CONFIGURATION MANUAL

ITR 2.0

KOSTAL

(ETHERNET INTERFACE)

LACECAL

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2 INTRODUCTION

The ITR 2.0 can communicate with and control the PV production of KOSTAL PIKO and PLENTICORE inverters via the Ethernet bus. The connection to the inverters will be made using the Ethernet RJ45 network connector available on the ITR.

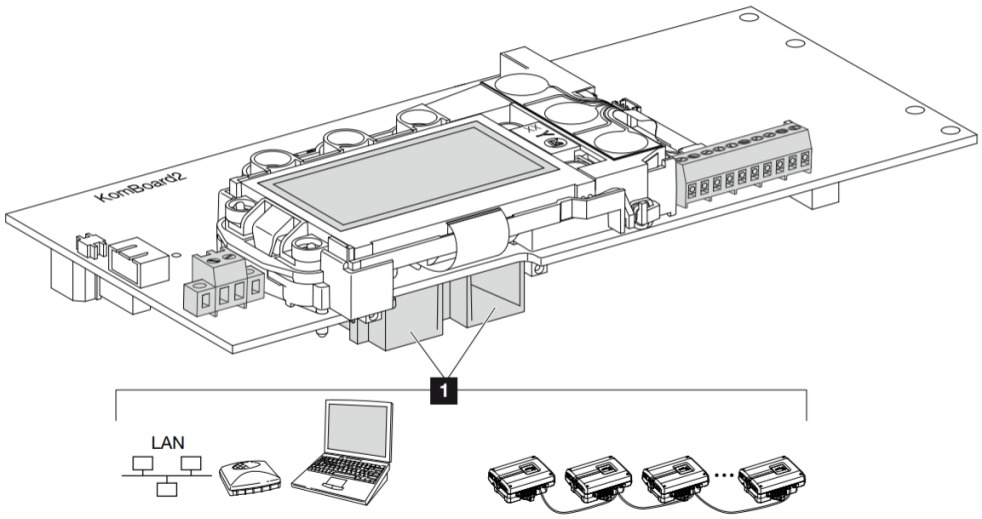
	**Refer to the specific KOSTAL manuals on Ethernet connection to determine cable types and maximum allowable lengths.**

	**This manual is a supplement to the manuals of the inverter manufacturer and the ITR 2.0 itself.** The information given in this manual covers the particular details of the ITR 2.0 communication with KOSTAL inverters using the Ethernet network, but does not replace the manufacturer's and ITR manuals, which should be consulted for the installation of the system.

3 CONNECTION

The inverters and the ITR 2.0 must be connected on the same local Ethernet network using standard network devices, such as routers or switchers.

The connection to the inverter is made using the RJ45 connectors available on your communication card.



	**Refer to the inverter manual to determine the location of the communication card.**

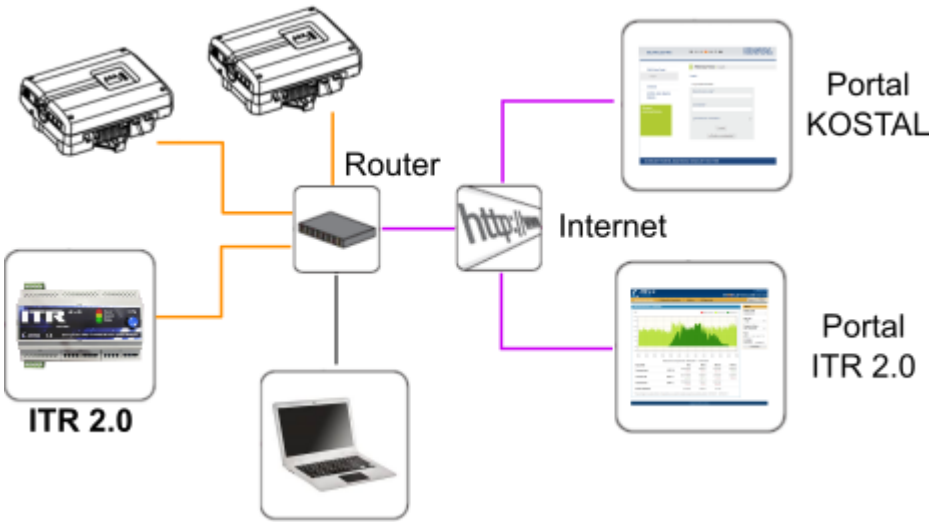
Optionally, the double RJ45 connector available on the inverters can be used to make an in-line connection between them.

