PV Box ST+ 2720

Containerized plug and play power conversion system adapted to customer requirements and local standards up to 2.72MVA

The PV Box is a power conversion system. 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.

Why choose PV Box ST+?

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

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
- Standard 40 feet ISO certified container for ease of shipment worldwide
- Solution delivered pre-assembled, configured and tested to reduce on-site labor and project duration

Product applications

PV power plants centralized
Commercial grid-tie centralized

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**PV Box ST+ 2720**

**Device short name** | PV Box ST+ 2160 | PV Box ST+ 2520 | PV Box ST+ 2720
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### Electrical specifications

**DC input**
- **Voltage range, MPPT**
  - 440 - 885 V (at PF=1)
  - 510 - 885 V (at PF=1)
  - 550 - 885 V (at PF=1)
- **Max. input voltage, open circuit**
  - 1000 V
- **Max. DC current**
  - 4 x 1280 A

**AC output**
- **Nominal power**
  - 2160 kVA
  - 2520 kVA
  - 2720 kVA
- **Nominal voltage**
  - up to 36 kV
- **Frequency**
  - 50/60 Hz
- **Power factor range (PQ dispatch)**
  - 0 to 1 leading and lagging

**Equipment**
- **Inverters**
  - 4 x XC 540
  - 4 x XC 630
  - 4 x XC 680
- **DC connection**
  - 4 x DC Box 6 input or 4 x DC Box 10 input (+/-)
- **DC fuse range**
  - DC Box 6: 315 A, 350 A, 400 A
  - DC Box 10: 160 A, 200 A, 250 A
- **Transformer type**
  - Schneider Electric Minera oil type ONAN
- **Transformer losses**
  - C0Bk (according to EN 50464-1) or compliant with Ecodesign regulation (depending on geographies)
- **Medium voltage switchgear**
  - U < 24 kV: Schneider Electric RM6 ring main unit type NE-DI with Sepam 10 protection relay
  - 24 kV < U < 36 kV: Schneider Electric Flusarc ring main unit type CB-C with Sepam 10 protection relay

**Optional content**
- **Monitoring and control**
  - Conext Control™ (by Schneider Electric) monitoring cabinet with secured power supply
- **Automatic progressive reconnection**
  - MV circuit breaker motorization, configurable timer
- **Auxiliary nominal power transformer**
  - 15 kVA / 400V
- **DC input measurement**
  - DC Box monitored
- **Safety kit**
  - Fire-extinguisher, insulated MV rod and gloves, insulating stool
- **Service kit**
  - Contacts on doors and smoke detector (available with Conext Control option)
- **Service contract**
  - Worldwide service team - consult your sales representative for service offer

### External operating conditions

**Temperature**
- **Standard temperature range**
  - -10°C / +45°C
- **Other temperature ranges**
  - Desert (-10°C / +50°C)

**Pollution**
- **Standard low polluted environment**
  - G4 filters
- **Option polluted environment (desert, urban...)**
  - Internal filter box (G4 and F9 filters, fans, speed drives)
- **Option saline environment**
  - CS paint

**Other conditions**
- **Max. relative humidity**
  - 100%
- **Max. altitude above sea level**
  - 2000 m
- **Max. wind speed**
  - 180 km / h
- **Max. snow load**
  - 250 kg / m²
- **IP grade LV / MV compartment**
  - IP54

**General specifications**

### Dimensions and weight
- **During transportation (H x W x D)**
  - 2.90 x 2.44 x 12.19 m + Transformer
- **Assembled on site (H x W x D)**
  - 2.90 x 3.38 (or 3.2(6)) x 12.19 m + Transformer (may change according to selected configuration; confirm with your sales representative)
- **Weight approx. with standard content**
  - < 26 tons

**Material**
- **Basement**
  - Light basement to be done on site for PV Box and Transformer
- **Walls and roof**
  - Standard 40" ISO high cube container with insulating layer

**Cooling**
- **LV and MV switchboard compartment**
  - Ensured by inverter fans

**Regulatory approvals**
- **Electrical standards**
  - IEC 62271-202, IEC 61439, IEC 62271-200, IEC 60076
- **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.

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

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