

Merlino Medium Quick Start Installation Guide

Tools required:

- Battery drill (not provided)
- Female drill bit M10 (provided)
- Allen wrench key set (not provided)

The Merlino Observatory comes in a wooded structure box, with the roof closed and the rain sensor disassembled, in order to contain as more as possible the overall dimension allowing a safe shipping.



The first operations to be performed after the unboxing are:

1. Roof opening
2. Rain Sensor installation
3. Optional display + keyboard and mouse support installation
4. System first power on
5. PC first start and internet connection

1 - Roof Opening

The Merlino Observatory is a complete remote system but has been also designed a method for the manual roof opening, to allow the first installation and any emergency opening.

The manual opening is made by using the mechanism accessible by removing the aluminium carter on the bottom right of the Merlino southern external side.


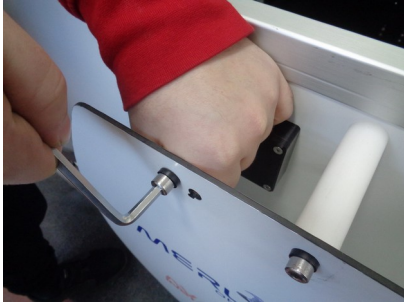
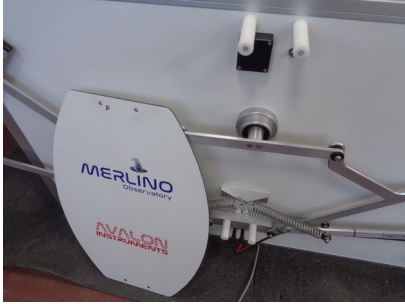




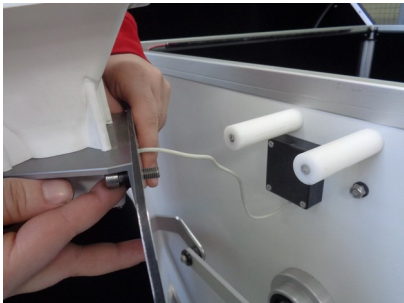
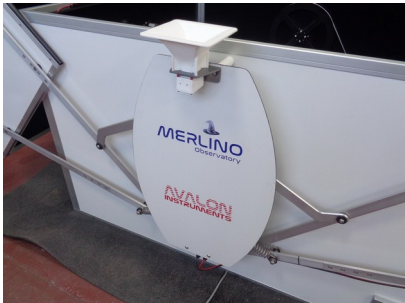
For this operation are required a M3 allen wrench, a battery drill and a M10 female drill bit. The drill bit comes provided with the package, so, is not required to purchase it separately.



NOTE: By setting the battery drill in anti-clockwise direction mode, the roof open.
By setting the battery drill in clockwise direction mode, the roof close.

2 - Rain sensor assembling

The rain sensor is provided inside a box, disassembled from the observatory. The installation procedure is quite simple, only requires to temporary remove the levers protection carter and the rain sensor connector protection box as shown in the sequence pictures below.

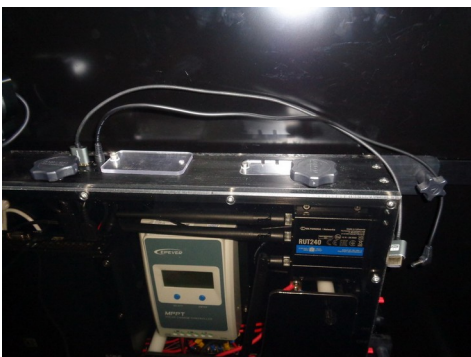
Unscrew the 4 screws holding the levers protection	In order to remove the two screws on the top, hold with one hand the plastic spacer	Place the cover aside
		
Remove the rain sensor connector protection carter	Slide the cable in the corresponding hole	Insert the rain sensor connecting plug
		
Plug in the female connector	Slide the screws to hold the rain sensor on the lever protection cover	Assemble again the lever protection cover with the rain sensor assembled
		

3 - Optional Display + keyboard and mouse support installation

As an optional feature, is also possible to provide the Merlino Observatory with a display and a support for a keyboard + mouse, useful for a direct access to the Merlino PC.



Before to install the support, is required to connect the HDMI and the display power cable to the Merlino Electrical board connector source, placed on the top, close to the all sky camera. The connectors are protected by a plexiglass cover that must be slid aside as shown in the pictures below.



Leave temporary the screen power cable and the HDMI cable on the Electrical board top, before to place the display with the keyboard + mouse support, as shown in the picture on the left.

The display + keyboard and mouse support must be assembled on the Merlino Electrical Board top, the kit must be blocked making slide the two slot holes under the two corresponding fixing knob.