It will also be necessary to connect a personal computer on the same local network to perform all system configuration:

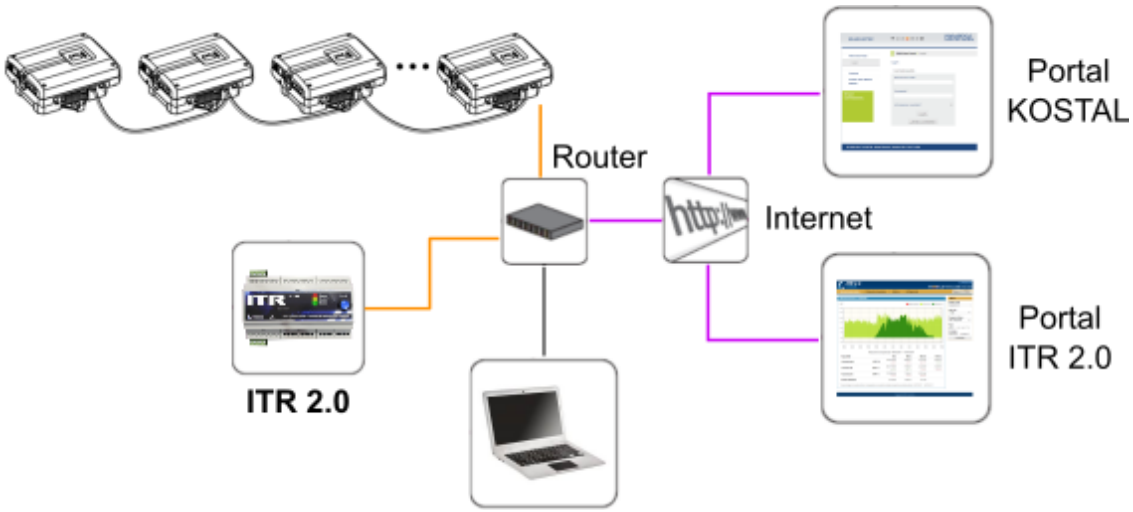
- No specific application is required to configure the ITR 2.0, as this is done via the integrated WEB server.
- The inverters can be configured through the inverter's own display and keyboard or through its WEB server.

If the local network has internet access, once the system is connected and correctly configured the inverters can send their information to the KOSTAL monitoring portal, and the ITR will send the operating data of the entire installation to its own WEB platform.

The following diagram shows a star topology connecting all devices to a central router that provides access to the Internet.



An in-line connection of the inverters is also possible using the two RJ45 connectors available on each inverter:



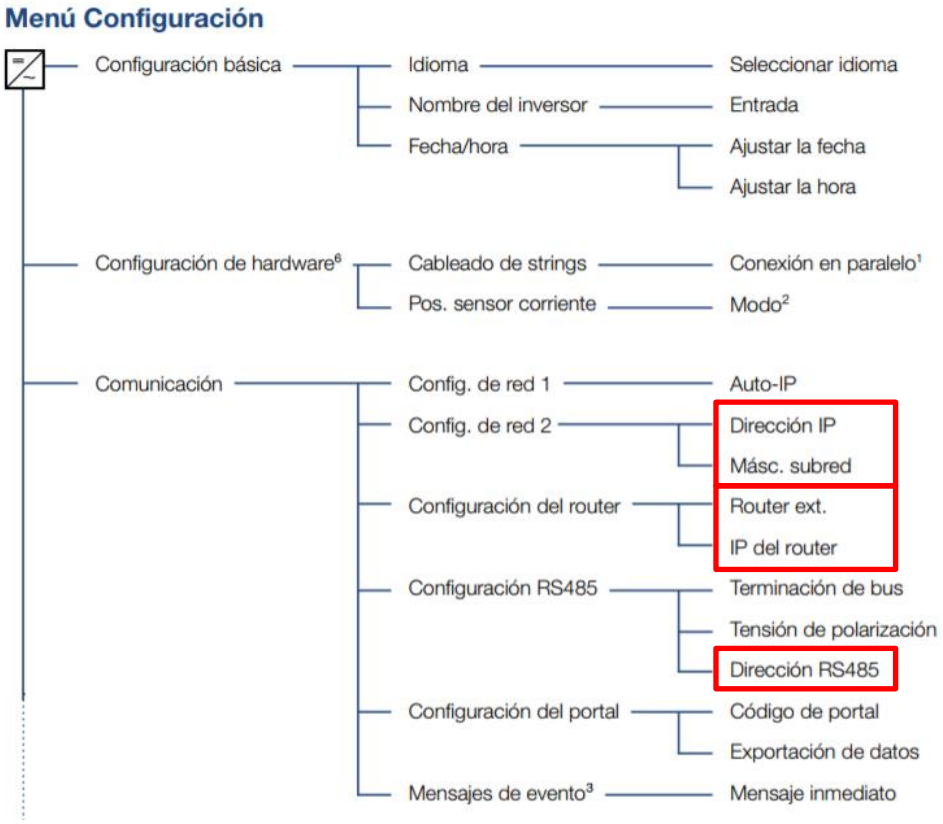
⚠	**Note that with this second topology, the failure of one inverter may result in the loss of communication with all downstream inverters.**

