NANOLUX CLOUD CONTROL SYSTEM

NCCS User Guide

For the Windows Operating System

NCCS–Win–1.1

Welcome to the Nanolux Cloud Control System (NCCS)

The Nanolux cloud control system was designed and engineered to provide a complete solution for the control of the lighting and environmental controls of a grow room. The NCCS system allows for precision control of all devices in a grow room through its simple and intuitive computer software program. At the heart of the NCCS is a software program which allows you to specify all of the parameters of your lighting and environmental control settings in your room. The program is then downloaded from your computer to the DTU (data transfer unit). The DTU is the brain of the system and communicates and controls all of the selected functions in the grow room through wireless modem communication. The DTU controls lighting ballasts and environmental control devices by communicating wirelessly with individual RTU (remote terminal unit) USB devices. The NCCS system currently allows for precision control of your lighting system with dimming, multiple lighting areas, high-temperature dimming features along with fan control. The NCCS assistant will be adding CO2 functions, humidity and temperature control, pH and nutrient control, pump control and remote camera features in the near future.

DTU

Data Transfer Unit

RTU

Remote Terminal Unit

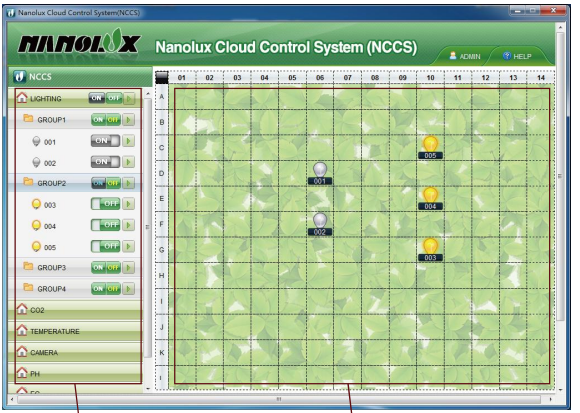
USB Cable

USB data line and power line

Temp.Sensor

118 inches

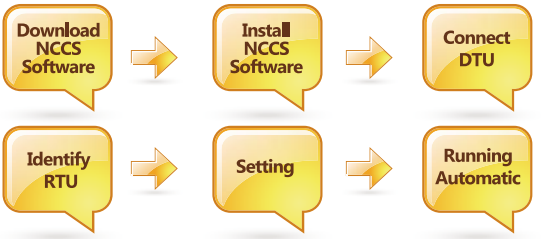
Operation Interface



Action Bar

Garden Simulation Diagram

Quick Guide



1. Download NCCS Software

Download the NCCS software from nanoluxtech.com

NOTE: User should check for updates to this software from time to time at the website above.

2. Installation

1) Operating System: Vista/Win7/Win8 32bit or 64bit
2) RAM : 1 GB
3) Hard Drive Space: 1 GB in Disk C
4) Unzip the NCCS installation package
5) Running the setup file and follow the prompts to install NCCS
6) Java will be installed first if your computer has not Java
7) Please restart your computer after install successfully

3. Connect DTU

Connect the DTU to your computer by the USB cable after installing the NCCS software. Run/open the NCCS software program.

4. Identify RTU

1) Insert a RTU into the RTU IDENTIFY port on the DTU. It will take about one second for the DTU to automatically identify the RTU into the NCCS system.Then you will see a “bulb” icon appear on the Operating Interface once it has been identified.
NOTE: The red light on the RTU will stay lighted, so the process is completed when the “bulb” NEW icon has appeared on the NCCS screen.

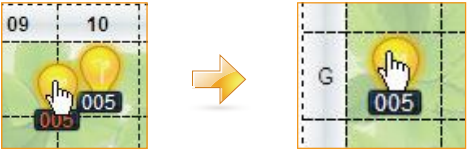
2) Remove the identified RTU and insert it into the USB port on the Nanolux ballast which you want to control by the NCCS.

NOTE: The ballasts will turn on now when the power is plugged in and within a few seconds will receive the first command from the NCCS DTU Controller. This will determine if the ballast is in an ON cycle or OFF cycle based on the time set on the system.

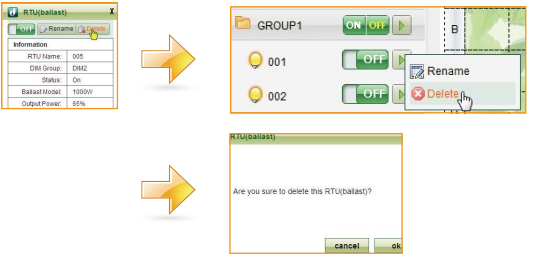
3) Naming Ballast RTU: The default name is “NEW” when a new RTU is identified.You can click the bulb icon NEW or click on the green arrow in left column of the NCCS control panel which says “new” and choosing “RENAME” to change the name of the RTU in the system for easy identifying and mapping.

OR

4) You can move the bulb icon on the Garden Simulation Diagram to any location you wish to better identify and locate its position in your garden.



5) Deleting an RTU:



5. Naming a Dimming Group

The NCCS software comes with four dimming groups. You can set four different dimming programs with separate ON, OFF and dimming time functions. This will allow the NCCS to run four separate growing environments.