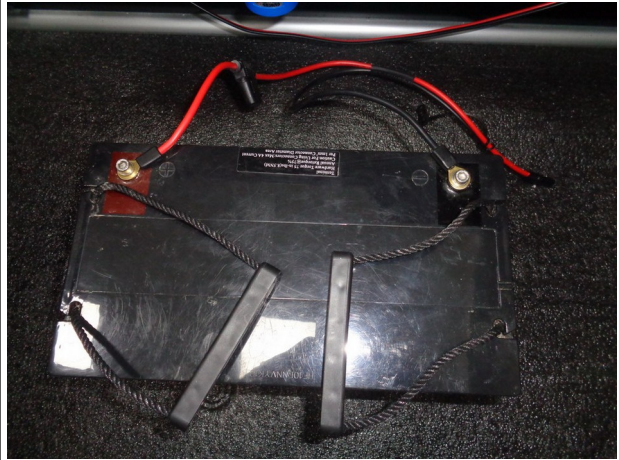
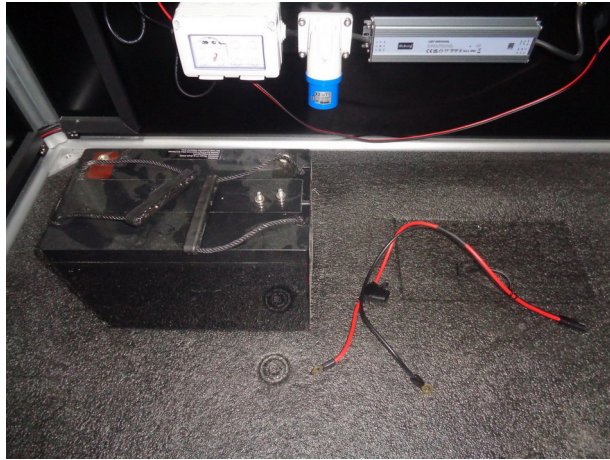


OBSERVATORY SYSTEM POWERING ON

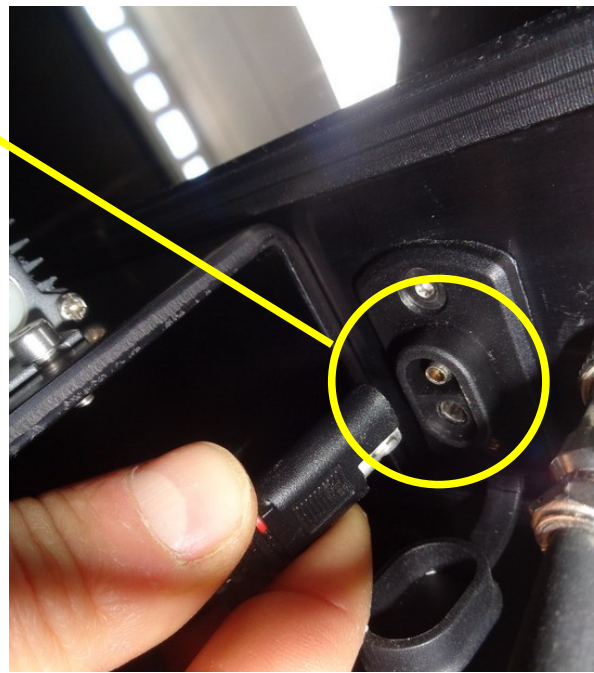
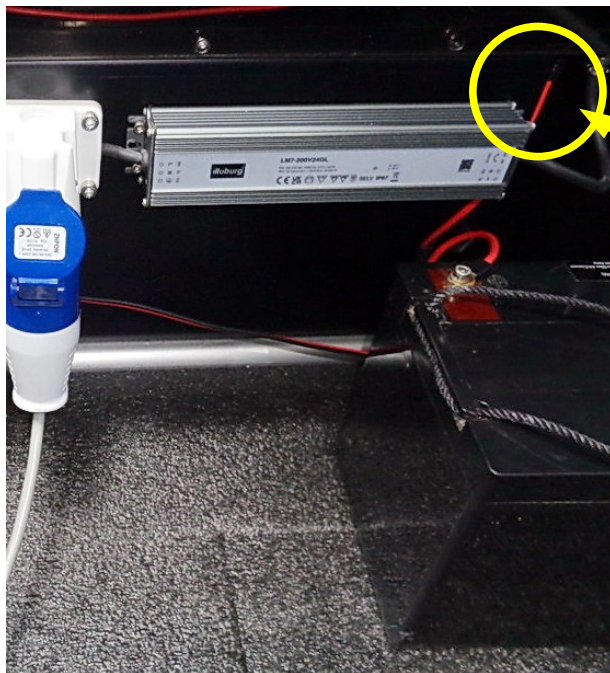
After the roof has been opened and the rain sensor installed, the whole system can be powered as described in the step by step procedure shown below:

STEP 1 CONNECT THE BATTERY

Place the battery close to the electrical board and connect the provided battery cable



The battery cable connector is placed in the electrical board bottom side



NOTE: due to shipment restriction rules the battery cannot be provided and must be purchased by the user on site.

