nimbio Install Directions

FN Board
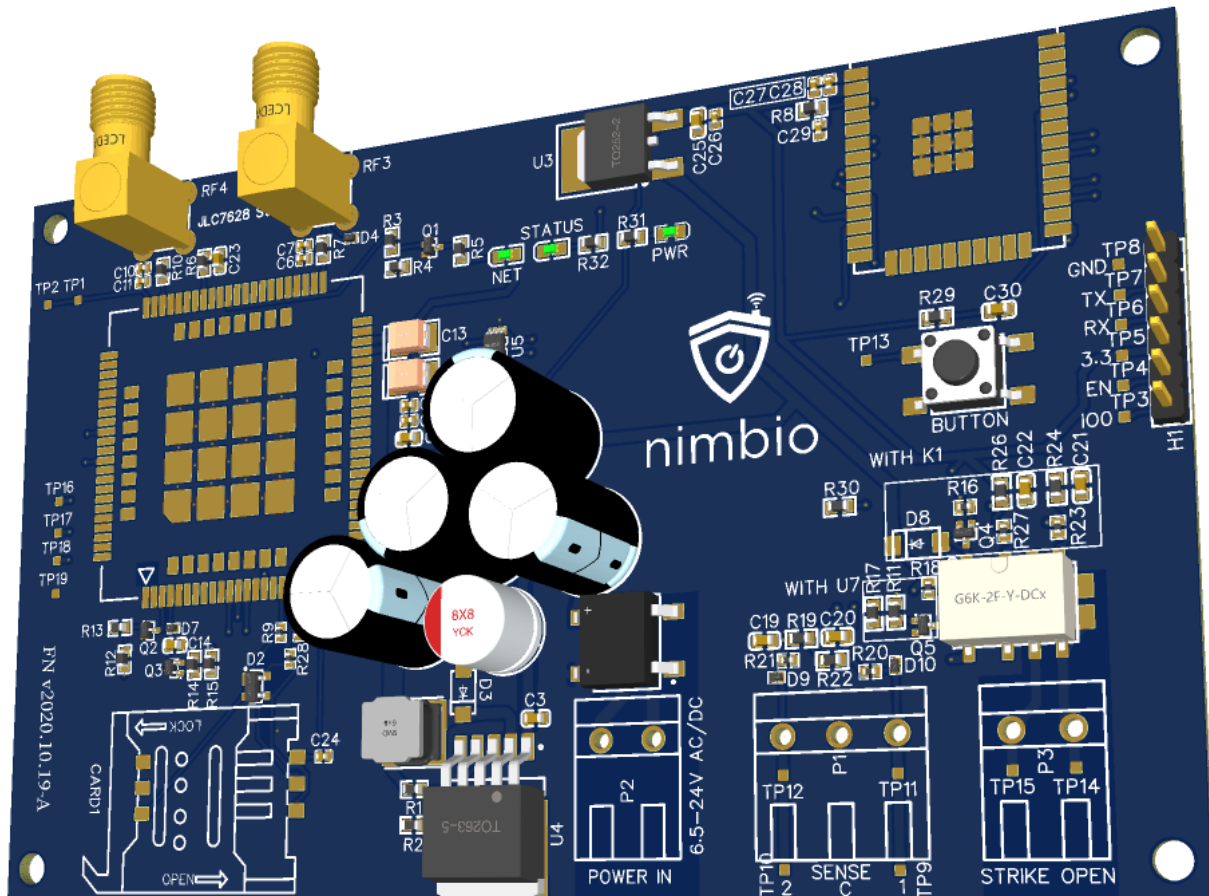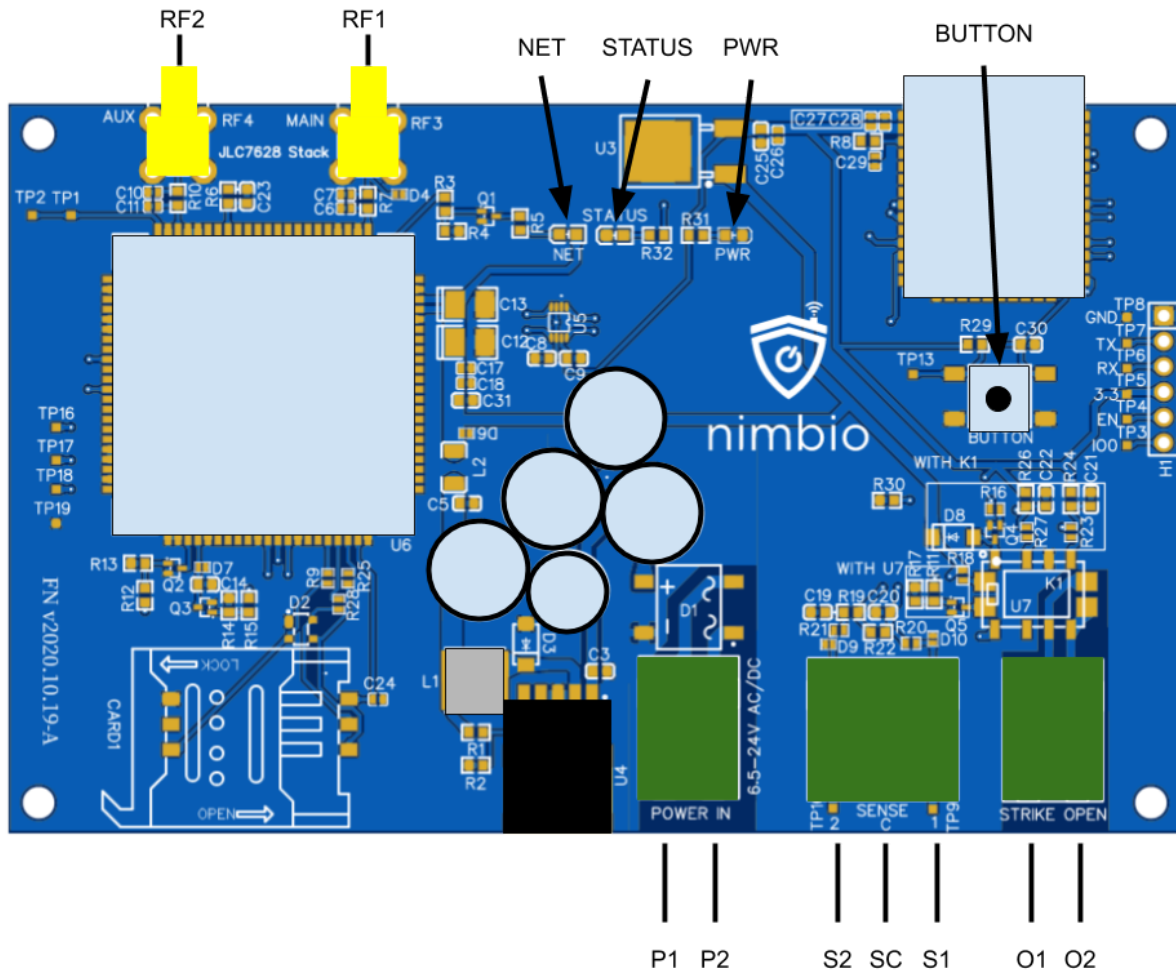
RF1	Main Antenna SMA Connection
RF2	AUX Antenna SMA Connection
P1	Power Input
P2	Power Input
S2	Sense Line 2
SC	Sense Line Common
S1	Sense Line 1
O1	Strike Open Relay Contact
O2	Strike Open Relay Contact 2
NET	Blue LTE Status LED
STATUS	Red System Status LED
PWR	Yellow Power Status LED
BUTTON	Admin Mode Enable/Disable

