

## FAQ

### DC Questions :

#### The LCD screen indicates batteries voltage 12 Vdc or 24 Vdc :

The inverter must be connected to a 48 Vdc nominal voltage batteries bank only. If the battery voltage connected is 12 Vdc or 24 Vdc the inverter will not detect the batteries. Contact your installer to check the batteries connections.

#### The inverter does not detect the PV:

Open the circuit breaker between the PV and the inverter. Contact your installer in order to check the sizing of the PV string installed. Measures the DC voltage between (+) terminal and (-) terminal of the PV string. The DC voltage must be less than the maximum specified voltage indicated on the side plate on the side of the inverter. The PV DC voltage and current must be in the MPP range of the "PV INPUT". It is essential to match the specifications of the inverter in order to have a correct operation.

#### The batteries does not charge :

Reduce the power of the load below the PV power available, so the batteries can be charged by the PV. Check that the fuses holder of the batteries are closed and in good state. Check that the fuses holder of the PV are closed and in good state. Check that the batteries are in good state and the nominal voltage is 48 Vdc. In factory settings, the inverter charges the batteries from 01H00 to 04H00 with the public grid. If you wish to change the time window, it is possible to do it with the IMEON MANAGER software.

#### The batteries does not discharge :

IMEON smart inverter is using two internal voltage parameters to re-discharge the batteries in order increase life time of the batteries. The re-discharge voltage when grid is present is set at 54 Vdc. Before to be able to discharge the batteries again, the batteries voltage must reach 54 Vdc. Then the batteries will be able to be discharged until the "DOD with grid" set in IMEON MANAGER. The re-discharge voltage when grid is not present is set at 48 Vdc. Before to be able to discharge the batteries again, the battery voltage must reach 48 Vdc. Then the batteries will be able to be discharged until the "DOD without grid" set in IMEON MANAGER. If the DOD is set at 42 Vdc, the IMEON will switch off itself to protect the batteries against deep discharge.

#### Untimely tripping of the equipment:

When the insulation resistance of the PV is below 1M $\Omega$ , the IMEON indicates a "Riso" failure. Measure the PV voltage +/PE, -/PE and +/- in order to identify the earth leakage of a positive or negative pole on the string. Contact your installer in order to check and correct the earth leakage failure of the installation.

#### The public grid charge the batteries all the time :

It is possible to enable or disable the parameter "Allow AC to charge batteries" with the software IMEON MANAGER. In the "Flow manager" tab, set the parameter to "yes" or "no" then validate with the "OK" button and select the time window where the AC grid will charge the batteries and validate with the "OK" button.

The SOC display of the batteries fluctuate :

The SOC value displayed is an indicative value based on mathematical calculations. This SOC value give and indicative estimation and have accuracy tolerance. If you wish to have a more accurate SOC display, you will have to get an external meter. The IMEON display the SCO (State of Charge) depending of the batteries voltage. It is important to check the batteries used (GEL or AGM) before to install them. Make sure the battery absorption (Bulk) charge voltage and Float charge voltage are correctly set with IMEON MANAGER Software. On factory settings the absorption (Bulk) charge voltage is set at 56 Vdc and Float charge voltage is set at 54 Vdc. Contact your battery manufacturer to validate the battery sizing and the charge voltages with IMEON inverter. Contact your installer to check the settings values.

**AC Questions :**

No power is displayed on the “AC OUTPUT” of the inverter :

Make sure the public grid is only connected to the “GRID CONNECTION” socket and not the “AC OUTPUT” socket of the inverter. Never connect the public grid or other energy sources on the “AC OUTPUT” socket, this will damage irremediably the inverter. To activate the “AC OUTPUT” press and hold the “OK” button 3 seconds until an audible sound can be heard, then release the “OK” button. The house icon and the arrow appear on the LCD screen indicates that the output of the IMEON is activated.

At first commissioning the AC breaker between public grid an the IMEON tripp :

Use an adapted AC circuit breaker between the IMEON and the public grid and between the IMEON and the load. When the PV and the public grid feed together the load, the current is increased. Check and identify the Live and Neutral by measuring N/PE and L/PE. Contact your installer to check the measurement

The inverter indicates a high consumption from the public grid :

The IMEON inverter has a self consumption of several dozen watts. If there is high grid consumption from the public grid, then open the fuses holder between the batteries and the inverter, open the fuses holder between the PV and the inverter and open the AC breaker between the load and the inverter, remove all consumers between the public grid and the inverter. The inverter must be powered only by the public grid. Then measure with a calibrated wattmeter the power consumption between the public grid and the IMEON. Contact your installer to do the measurements.

The inverter indicates « Overload » :

The load power is higher than the power the inverter is able to feed. (i.e. with IMEON 3.6: 3kW with PV without public grid and 6kW with public grid). When the public grid is connected, the inverter LCD will indicate “Overload” when the load power is higher than the power that can deliver the IMEON, remove excess of load.

The PV power is feeding to the public grid :

It is possible to enable or disable the feeding to the public grid with the IMEON MANAGER Software. Set “Yes” or “No” in the parameter “Allow fed-in to the grid” in the “Flow manager” tab, then validate with the “OK” button.

The inverter does not synchronize with the public grid :

Make sure to have connected the Live, Neutral and Earth correctly on the “GRID CONNECTION” socket. Make sure the frequency and voltage are in the range of the operation of the inverter. In the three phase’s inverter, make sure the clockwise phase rotation is correct L1, L2 and L3. Contact your installer to check the AC wiring.

**Other questions:**

The LCD screen is blank :

Pressing any button on the inverter will activate the backlight of the LCD screen. If the display does not switch ON, then disconnect all power sources “GRID CONNECTION”, “AC OUTPUT”, “DC BATTERY” and PV INPUT”. Then wait 15 minutes before connecting only the public grid on the “GRID CONNECTION” socket. The display must switch ON after 3 seconds. If the display does not switch ON contact your installer.

