td>Maximum conversion efficiency (in a 48V typical system)</td>
<td>&gt;99%</td>
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<tr>
<td>MPPT efficiency</td>
<td>&gt;99%</td>
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<tr>
<td>Ground fault detection</td>
<td>Programmable</td>
<td></td>
</tr>
<tr>
<td>Charging stages</td>
<td>4 stages: Bulk, Absorption, Float, Equalization</td>
<td></td>
</tr>
<tr>
<td>Battery temperature compensation (with accessory BTS-01)</td>
<td>-3mV/°C/cell (25°C ref) default value adjustable -8 to 0mV/°C</td>
<td></td>
</tr>
<tr>
<td>Maximum Stand-by self-consumption (48 V)</td>
<td>23 mA &lt; 1.2 W</td>
<td></td>
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<tr>
<td>Maximum Stand-by self-consumption (24 V)</td>
<td>30 mA &lt; 0.8 W</td>
<td></td>
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<tr>
<td>Maximum Stand-by self-consumption (12 V)</td>
<td>35 mA &lt; 0.5 W</td>
<td></td>
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<tr>
<td><strong>Electrical characteristics PV array side</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal battery voltage</td>
<td>12 Vdc, 24 Vdc, 48 Vdc, 12 Vdc, 24 Vdc, 48 Vdc</td>
<td></td>
</tr>
<tr>
<td>Maximum solar power recommended (85°C)</td>
<td>1000 W, 2000 W, 4000 W, 1250 W, 2500 W, 5000 W</td>
<td></td>
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<tr>
<td>Maximum open circuit voltage (Vac)</td>
<td>80 Vac, 150 Vac, 80 Vac, 150 Vac</td>
<td></td>
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<tr>
<td>Maximum functional circuit voltage</td>
<td>75 Vac, 145 Vac, 75 Vac, 145 Vac</td>
<td></td>
</tr>
<tr>
<td>Minimum solar functional circuit voltage</td>
<td>Above battery voltage</td>
<td></td>
</tr>
<tr>
<td><strong>Electrical Characteristics battery side</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal battery output current</td>
<td>65 A, 24 or 48 Vac</td>
<td>80 A</td>
</tr>
<tr>
<td>Operating voltage range</td>
<td>7-68Vdc</td>
<td></td>
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<tr>
<td>Remote temperature sensor (opt.)</td>
<td>BTS-01 or BSP 300/1200</td>
<td></td>
</tr>
<tr>
<td>Battery grounding possibility</td>
<td>Batt +, Batt -, Floating</td>
<td></td>
</tr>
</tbody>
</table>

### Electronic protections
- **Over temperature**
- **Reverse current at night** Prevented by relays
- **PV reverse polarity** Up to -150 Vac
- **Battery reverse polarity** Up to -150 Vac
- **Battery overvoltage** Up to 150 Vac

### Environment
- **Operating ambient temperature range** -20 to +55°C
- **Humidity** 100%
- ** ingress protection of enclosure** IP54, IEC/EN 60529:2001
- **Mounting location** Indoor

### General Data
- **Warranty** 5 years
- **ISO Certification** 9001:2008 / 14001:2004
- **Weight** 5.2kg, 5.6kg
- **Dimensions [mm] [mm]** 120/120/310, 120/120/350
- **Parallel operation (segregated PV arrays)** Up to 15 devices
- **Max wire size [battery]** 35mm²
- **Glue [battery]** M20 x 1.5

### Communication
- **Network cabling** Studer communication BUS
- **Remote control and display** RCC-02/03
- **Communication module** Xcom-2220 / Xcom-LAN / Xcom-GSM / Xcom-SMS
- **Menu languages** English/French/German/Spanish
- **Data logging** With RCC-02/03 on SD card - One point every minute

### According to standards
- **CE compliant** LVD 2006/95/EC - LV 2006/95/EC - RoHS 2011/65/EU
- **Safety** IEC/EN 62109-1:2010
- **EMC (Electro Magnetic Compatibility)** IEC/EN 61000-6-3:11, IEC/EN 61000-6-12005

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**The VarioTrack in an Xtender system - Display and programming possibilities**

Designed to function in any solar installation, the VarioTrack works optimally in an Xtender system. The communication between the two devices allows for synchronized battery management.

The VarioTrack is fitted with several indicator lights and a control button for its basic operation. It is also possible to do basic programming using the DIP switches situated inside the device. By adding a remote control and programming center RCC-02/-03, the VarioTrack can use all functions available in the remote control such as display, programming, data logging etc.