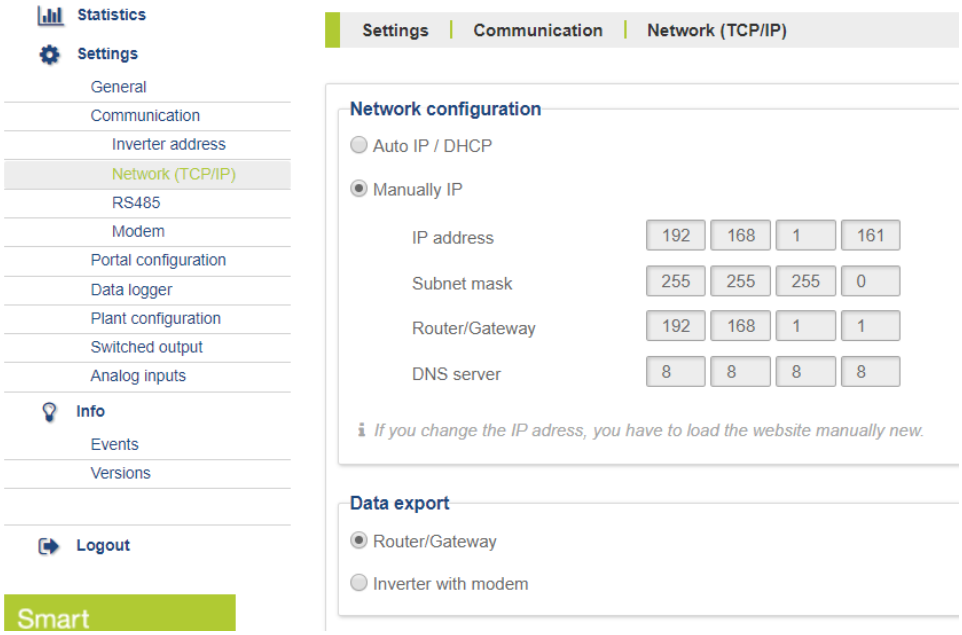
4 INVERTER CONFIGURATION

The Ethernet network parameters and the address assigned to the inverter in the communication protocol must be configured in each inverter.

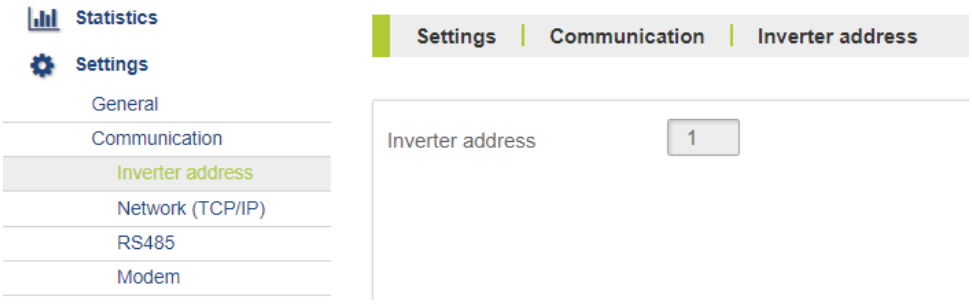
Configuration can be done via the inverter menu or via its integrated WEB server.

