PV Box RT

Product at a glance

The PV Box is a containerized plug and play power conversion system adapted to customer requirements and local standards. In a PV plant installation, it operates between DC field and AC MV grid connection point. The PV Box performs the DC power concentration, the DC/AC conversion, and the AC voltage elevation to the grid voltage level. The PV Box protects maintenance staff and the installation against electrical faults, such as short-circuit and lightning. The optimized versions of the PV Box reduce the balance-of-systems costs, increase reliability, and improve construction lead times.

True bankability
• Warranty from a trusted partner with 180 years of experience
• World leader in industrial power drives, UPS and electrical distribution
• Strong service infrastructure worldwide to support your global needs

Higher return on investment
• Compressed construction lead-times through factory integrated solution
• Reduced transportation, off-loading and on-site labor costs
• Enhanced uptime thanks to qualified and reliable designs

Designed for reliability
• Industrialized solution according to Schneider Electric proven industrial processes
• Equipment and integration made in Schneider Electric factories
• Configurable to withstand severe weather conditions: continental, tropical and desertic environments
• Undergone extensive safety, quality and reliability risk mitigation
• Proven robust design through rigorous Custom Reliability Testing
• Type-tested solution according to IEC-62271-202 including Arc Flash Testing (IAC-A)

Flexible
• Vast choice of power and AC medium voltage levels
• Suitable for most environmental conditions and local standards
• Configurable to be optimized for specific project needs

Easy to service
• Fully monitored solution
• Convenient and safe enclosure design for maintenance purposes
• Local Schneider Electric service and maintenance available in 100+ countries

Easy to install
• Ease in transportation due to its compact and light design (minimized width, height and length for easy shipping by road)
• Solution delivered pre-assembled, configured and tested to reduce on-site labor and project duration
• Integrated concrete basement requiring minimal civil works at site

Product applications

- PV power plants centralized
- Commercial grid-tie centralized
### Electrical specifications

<table>
<thead>
<tr>
<th>Device short name</th>
<th>PV Box RT 1080</th>
<th>PV Box RT 1260</th>
<th>PV Box RT 1360</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DC Input</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage range, MPPT</td>
<td>440 - 800 V (at PF=1)</td>
<td>510 - 800 V (at PF=1)</td>
<td>550 - 800 V (at PF=1)</td>
</tr>
<tr>
<td>Max. input voltage, open circuit</td>
<td>1000 V</td>
<td>1000 V</td>
<td>1000 V</td>
</tr>
<tr>
<td>Max. DC current</td>
<td>2 x 1280 A</td>
<td>2 x 1280 A</td>
<td>2 x 1280 A</td>
</tr>
<tr>
<td><strong>AC output</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal power</td>
<td>1080 kVA</td>
<td>1260 kVA</td>
<td>1360 kVA</td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>up to 36 kV</td>
<td>up to 36 kV</td>
<td>up to 36 kV</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Power factor range (PQ dispatch)</td>
<td>0 to 1 leading and lagging</td>
<td>0 to 1 leading and lagging</td>
<td>0 to 1 leading and lagging</td>
</tr>
</tbody>
</table>

### DC connection

- 2 x DC Box 6 input or 2 x DC Box 10 input (+/-)
- DC Box 6: 315 A, 350 A, 400 A / DC Box 10: 160 A, 200 A, 250 A
- Schneider Electric Minera oil type ONAN
- Schneider Electric RM6 ring main unit type NE-DI with Sepam 10 protection relay
- Schneider Electric Flusarc ring main unit type CB-C with Sepam 10 protection relay
- MV circuit breaker motorization, configurable timer
- Fire-extinguisher, insulated MV rod and gloves, insulating stool
- Contacts on doors and smoke detector (available with Conext Control option)
- Worldwide service team - consult your sales representative for service offer

### External operating conditions

- **Temperature**
  - Standard temperature range: -10°C / +40°C
  - Other temperature ranges: Continental (-20°C / +45°C), Desert / Tropical (-10°C / +50°C), Very cold (-35°C / + 45°C)
- **Pollution**
  - Standard low polluted environment (Rural and suburban environment): G4 filters
  - Option polluted environment (desert, urban...): External filter box (G4 and F9 filters, fans, speed drives)
- **Other conditions**
  - Max. relative humidity: 100%
  - Max. altitude above sea level: 2000 m
  - Max. wind speed: 123 km / h
  - Max. snow load: 250 kg / m²
  - IP grade LV / MV compartment: IP44 / IP54
  - IP grade transformer compartment: IP23

### General specifications

- **Dimensions and weight**
  - During transportation (H x W x D): 3.10 x 2.50 x 8.90 (or 9.70) m
  - Assembled on site (H x W x D): 2.65 x 3.15 x 8.90 (or 9.70) m
  - Weight approx. with standard content: 24 tons
  - Material: Concrete basement included
  - Walls and roof: Sandwich panel with mineral wool (50 mm) El 30 minutes
- **Cooling**
  - LV and MV switchboard compartment: Ensured by inverter fans
  - Transformer compartment: Natural

### Regulatory approval

- **Electrical standards**: IEC 62271-202, IEC 61439, IEC 62271-200, IEC 60076
- **Type-test certification**: IEC 62271-202
- **Internal arc classification (acc. to IEC 62271-202)**: IAC-A
- **General ventilation filters standard**: EN779:2012
- **Building standards**: Eurocodes

Specifications are subject to change without notice.

- **Fuses may be ordered separately.**
- **To avoid simultaneous reconnection of every PV Boxes and for automatic opening and reclosing on grid voltage loss (grid requirement).**
- **Derating:** See Conext Core XC inverter application note.
- **For dust or sand (IEC 60721-2-5 (§4.2.4)) size<150 μm and concentration>2 mg / m³.**
- **Power derating above 1000 m. Above 2000 m special requirements.**
- **In case of filter box option.**
- **Extra fans in filter box only for polluted environment.**