**nu-air**
Sustainability Through Innovation

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**Important: Please read before installation.**

1. THIS PRODUCT IS COMPATIBLE WITH ANY NU-AIR H/ERV WHICH FEATURES AN ES SERIES CIRCUIT BOARD. THE ES SERIES CIRCUIT BOARD IS EASILY IDENTIFIED BY THE PRESENCE OF ONE 4-WIRE AND ONE 10-WIRE REMOVABLE TERMINAL BLOCK USED FOR CONTROLS WIRING.
2. **OLDER UNITS ES UNITS.** RECIRCULATION FUNCTIONS ARE AVAILABLE ONLY FOR UNITS WITH A SERIAL NUMBER DATE CODE THAT INDICATES MARCH, 2015 OR LATER, E.G. **XXXXX1503XXX**. FOR OLDER UNITS, THE INSTALLER SHOULD <u>TURN OFF</u> THE RECIRCULATION SETTINGS IN THE CUSTOM SETTINGS MENU OR CONTACT NU-AIR ABOUT UPDATING THE H/ERV'S CIRCUIT BOARD. **ALSO, FOR UNITS WITHOUT A RECIRCULATION DAMPER, TURN OFF RECIRCULATION FUNCTIONS**.
3. **COMPATIBLE NU-AIR ACCESSORY CONTROLS**: WIN-20 (20-MINUTE TIMER), ES-T1 (20/40/60-MINUTE TIMER) ONLY.
4. **FOR RETROFIT APPLICATIONS:** PLEASE REMOVE THE FOLLOWING ES CONTROLS: **ES-M1, ES-M2, ES-M3, ES-M4, ES-DVC** AS THEY ARE NOW REDUNDANT. USE ONLY ONE (1) CENTRAL CONTROL PER INSTALLATION.
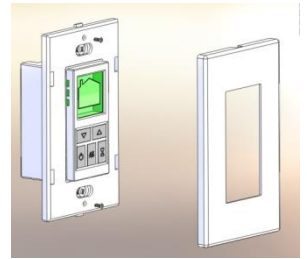5. ROUTE CONTROL WIRING ACCORDING TO LOCAL BUILDING CODES.

YOUR LUMINA WALL CONTROL KIT INCLUDES: 1 LUMINA WALL CONTROL WITH INSTALLATION/USER GUIDE AND 2 MOUNTING SCREWS.

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## Mounting

MOUNT IN A CENTRAL LOCATION WITHIN THE BUILDING.

FITS A STANDARD 2X3" (NOMINAL) ELECTRICAL WALL BOX (NOT INCLUDED). WHILE YOUR LUMINA WALL CONTROL COMES WITH A SCREWLESS FACE PLATE, YOU CAN SUBSTITUTE IT WITH ANOTHER TO MATCH ANY DÉCOR BY USING A FLAT SCREWDRIVER TO PRY OFF THE ORIGINAL FACE PLATE AND BY REMOVING THE 5 MM SCREWS SECURING FACEPLATE BASE.
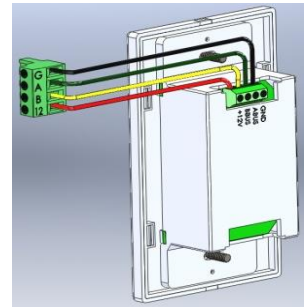
DRYWALL ANCHORS MAY BE USED WHERE A WALL BOX IS NOT AVAILABLE.

## Wiring

USING A 2 MM FLAT SCREWDRIVER AND 4-CONDUCTOR WIRE, CONNECT THE H/ERV 12 VDC TERMINAL BLOCK TO THE CORRESPONDING LUMINA WALL CONTROL TERMINALS.

| H/ERV TERMINAL BLOCK | LUMINA CONTROL |
|---|---|
| G | GND |
| A | A BUS |
| B | B BUS |
| 12 | +12V |

## Use

**BACKLIGHT**: PRESS ANY KEY TO TURN ON THE BACKLIGHT. THE BACKLIGHT WILL REMAIN ILLUMINATED FOR 10 SECONDS AFTER THE LAST BUTTON IS PUSHED.