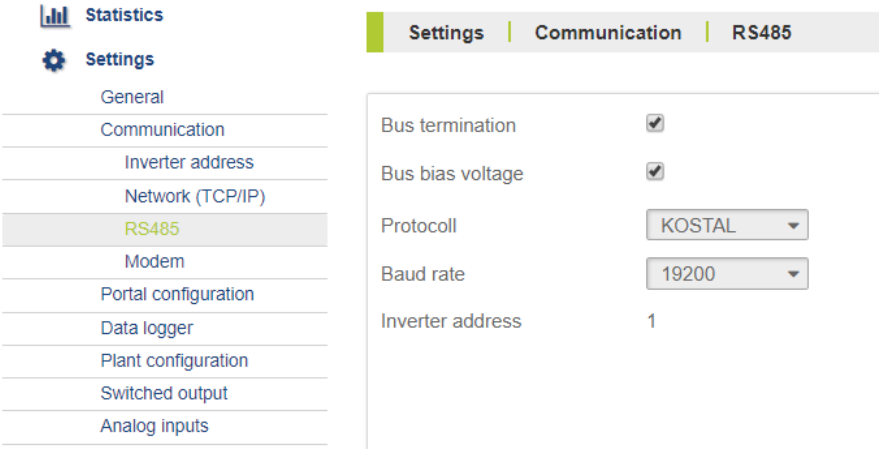
⚠	**Consult your local network administrator to determine the appropriate network parameters.** If you are connecting the inverters to an existing local network, the 'Router/Gateway' and 'DNS' addresses usually match the IP of the router providing Internet access. In addition, the IP address of each inverter must be unique throughout the local network.





⚠	In **ALL** inverters the RS485 address or 'Inverter address' must be set to 1.