STEP 2 - CONNECT THE SYSTEM TO THE 220 V POWER GRID

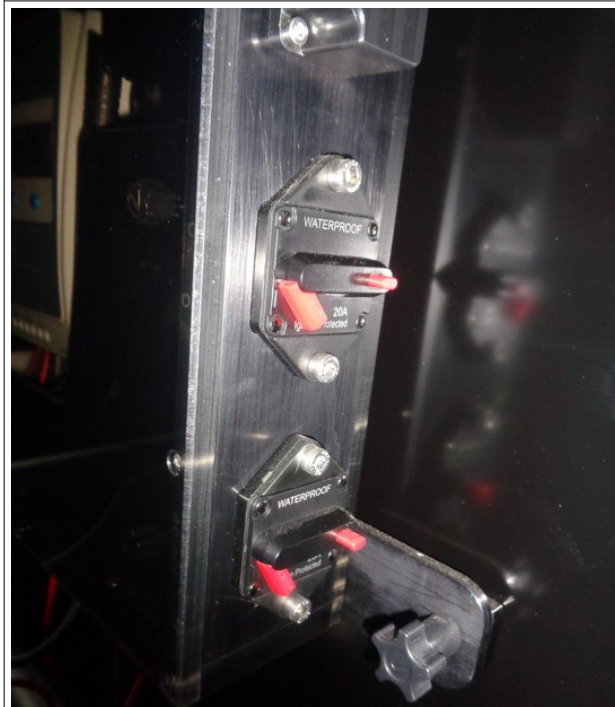
While the battery protect the system from accidental power disruption, the regular power source comes from the 220 V power grid.

The Electrical board power grid connector is the industrial male kind and is placed on the bottom side. So, to power up the system, it will be required to use a cable with a female industrial power grid connector.

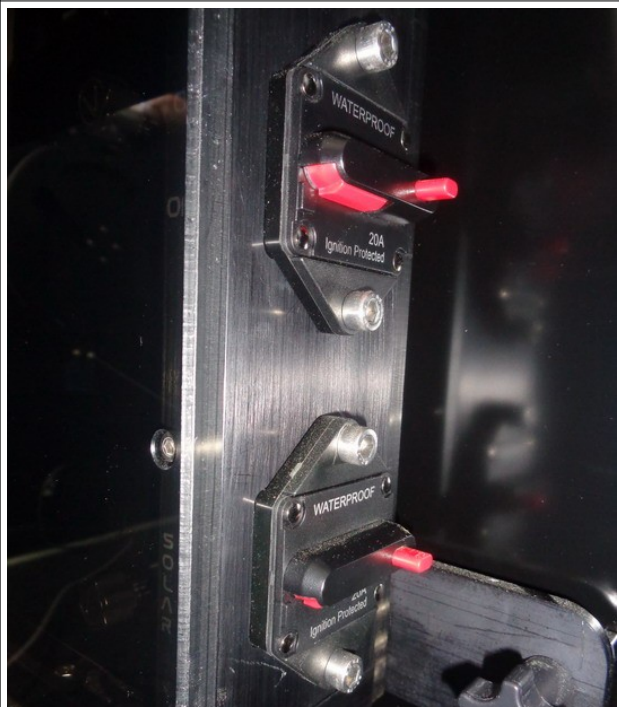


The Solar Panel is already connected so at this point is possible to turn on the system.

System and Solar Panel turned off



System and Solar Panel turned on



STEP 3 - PC SETUP FOR THE FIRST REMOTE DESKTOP SESSION

The Bios of the PC installed on the Merlino Electrical board has been programmed to start as soon as receive power, so as soon as the System Power Switch will be turned on, the PC will be turned on as well and it will be required to wait just few minutes to access to the Windows operative system.



When the Windows O.S. will be ready, it will be required connected to the internet in order to allow the system be accessible from remote.

The router is already installed inside the Electrical Board.

The router installed is provided of a SIM slot. The SIM internet connection is suggested in order to enable the SMS service that send an emergency alert in case of events such as power disruption.

Even if the router is installed inside the protected Electrical board, the LAN and SIM connection slot are accessible from outside by removing an external protection carter, as shown in the pictures below.