**POWER.** USE THIS KEY AS A QUICK MEANS TO TURN THE VENTILATOR OFF.

**MODE.** USE THIS BUTTON TO ENTER THE MODE SELECTION MENU AND TO ACTIVATE A CHOSEN MODE OF OPERATION.
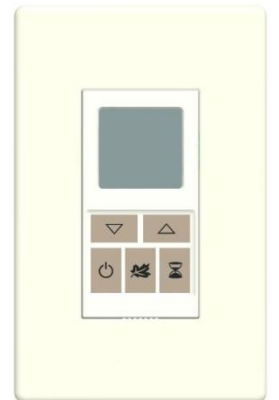
**TIMER.** USE THIS BUTTON TO ACTIVATE THE VENTILATOR INTO HIGH SPEED FOR 20, 40 OR 60 MINUTES. THE TIMER BUTTON CAN ALSO BE USED TO TURN OFF THE HIGH SPEED TIMER FUNCTION.

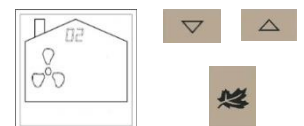**DOWN ARROW**. USE THIS BUTTON TO DECREASE DESIRED HUMIDITY SETTING, OR TO SCROLL THROUGH MENU OPTIONS.

**UP ARROW**. USE THIS BUTTON TO INCREASE DESIRED HUMIDITY SETTING, OR TO SCROLL THROUGH MENU OPTIONS.
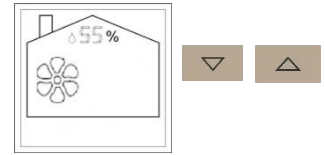
## Selecting a Mode of Operation

PRESS THE MODE BUTTON AND YOU WILL SEE THAT THE CURRENT MODE ICON AND MODE NUMBER (00-06) WILL FLASH. USE THE ARROW BUTTONS TO SCROLL UP AND DOWN THE NUMBERED MENU CHOICES. TO INITIATE A DESIRED MODE, PRESS THE MODE BUTTON ONCE MORE, OR, AFTER 4 <u>SECONDS</u> OF NO BUTTON ACTIVITY, THE CONTROL WILL AUTOMATICALLY ACTIVATE THE LAST MODE OPTION DISPLAYED.

## Choosing a Humidity Setting

PRESS THE UP OR DOWN ARROW KEY UNTIL THE PRESENT HUMIDITY SETTING AND % SYMBOL ARE FLASHING. USE THE UP/DOWN ARROW BUTTONS TO ADJUST HUMIDITY SETTING IN 5% INCREMENTS. AFTER **4 SECONDS** OF NO BUTTON ACTIVITY, PRESENTLY SELECTED HUMIDITY SETTING WILL BE PROGRAMMED.THE CURRENT AMBIENT HUMIDITY WILL THEN BE DISPLAYED.
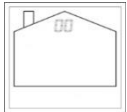
WHEN AMBIENT HUMIDITY EXCEEDS THE CHOSEN SETPOINT A WATER DROP ICON WILL APPEAR AND THE VENTILATOR WILL OPERATE IN HIGH SPEED UNTIL THE HUMIDITY LEVEL DROPS BELOW SETPOINT. AVAILABLE HUMIDITY SETTING RANGE: 20-80%.
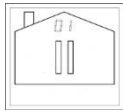
**IN CASES WHERE HUMIDITY CONTROL IS NOT DESIRED OR PRACTICAL, USE THE ARROW KEYS TO TOGGLE THE HUMIDITY "SETPOINT" TO ONE CLICK ABOVE 80% OR ONE CLICK BELOW 20%.  ALSO USE ARROW KEYS TO REACTIVATE HUMIDITY CONTOL.**

**OPERATING HINT.** GENERALLY, A HUMIDITY SETTING OF 40-60% IS DESIRED. WHILE YOUR VENTILATOR IS NOT A DEHUMIDIFIER, VENTILATION CAN HAVE THE EFFECT OF REDUCING INDOOR HUMIDITY WHEN EXCHANGING MOISTURE-LADEN AIR FROM THE INTERIOR SPACE WITH LESS HUMID, FRESH AIR FROM OUTSIDE.
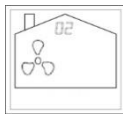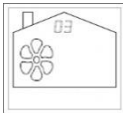
## Modes

**00: OFF.** VENTILATOR IS OFF, BUT THE CONTROL ITSELF IS ON AND WILL DISPLAY AMBIENT HUMIDITY LEVEL.
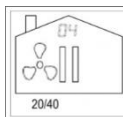
**01: STANDBY.** VENTILATOR IS IDLE. DURING THIS MODE, A STATIC PAUSE ICON WILL DISPLAY. DURING STANDBY MODE THE VENTILATOR WILL TEMPORARILY SWITCH TO HIGH SPEED ON DEMAND FROM THE LUMINA HUMIDITY SENSOR OR A TIMER.

