What is important to know about the operating temperature?

The operating temperature specified in the PLI manual refers to the ambient temperature in which the inverter can be used: Operating temperature: 0°C to 55°C, power derating from 40°C.

The internal temperature sensors are located on the heat sinks. If more than 100°C is measured on them, this triggers error 02 "Overtemperature". If the unit is used outside the operating temperature, or if the air supply / exhaust is blocked, the temperature at the heat sinks of the charge controller and inverter can rise to this level.

Why is program 28 not available or what is it used for?

Program 28 is only required when using several units with the help of the Parallel - Kits (sold separately).

This setting can only be made if the inverter is in "Standby mode", i.e. only operating the inverter in battery mode.

1) Main switch set to "On"
2) Main switch to standby mode "Off", then the display remains on for approx. 30 seconds and during this time the menu item "28" can be set
3) Main switch back to "On"

Why do the fans turn permanently?

The fans generally start up as soon as the device starts up. If the inverter is switched off and no PV energy is available, the fans and the display will stop. As soon as the inverter is switched on with the ON/OFF switch, or PV energy is present, the display switches on and the fans start as well. The fans always run at a constant speed. There is no speed control.

Since the energy density of the Solarix PLI is very high, the fans always run at low speed to keep the air moving at about ¼ speed. The fans are PWM controlled and operate proportionally to the power of the inverter. This serves to cool the power components before heat accumulation occurs. The advantage is that the service life of the components is increased. This is because the average temperature of the components is lower throughout the life of the inverter compared to a strategy where the fans only operate in response to a temperature rise.

Therefore, it is not recommended to install the device in a residential environment, for example, as the operating noise can be uncomfortably loud.

What are the requirements for connecting a generator?

Since in grid mode the generator not only supplies the loads at the AC output but also recharges the battery, it is generally recommended to use a generator with twice the size of the inverter.

Further technical requirements of the generator:

- Generator waveform THD: < 30%.
- If the generator outputs a square wave, output duty should be greater than 60%.
- Generator Vrms range: 100 ~ 270Vac
- Generator voltage crest factor(Vpeak/Vrms): < 1.6
- Generator peak voltage: <380V
- Generator frequency range: 45Hz ~ 63Hz
- Generator frequency slew rate: < 0.3Hz/sec

Why does the PLI not accept the grid connected to the AC input?

The PLI cannot stabilize the network in this sense, but either accepts it or not. There are quasi 3 modes of operation:

1. no voltage at the AC input, a voltage below 170 Vac (in UPS mode) or above 280Vac, or a frequency below 40Hz or above 65Hz. The stand-alone inverter in the PLI operates independently from the grid at 230 Vac / 50Hz.

2. the AC input has a voltage within 170 - 280 Vac and within 40 - 65Hz. However, due to the parameters of the PLI, the mains is not connected (By-Pass relay is open).

The island inverter in the PLI works with a stable 230 Vac and exactly the same frequency as the grid. It is therefore synchronized with the grid (in terms of frequency).

3. the AC input has a voltage within 170 - 280 Vac and within 40 - 65 Hz The mains is switched on, so the By-Pass Relay is closed.

The mains is now simply "passed through", the consumers are connected directly to the mains via the By-Pass Relays. As long as the grid operates within the voltage and frequency window, it is "accepted" by the PLI and not stabilized in any way. However, the grid is disconnected as soon as voltage or frequency go outside these windows.

Whether the batteries are "allowed" to be charged from the mains is defined in program 16 "Priority of charging source". It is never possible to charge the battery from the mains at the same time as the PLI is working in battery mode. If charging is currently done from the mains, the loads must also be supplied directly from the mains via the By-Pass Relays. It would not make much sense to charge the battery from the grid and discharge it at the same time to supply the loads via the inverter (bad efficiency). This is also technically not possible because the stand-alone inverter is the charger at the same time and can only charge from the grid or act as a stand-alone inverter in battery mode, but cannot do both at the same time (which would also not be permitted by standards, because then it could theoretically feed into the grid).

What is the maximum cross-section of the connecting cables?

Maximum cable cross-sections:
AC terminal 3-pole M4 max 6mm² All versions
DC terminal 2pin M5 max 6mm² PLI 2400-2424
DC terminal 2pin M5 max 10mm² PLI 5000-48

How loud is the operating noise of the equipment?

In idle: 36 dB
Under full load: 58 dB
Measurement 1m away from the device.

PLI5000-48: Can a load larger than 5KW be operated in bypass mode?

When the AC grid is available and the inverter is operating in AC mode, the inverter can bypass the AC grid to deliver up to 40A of current, which is about 8800W. However, when the inverter is operating in inverter mode, the maximum power is limited to 5KW.

Are settings lost when the device is disconnected from the battery?

The settings are stored in EEPROM without using the battery. If the battery could not be charged via the PV or AC grid for a longer period of time, we recommend disconnecting the battery from the inverter. This has no influence on the customer-specific settings.

PLI5000-48: Can lithium battery storage be used with the inverter?

Currently we can confirm the compatibility with certain lithium battery storage devices from Pylontech.

PLI5000-48: How high is the internal consumption during the different system states?

Battery mode without load: 53 W
Standby mode 10W
Power saving mode: <10W
Bypass mode: 0.6W
Mains operation with full battery: 50W