Status LEDs
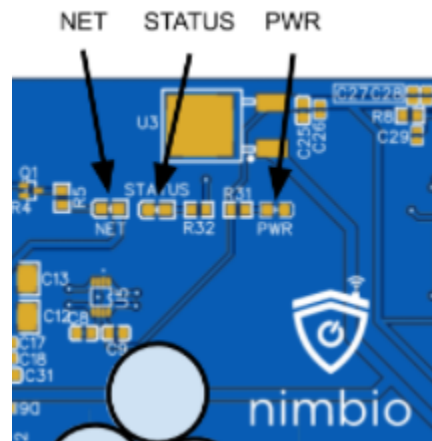
NET (Modem Status)

The NET LED will quickly tell you the status of the LTE Modem.

Off

Modem has not been powered on. On power up, this light should start off. The control system will power on the modem during its startup phase.

Solid
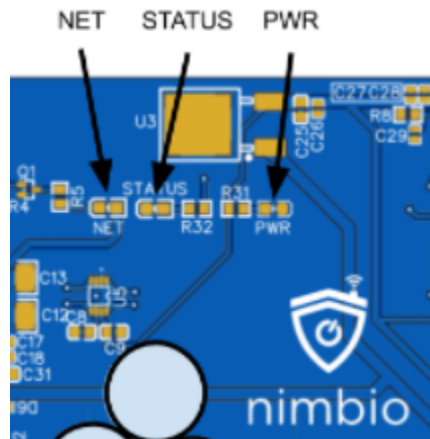
Modem is searching for a network.

Blinking Quickly

Modem has connected to the network and is working normally

Note: More information on the modem status will be available in the "installer" section of the Nimbio app. Please contact Nimbio at 800 353 3422 if you cannot see the "Installer" tab in your Nimbio app (as in the image below).

STATUS (Board Status)

Off

The board doesn't have power.

Solid On For More than 1 Second

The board is booting up

One Blink Every 2 Seconds

The board is ready, but the LTE Modem cannot find a network

Two Blinks Every 2 Seconds

The network is online, but the board is trying to connect to the nimbio servers

Solid On for 1 Second

The board has seen a change in the sense lines

Breathing (Slowly going from bright to dim, and back again)

The board is operating normally.

Note: Full information on the board status will be available in the "Installer" section of the Nimbio app (tap on the "Install" tab in the app). The status LED is primarily provided for quick reference to the system's status. Please contact Nimbio at 800 353 3422 if you cannot see the "Installer" tab in your Nimbio app (as in the image below).

PWR
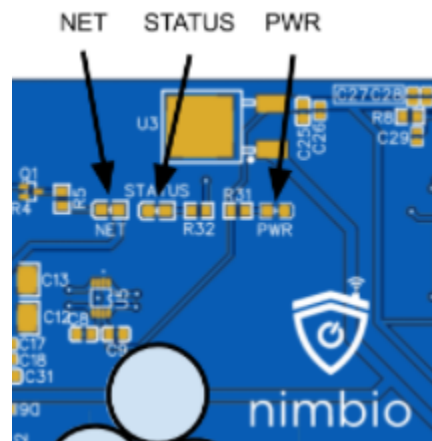
Off

The control board does not have power

On

The control board has power

Note: The Nimbio board monitors itself, the modem, and all the inputs. In the case it encounters a problem it can't recover from, it will cut power to the board completely, after a second or two, the power will come back on and it will fully reset every system on the board. Basically, the board has a built-in "Try turning it off and on again".

Power

The power system on the board has been designed to take anywhere from 6.5 volts to 24 volts. The input power can be either AC or DC, and polarity of the P1 and P2 connectors doesn't matter.

At 24VAC, the board draws between 40mA to 100mA in normal conditions. However in areas where the cellular connection is very poor, this power usage may be slightly higher.

Strike Open

The two connections O1 and O2 can be used to connect to the strike open connections on an operator. Polarity doesn't matter.

The connections that are used should be ones where if the PhotoMOS is held closed, the gate will remain open. This type of connection is necessary to allow Community Managers or Administrators to remotely set times to have the gate held open.

The nimbio board uses a Panasonic PhotoMOS instead of a mechanical relay. This means there are no moving parts to wear out, or contacts to go bad. The PhotoMOS is rated to take a current of up to 550mA at 60V continuously, and a max peak amperage of 1.5A. It self-isolates up to 5,000 volts in order to decouple from the rest of the nimbio board.

Sense Lines

The sense lines are used by the board to determine the state of the gate itself.

S1

This connection should be wired to a relay on the operator that is either normally open (NO) or normally closed (NC) when the gate is fully closed.

S2

This connection should be wired to a relay on the operator that is either NO or NC when the gate is fully open.

SC

The SC connection should be wired to common connection of the two relays used for S1 and S2.

Which relay is used on the operator isn't actually important, as the parameters can be changed using the Installer App, or remotely by nimbio staff.

The sense lines are used for reporting and logging. One such example is for gate installer companies to be alerted via email/sms/notification when the gate is held open, or is not operating normally.

Button

The button on the board is primarily used to put the board into admin mode so changes can be made from the Installer App (Installer App is in development and will soon be available). If the button is held down for over 10 seconds, the board will initiate a full power reset, where all power lights should go off within 20 seconds of the button being released.

Antennas

Normally, the cellular signal from a nearby tower is sufficient to allow Nimbio to operate without antennas. In installation locations where the cellular network cannot be reached because of interference from metal walls, or other barriers, external antennas can be connected. The antenna connections are normal SMA female connections. Included are some basic LTE antennas.

Example Wiring of Nice Apollo Series 1000