**02: LOW SPEED.** VENTILATOR RUNS IN LOW SPEED CONTINUOUSLY.  DURING THIS MODE, AN ANIMATED 3-BLADE FAN WILL DISPLAY.  DURING LOW SPEED MODE THE VENTILATOR WILL TEMPORARILY SWITCH TO HIGH SPEED ON DEMAND FROM THE LUMINA HUMIDITY SENSOR OR A TIMER.
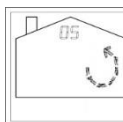
**03: HIGH SPEED.** VENTILATOR RUNS IN HIGH SPEED CONTINUOUSLY. DURING THIS MODE, AN ANIMATED 6-BLADE FAN WILL DISPLAY. VENTILATOR WILL REMAIN IN HIGH SPEED ON DEMAND FROM THE LUMINA HUMIDITY SENSOR OR A TIMER AND CONTINUE IN HIGH SPEED AFTER THE HUMIDITY/TIMER DEMAND IS MET.
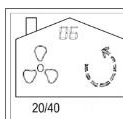
**04: 20 LO/40 STANDBY**. VENTILATOR CYCLES CONTINUOUSLY BETWEEN 20 MINUTES OF LOW SPEED OPERATION AND 40 MINUTES OF STANDBY OPERATION. DURING LOW SPEED CYCLE, THE FAN 3-BLADE FAN ICON WILL ANIMATE AND THE PAUSE SYMBOL WILL FLASH TWICE EVERY 5 SECONDS. DURING THE STANDBY CYCLE, THE PAUSE ICON WILL BE STATIC AND THE FAN ICON WILL FLASH TWICE EVERY 5 SECONDS. DURING 20 LO/40 STANDBY MODE THE VENTILATOR WILL TEMPORARILY SWITCH TO HIGH SPEED ON DEMAND FROM THE LUMINA HUMIDITY SENSOR OR A TIMER.

## Recirculation Modes

**NOTE:** FOR MODELS OF VENTILATOR THAT DO NOT HAVE A SERIAL NUMBER DATE CODE FROM MARCH, 2015 (XXXXX15**03**XXX) AND LATER, OR MODELS THAT DO NOT HAVE RECIRCULATION COMPONENTS, THE INSTALLER MUST REMOVE THESE FUNCTIONS FROM THE OPTIONS MENU (SEE CUSTOM SETTINGS).
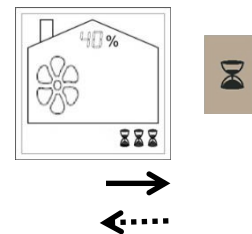
**05: RECIRCULATION.** VENTILATOR CONTINUOUSLY RECIRCULATES AIR WITHIN THE HOME AND DOES NOT BRING IN AIR FROM OUTSIDE, I.E. AIR EXCHANGE DOES NOT OCCUR. DURING THIS MODE AN ANIMATED CYCLING ARROW WILL DISPLAY. DURING RECIRCULATION MODE THE VENTILATOR WILL TEMPORARILY SWITCH TO HIGH SPEED ON DEMAND FROM THE LUMINA HUMIDITY SENSOR OR AN EXTERNAL TIMER.

**06: 20 LO/40 RECIRCULATION.** VENTILATOR CYCLES CONTINUOUSLY BETWEEN 20 MINUTES OF LOW SPEED OPERATION AND 40 MINUTES OF RECIRCULATION OPERATION. DURING THE LOW SPEED CYCLE, THE FAN WILL ANIMATE AND THE RECIRCULATION RING WILL FLASH TWICE EVERY 5 SECONDS.  DURING THE RECIRCULATION CYCLE, THE RECIRCULATION ARROW WILL ANIMATE AND THE FAN ICON WILL FLASH TWICE EVERY 5 SECONDS. DURING 20 LO/40 RECIRCULATION MODE THE VENTILATOR WILL TEMPORARILY SWITCH TO HIGH SPEED ON DEMAND FROM THE LUMINA HUMIDITY SENSOR OR A TIMER.