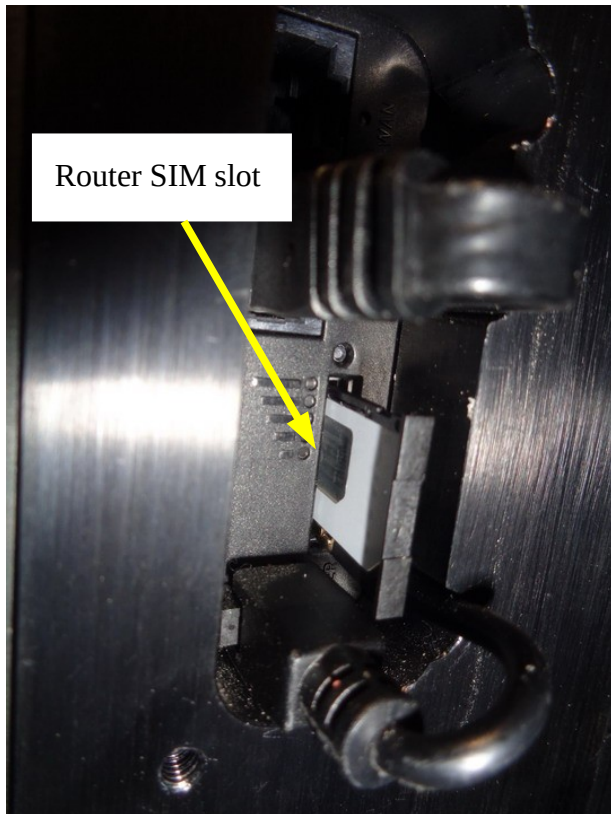
Router LAN and SIM connection slots
protection carter screws.



Router LAN and SIM connection slots

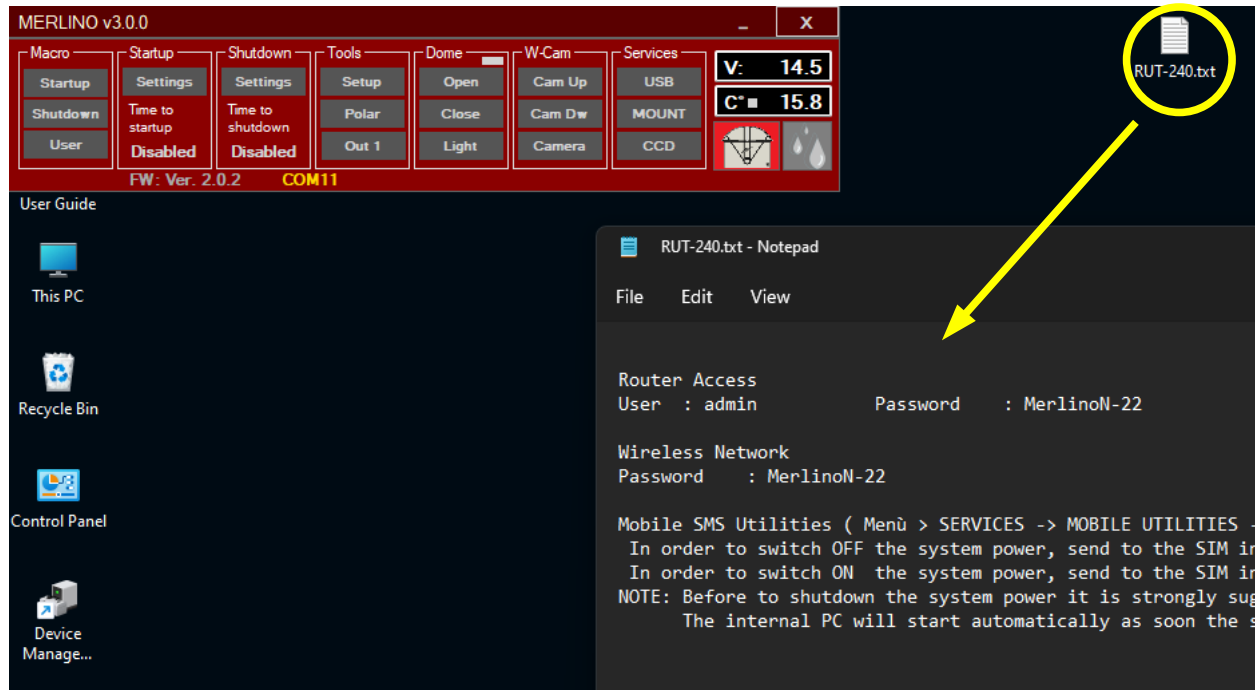


Router SIM slot



The Merlino router Username and Password has been changed from the default settings for safety reason. These credentials has been used also to test the whole system before to ship it.

On the desktop top is available a txt file with the changed credentials.



As soon as the Merlino PC will be started it is strongly suggested to change these credentials in order to keep a safe connection.

The router provided is a Teltonika RUT240
<https://teltonika-networks.com/product/rut240/>

We suggest to refer to the manufacturer website in order to find the instructions on how to change settings.