Impossible to connect the inverter with IMEON MANAGER :

The IMEON MANAGER operates only with windows. The inverter must be connected with a USB cable only. Make sure that all software causing conflict are closed before to start IMEON MANAGER Software. Make sure the USB cable is not damaged. Disconnect the RS232 connector if the IMEON communicate with Lithium batteries.

Inverter indicate fans failure :

Make sure the fans are spinning freely and cooling correctly the system. The inverter must be installed in a dry and well ventilated area with no presence of dust. Excessive dust reduces the efficiency of the inverter and may cause internal overheating and could lead to fire hazard.



## Errors codes and messages displayed in IMEON MANAGER

Error code	designation
1	DC Bus over voltage
2	DC Bus under voltage
3	DC Bus soft start time out
4	Inverter soft start time out
5	Inverter short circuit
6	Over temperature
7	relay failure
8	DC current sensor failure
9	PV high voltage
10	Auxiliary power failure
11	PV input short circuit
12	RCD over
13	PV isolation low
14	Inverter DC current over
15	Anti islanding detection
16	RCD sensor failure
17	CPU failure
18	CPU failure
19	Ground loss
20	Discharge circuit failure
21	Discharge soft start time out
22	Battery over charge
23	Over load consumption
24	Battery open
25	Inverter output short circuit
26	Short circuit inverter
27	Fan failure



Error	Handling
<ul style="list-style-type: none"> <li>- DC bus overvoltage.</li> <li>- DC bus undervoltage.</li> <li>- Initialization DC bus delay exceed.</li> <li>- Initialization of the inverter exceed.</li> <li>- Over current detected.</li> <li>- Relay failure.</li> <li>- Current sensor failure.</li> <li>- Overcurrent on PV input.</li> <li>- Internal RCD failure.</li> </ul>	<ol style="list-style-type: none"> <li>1. Disconnect AC circuit breaker first. Then, disconnect DC circuit breaker.</li> <li>2. Until LCD screen completely shuts down, turn on DC breaker first. The public grid icon will flash. Then, turn on AC breaker. After 300 seconds, the system will automatically connect to the grid.</li> </ol>
<ul style="list-style-type: none"> <li>- Over-heating.</li> </ul>	<ol style="list-style-type: none"> <li>1. The internal temperature is higher than specified temperature.</li> <li>2. Leave inverter to be cooled to room temperature.</li> </ol>
<ul style="list-style-type: none"> <li>- Overvoltage of the "PV INPUT".</li> </ul>	<ol style="list-style-type: none"> <li>1. Disconnect the PV by opening the DC circuit breaker.</li> <li>2. Make sure the DC open circuit voltage is less than 510 Vdc.</li> </ol>
<ul style="list-style-type: none"> <li>- "AC OUTPUT" failure.</li> </ul>	<ol style="list-style-type: none"> <li>1. Turn off the inverter</li> <li>2. Then, restart the inverter.</li> </ol>
<ul style="list-style-type: none"> <li>- Leakage current failure.</li> </ul>	<ol style="list-style-type: none"> <li>1. The ground voltage is too high.</li> <li>2. Disconnect AC breaker first and then DC breaker. After LCD screen completely shuts down, check if grounding is connected properly.</li> <li>3. If grounding is correctly connected, turn on AC and DC breaker. The public grid icon will flash. Then, turn on AC breaker. After 300 seconds, the system will automatically connect to the grid.</li> </ol>
<ul style="list-style-type: none"> <li>- Insulation resistance failure (Riso).</li> </ul>	<ol style="list-style-type: none"> <li>1. Check if the impedance between positive and negative poles to the ground is greater than 1MΩ.</li> <li>2. If the impedance is lower than 1MΩ, please contact your installer.</li> </ol>
<ul style="list-style-type: none"> <li>- MCU and DSP value failure.</li> <li>- Connection failure between MCU and DSP.</li> <li>- Communication failure between MCU and DSP.</li> <li>- DC charger failure.</li> <li>- Initialization DC charger exceed.</li> </ul>	<ol style="list-style-type: none"> <li>1. Please disconnect AC breaker first and then disconnect DC breaker.</li> <li>2. After LCD screen is completely off, turn on AC and DC breaker. The public grid icon will flash. Then, turn on AC breaker. After 300 seconds, the system will automatically connect to the grid.</li> </ol>
<ul style="list-style-type: none"> <li>- Battery overvoltage failure.</li> </ul>	<ol style="list-style-type: none"> <li>1. Check if the connection between batteries and inverter is correct.</li> <li>2. Make sure battery condition is good state.</li> <li>3. Then, restart the inverter.</li> </ol>
<ul style="list-style-type: none"> <li>- "AC OUTPUT" Overload failure.</li> </ul>	<ol style="list-style-type: none"> <li>1. Remove excessive loads. Be sure that total connected loads are less than the maximum power consumption that this inverter can support.</li> <li>2. Then, restart the inverter.</li> </ol>



- Battery disconnected.	1. Check if battery cable is connected firmly.
- "AC OUTPUT" Overcurrent failure.	1. Remove excessive loads. 2. Then, restart the inverter.
- "AC OUTPUT" short circuit failure.	1. Turn off the inverter. 2. Disconnect AC circuit breaker first. Then, disconnect DC circuit breaker and then disconnect the loads. 3. Please check if load circuit is ok. After removing the error, turn on the PV DC breaker and battery breaker. 4. Turn on the inverter.
- Fan fault.	1. Please check if fans are running ok. 2. If fans are running ok, please shut down inverter first and then restart it. 3. If the fans are running but the failure remains, please contact your installer.