6. Setting the ON/OFF cycle times

1) The RTU will transfer ballast data such as ballast wattage, a ballast or lamp error and the dimming % the ballast is operating at to the DTU. All operational information of the NCCS will be stored onto the DTU.

2) Setting Dimming Program. Click the green arrow on the right of the dimming group heading such as “GROUP 1”. Then click on “Setting”. The Dimming Program Screen will open on your screen to set “GROUP 1” group.

A. Initializing Defaults

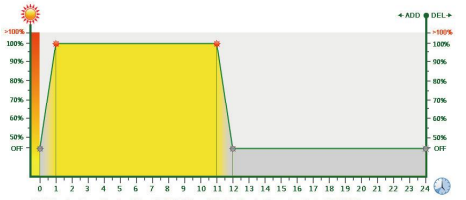
GROUP1(Veg. Grow)

0:00—1:00 From 50% to 100% (Sunrise)

1:00—11:00 Running at 100% (Day)

11:00—12:00 From 100% to 50% (Sunset)

12:00—24:00 Off (Night)



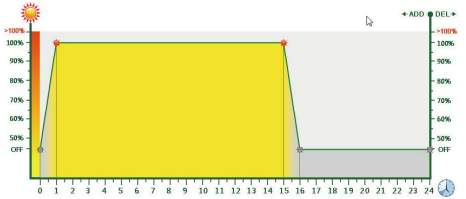
GROUP2 (Bloom):

0:00—1:00From 50% to 100% (Sunrise)

1:00—13:00 Running at 100% (Day)

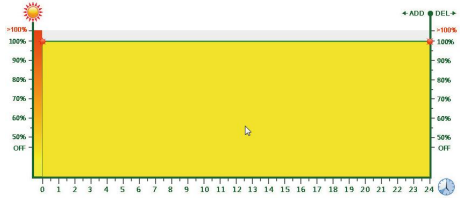
15:00—16:00 From 100% to 50% (Sunset)

16:00—24:00 Off (Night)



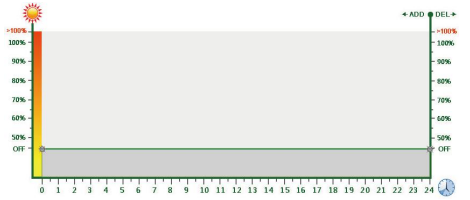
GROUP3:

0:00—24:00 Running at 100%



GROUP4:

0:00—24:00 Off



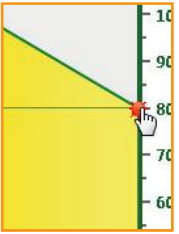
B. Changing the Dimming Program

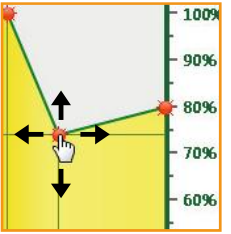
a. Add a Dimming Phase: Drag line left from “ADD/DEL” line.You will see that an additional Sun icon has been added to the green timeline and can be adjusted accordingly for dimming up and down.

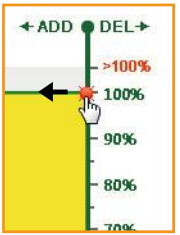
b. Delete a Dimming Phase: Drag line right to “ADD/DEL” line. When the Sun icon has reached the “ADD/DEL” line, you will see it disappear. It is now removed from the cycle.

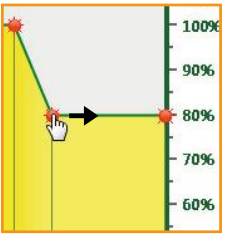
c. Setting the Output Power: Drag line up or down. It can be adjusted from 50% to 100%.

d. Setting the ON/OFF or dimming time: Drag line left or right.



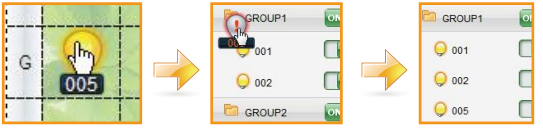




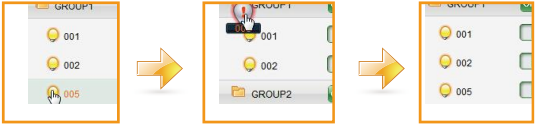


C. Move or Change a Ballast (RTU) to a Dimming Group. (Option)

a.Drag the bulb icon on the Garden Simulation Diagram to move to a Dimming Group



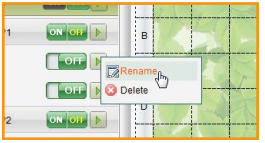
b. Drag the bulb icon on Action Bar to move to another Dimming Group

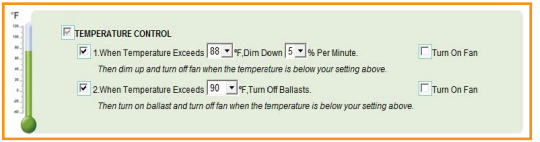


7. Setting the Temperature Control

The NCCS offers a temperature control function that will dim down and turn off the ballasts if they reach certain temperature set points. You can also have the NCCS turn on fans when the

temperature exceeds the set point.You can choose either or both of these temperature control functions. Select the “Dimming Group” you want to set.