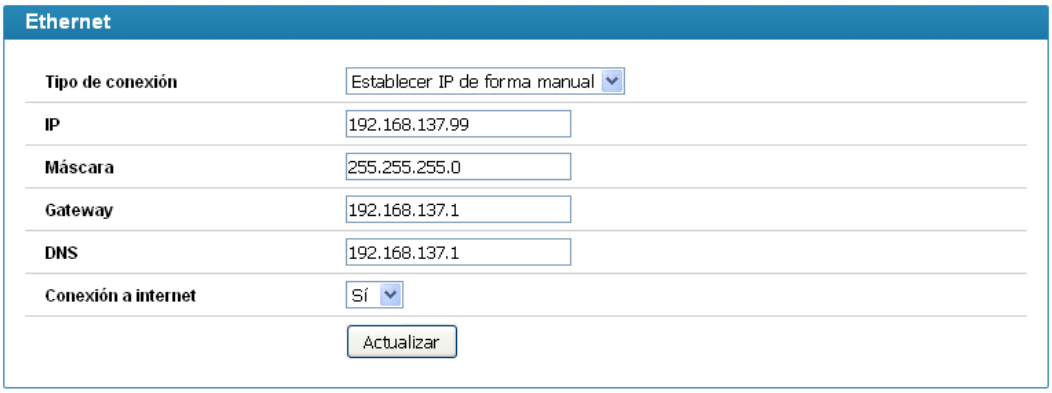




5 ITR 2.0 CONFIGURATION

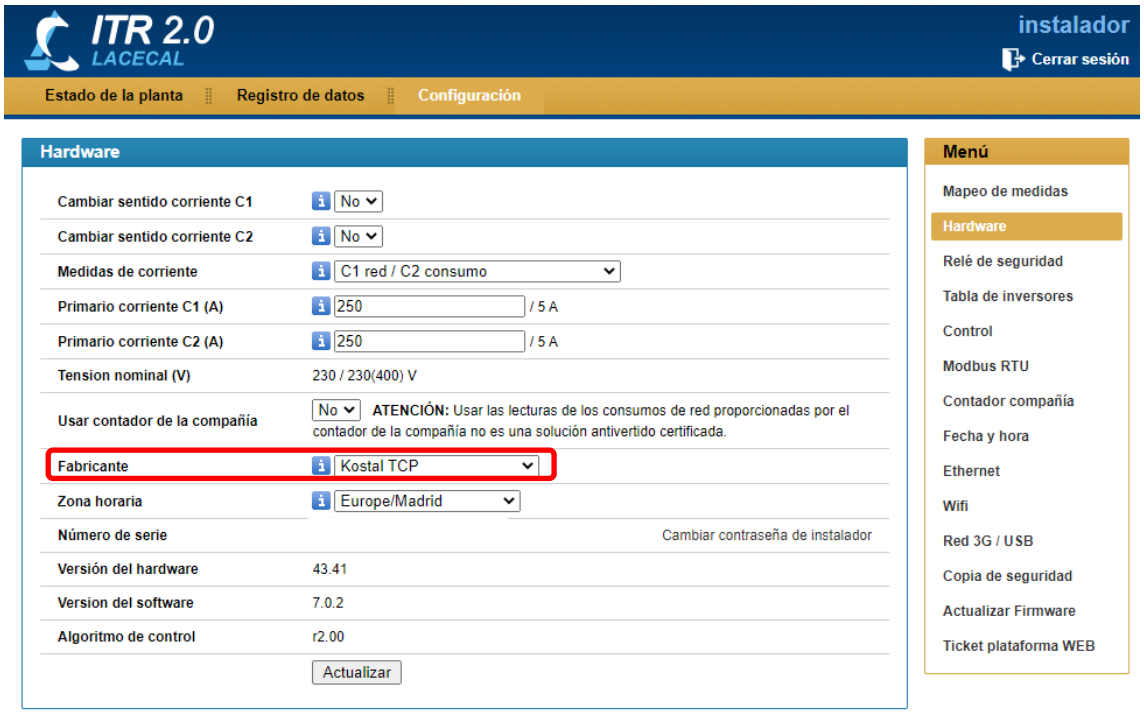
5.1 ETHERNET CONNECTION CONFIGURATION

As with the inverters, the ITR 2.0 must have a unique IP address on the network. Refer to the manual for the process of setting up the Ethernet network on the ITR.



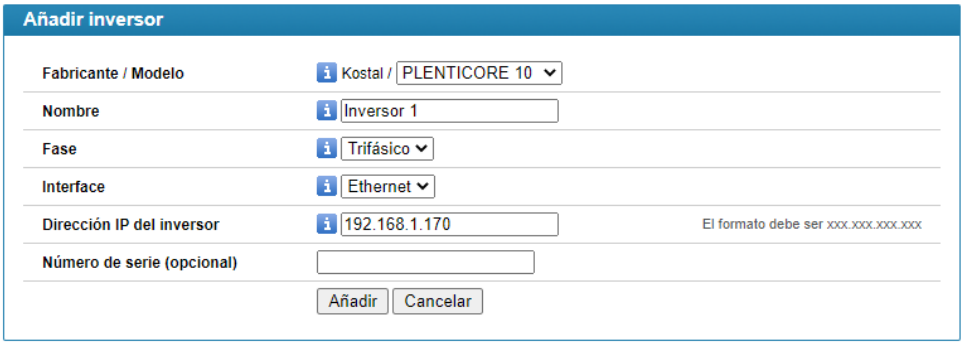
5.2 INVERTER CONFIGURATION

To configure the inverters in the ITR 2.0 the first step is to select from the list of manufacturers the option '**Kostal TCP**' in the menu 'Configuration' -> 'Hardware'.



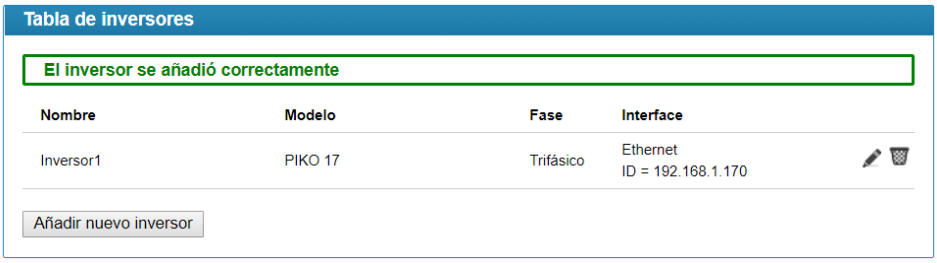
Next, in the 'Inverter table', the 'Add new inverter' button will be used to configure all the inverters in the plant.

