PRODUCT & APPLICATION NEWS NO. 8 – NOVEMBER 2008

TripleLynx – 1000 V

Utilizing the high voltage range of 1000 V at open circuit reduces cable loss as more modules in series result in 40-60% fewer strings compared to other string inverters and considerable lower copper losses on the DC side.

Additionally, it means easy installation as fewer cables are required between modules and inverter saving 40-60% on the DC cable cost.

Benefits & Advantages

- Reduced installation time
- Easy Installation
- Higher yield (less DC cable loss)
- Cheaper installation
- 1000 V – unique for string inverters

Drive down system costs

1000 V

Reduce Costs

As the inverter can handle higher voltage than traditional inverters it is possible to connect more modules to each string. This reduces installation costs significantly as fewer cables, fewer connection boxes and fewer DC-switches are required. The system therefore becomes quicker and easier to install.

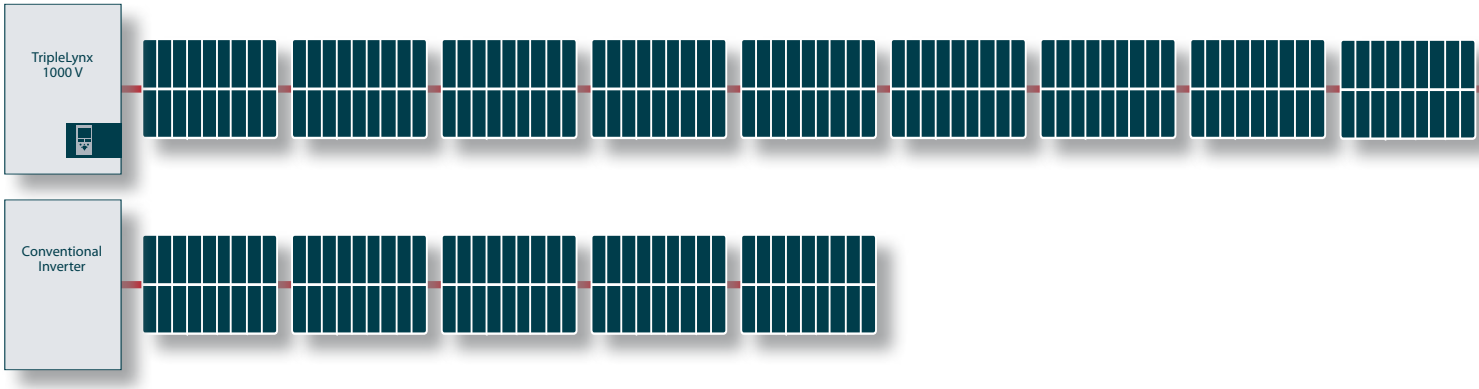
1000 V does not induce higher risks, the TripleLynx 1000 V inverter is as safe to install as an equivalent 500 V inverter.

Installing with 1000 V

Maximum open circuit voltage

The maximum open circuit voltage from the PV strings must not exceed the absolute maximum the inverter can withstand without damage (1000 V). Check the specification of the open circuit voltage at the lowest PV module operating temperature. Also check that the maximum-system voltage of the PV modules is not exceeded.

HINT: *A given PV string operated at -10 °C and 1000 W/m² has an open circuit voltage of 1000 V, which corresponds to an open circuit voltage of approximate 885 V at Standard Test Conditions (STC). This can easily be checked in the PV module data sheet, by multiplying the number of PV modules per string with the STC open circuit voltage given in the module data sheet.*



Reduce installation costs by connecting more modules per sting.

Optimizing the PV configuration

The output power from the inverter can be optimized by applying as much 'open circuit voltage' as possible/allowed per input though the 'open circuit voltage' should not be lower than 500 V.

Examples:

1. A PV system of 60 modules, each with an open circuit voltage of 50 V at -10 °C and 1000 W/m², has a 'total open circuit voltage' of 3000 V.
   With three inputs, this yields 20 modules per input corresponding to 1000 V at -10 °C and 1000 W/m².
2. Another PV system only has 50 modules of the same type as above, which correspond to a 'total open circuit voltage' of 2500 V. Thus, two of the inputs should have 20 modules to reach the optimum of 1000 V, and the last 10 modules should be placed on the last input.
3. Finally, a third PV system has 48 modules of the type described above, which corresponds to a 'total open circuit voltage' of 2400 V. The wrong solution is to apply 20 modules on each of the first two inputs and the last 8 modules on the third input. The voltage on the third input will be too low (400 V). The correct solution is to connect 20 modules in the first input and two times 14 modules on the last two inputs. This corresponds to 700 V at -10 °C and 1000 W/m².

As the TripleLynx inverter has no problem handling strings in both parallel and individual configuration, strings can be connected in either or mixed configuration as most suitable. Hence if you have 5 strings, 2×2 strings and 1×1 can be connected to the three inputs.

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