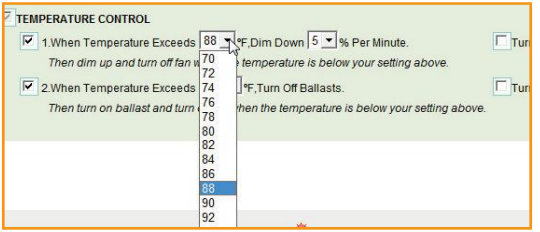


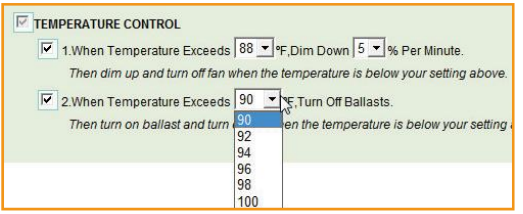


1) The DTU comes with a sensor temperature sensor probe with a 10’ (3m) long. Attach the sensor probe cord to the back of the DTU unit. Place the sensor in a room location and height that you want the temperature read at.

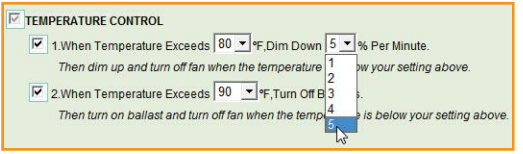
2) Setting

A. Setting a temperature

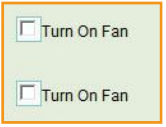




B. Setting a dimming down percent

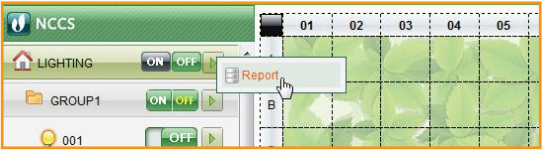


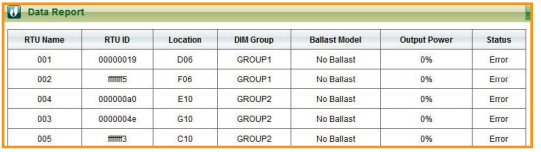
C. Setting the turn on fan function (depend on NCCS version)



8. Expand And Close Lighting Group Folder

9. Report





Data Report

RTU Name	RTU ID	Location	DIM Group	Ballast Model	Output Power	Status
001	00000019	D06	GROUP1	No Ballast	0%	Error
002	ffffff5	F06	GROUP1	No Ballast	0%	Error
004	000000a0	E10	GROUP2	No Ballast	0%	Error
003	0000004e	G10	GROUP2	No Ballast	0%	Error
005	ffffff3	C10	GROUP2	No Ballast	0%	Error

10. Running Automatic

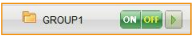
1) Please disconnect the USB cable from the computer after you have finished setting the DTU.
2) Mount or set the DTU in a safe location within your growing area.
3) Please connect the power supply with the DTU.
   The DTU is only compatible with a power supply of 5Vdc/200 milliamps maximum.
4) Once the system is in place and programmed, the NCCS will run automatically.
5) Please keep each RTU within 600' (200m) of the DTU for reliable data transmission.
6) The DTU will read the time from the computer when it is connected to the computer, please assure the clock setting on your computer is correct.
7) If you want to change any of the operational settings, you must hook up the DTU to the computer and make your desired changes.
8) Status Icons: 001 Ballast ON 002 Ballast OFF 003 ERROR-Ballast or Bulb problem

NOTE: If the system is turned off momentarily or is turned off by the temperature override, the ERROR icon will stay displayed on the Screen until the lamp is restarted by the ballast.

11. Manual Turn ON/OFF

1) Turn On/Off all ballasts

2) Turn On/Off the Dimming Group



3) Turn On/Off a single ballast

12.Warranty

Nanolux warrants the NCCS, DTU and RTU devices to be free from defects in material and workmanship for a period of two years. Equipment faults caused by misuse, abuse, or failure to follow instructions are not covered by warranty. For warranty service, please return the unit with the original sales receipt and packaging to your place of purchase.

Failure to observe the following warnings may result in serious injury. Warranties will be void if the following are not heeded.

- Mount the DTU in an elevated area where will not come in contact with water.
- Only use the power supply for the DTU which was supplied with the unit.
- Always ensure wiring which is to code and has the appropriate circuit breakers in place.
- Keep the DTU a safe distance from any heat generating devices such as heaters or CO2 generators.

- Do not attempt to open or modify the RTU or DTU units. These units control high power electrical devices which can cause severe injury or death.
- Keep out of reach of children.
- Wipe the unit down with a clean, dry towel should it become dirty.

13.Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.If this equipment does cause harmful interference to radio or television reception,

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

NOTE: User should check for updates to this software from time to time at the website above.

Thank you for your support of the Nanolux Cloud Control System (NCCS).

www.nanoluxtech.com

Illuminating Your Grow

Designed by NANOLUX in California
Assembled in China