### Inverter Models and Components

#### Ingress Protection Rating
- **IP65**: Dusttight and protected against water penetration from all directions.

#### Operating Temperature Range
- **-25°C to +60°C**

#### AC Current Characteristic
- **Rated Power**: 33000 W @ 45°C amb.

#### DC Current Characteristic
- **Idc min**: 580 - 850 V
- **Idc max**: 120 mm

#### Protection Class
- **I**: Equipment with residual current protective device.

#### Compliance Markings
- **CB 2002/95/EC**: RoHS-compliant.

#### Regulatory Label Information
- **PRO-33.0-TL-OUTD-SX-400**
- **(-S model)**
- **PRO-33.0-TL-OUTD-400**

#### Mechanical Installation Requirements
1. **Position the inverter vertically** and install it on the installation area.
2. **Lock the unit to the wall-mounting plate.**
3. **Install the wall-mounting plate.**
4. **Mount the inverter vertically.**

#### Mechanical Installation Procedure
1. Lift the inverter vertically from the mounting plate.
2. Make a hole in the surface and install a plug, approximately 67 kg (148 lbs) and it is top heavy.
3. Lift the inverter carefully and steadily by hand.
4. Install the conductors in the correct L3, L2, L1, N and PE terminals.
5. Mount the display and keypad on the front panel of the inverter.

#### Electrical Installation
1. Connect the AC cabling.
2. Connect the DC input cables to the inverter.
3. Connect the DC input connection to the external string combiner box.
4. Install the conductors in the correct L3, L2, L1, N and PE terminals.
5. Connect the AC input cables to the inverter.
6. Tighten the terminal screws to 4...4.5 N·m with a 1.0x5.5 flat screwdriver.

#### Warnings and Symbols
- **RISK OF INJURY OR DEATH**
- **RISK OF ELECTRIC SHOCK**
- **RISK OF EQUIPMENT MALFUNCTION**

#### Marking Requirements
- **ABB Solar Inverters**
- **Quick installation and start-up guide**
- **PRO-3.0-TL-OUTD**

#### Inverter Models
- **PRO-3.0-TL-OUTD-SX-400**
- **(-S model)**
- **PRO-3.0-TL-OUTD-400**

#### Installation and Symbols
- **First cover**
- **Second cover**
- **Monitored input surge protection device (-S model)**
- **String current monitoring with configurable alarm level**

#### Links and References
- **www.abb.com/solar**

#### Symbols and Labels
- **ABB**
- **±**

#### Notes and Recommendations
- Make sure that all wiring is correct, leave as much space as possible.
- The inverter is capable of producing noise.
DC connections for the -SX model
1. Set the DC switch to OFF on the inverter (-S model) and isolate the inverter from all power sources.
2. Disconnect the DC input connectors to the DC cables.
3. Use the PV quick connectors to the DC cables.
4. Measure that the polarity of the strings at the DC connectors is correct.
5. Isolate the DC input cables from the PV modules.
6. Follow the unit instructions to complete the installation.
7. Connect the strings to the inverter one string at a time.
8. Set the DC switch to ON on the inverter (-S model).
9. Make sure that the wires are secure and cannot be pulled from the terminals.
10. Make sure that the strings are connected to the correct screw terminals according to their polarity and number markings.

WARNING! Do not use PV modules that require grounded DC+ or DC- conductors. The DC side and AC grid are not galvanically isolated.

Remove the sealing caps from the applicable connectors at the inverter. Keep the unused sealing caps at the installation site.

PV quick connectors (-SX model):
- Cable connectors: DC+: PV-CF-S (1774674) DC-: PV-CM-S (1774687)
- PV quick connectors: X1 (default OFF), X2:1 Data- Inverter RS-485 receive data socket, X2:2 Data+ Inverter RS-485 send data socket.
- For information on maintenance, refer to the PRO-33.0-TL Product manual.

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Maintenance
Recommended maximum PV array power (P<sub>array</sub>): 40000 Wp (Reconstructed maximum output power)
Rated input current (I<sub>in</sub>): 110 A
Rated input voltage (V<sub>in</sub>): 515 V
Rated input power (P<sub>in</sub>): 44000 W
Rated output current (I<sub>out</sub>): 58 A
Rated output voltage (V<sub>out</sub>): 400 V
Rated output power (P<sub>out</sub>): 33700 W
Nominal output power factor: 0.995, with P<sub>array</sub> < 20 W
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