The following window will then appear, where the particular data of the inverter must be entered:



- Model: The inverter model will be selected by means of the drop-down menu.
- Name: This is the name assigned to the inverter and will be used to identify it later in the data registry.
- Phase: If the inverter is three-phase there is no possibility to change the selection. If the inverter is single-phase, the grid phase in which it is connected will be indicated.
- Interface: The only available option will be 'Ethernet'.
- Inverter IP address: This is the IP address assigned to the inverter during its configuration.
- Serial number: This is an optional field to identify the inverter.

Once all the data has been configured, the inverter will be added by pressing the 'Add' button, which will automatically return to the 'Inverter Table'.



The same process must be repeated for each inverter in the plant.

6 FUNCTIONAL CHECK

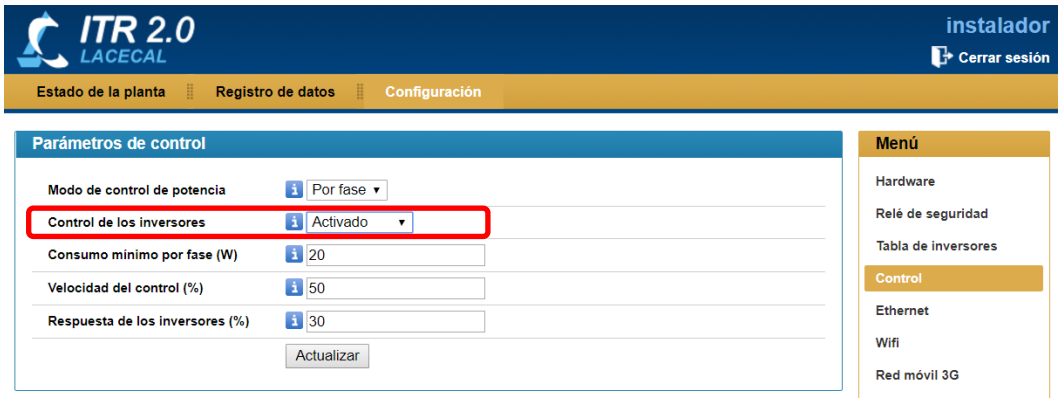
Finally, once the entire system has been configured, it is advisable to perform some checks to verify that it is working properly.

6.1 INVERTER COMMUNICATION

The first step is to verify that the communication with all inverters is correct. To do this, access the menu 'Plant Status' -> 'Controlled Devices', where a list of all inverters will appear. This list shows the current power they are generating, the percentage of regulation applied and the communication status.

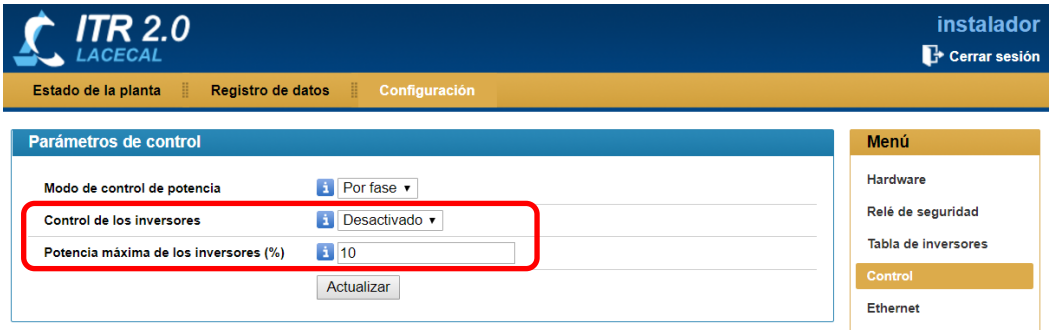
6.2 POWER REGULATION

It is also possible to verify that the power regulation is working. To do this, access the 'Configuration' -> 'Control' menu.



The default situation is that the inverter control is active to avoid dumping energy into the power grid. However, it can be temporarily deactivated to verify that the inverters adjust their production to the selected value.

To do this, select 'Disabled' in the 'Inverter control' option and then enter the maximum power percentage (with respect to the nominal power of each inverter) that is allowed to be generated. Values between 0% (off) and 100% can be selected.



	**Do not forget to return this option to its original setting to perform the zero injection control.**