## Using the High Speed Timer

FOR TIMED HIGH SPEED OPERATION, PRESS THE HOURGLASS BUTTON ONCE FOR 20 MINUTES, TWICE FOR 40 MINUTES, OR THREE TIMES FOR 60 MINUTES. HOURGLASS ICONS WILL APPEAR FROM LEFT TO RIGHT AT THE BOTTOM RIGHT OF THE LCD DISPLAY AND A HIGH SPEED FAN ICON WILL APPEAR ON THE SCREEN. AFTER **3 SECONDS** OF NO BUTTON ACTIVITY THE HIGH SPEED CYCLE WILL BEGIN. AS EACH 20 MINUTE CYCLE EXPIRES, ONE HOURGLASS ICON WILL DISAPPEAR FROM RIGHT TO LEFT. YOU CAN MANUALLY TURN OFF THE TIMER CYCLE BY PRESSING THE HOUR GLASS BUTTON UNTIL ALL THE HOURGLASS ICONS DISAPPEAR.
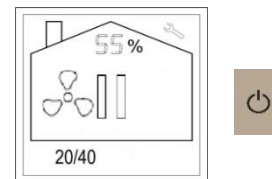
IF YOU WOULD LIKE TO VIEW OR CHANGE MODES DURING A HIGH SPEED CALL, SIMPLY USE THE MODE AND ARROW KEYS AND THE CHOSEN MODE WILL RESUME/COMMENCE AFTER THE TIMER CYCLE HAS EXPIRED.

## Using External Timers (ES-T1 Timer and/or Win-20 Timer)

THE ES-T1 AND WIN-20 TIMERS ARE COMPATIBLE WITH YOUR LUMINA CONTROL, HOWEVER, THE LUMINA WILL NOT INDICATE THAT THESE EXTERNAL TIMERS ARE ACTIVE (I.E. IT WILL CONTINUE TO DISPLAY PRESENT MODE OF OPERATION ONLY). YOU CAN CHANGE THE DESIRED MODE OF OPERATION DURING A TIMER CYCLE; IT WILL COMMENCE AFTER THE TIMER CYCLE HAS EXPIRED.

## Maintenance Indicator/Resetting Maintenance Clock

YOUR LUMINA CONTROL IS EQUIPPED WITH A MAINTENANCE RUN CLOCK (IT ONLY COUNTS TIME WHEN THE VENTILATOR IS **TURNED ON**). FACTORY DEFAULT FOR THE MAINTENANCE CLOCK IS SET FOR 3 MONTHS, AT WHICH TIME A **WRENCH ICON** WILL APPEAR IN THE UPPER RIGHT OF THE LCD SCREEN. THIS INDICATES THAT IT IS TIME TO CHECK YOUR VENTILATOR TO SEE IF IT NEEDS CLEANING AND TO SEE IF YOUR FILTERS NEED TO BE CLEANED OR REPLACED. PRESS AND HOLD THE POWER BUTTON FOR 5 SECONDS TO TURN OFF THE WRENCH ICON AND TO RESET THE MAINTENANCE CLOCK.

## Operation Following a Power Interruption

IF THE ELECTRICAL SERVICE TO THE VENTILATOR IS FOR SOME REASON INTERRUPTED, THE MODE OF OPERATION ACTIVE IN THE WALL CONTROL AT THE TIME OF THE INTERRUPTION WILL RESUME WHEN THE ELECTRICAL SERVICE TO THE VENTILATOR RESUMES. ANY CUSTOM SETTINGS WILL HAVE BEEN SAVED.

## Custom Settings

THE LUMINA VENTILATION CONTROL ALLOWS ADJUSTMENTS TO CUSTOMIZE ITS USE FOR UNIQUE CIRCUMSTANCES. ANY OF THESE CHANGES ARE WRITTEN INTO THE CONTROL'S MEMORY BUT CAN BE CHANGED AN INFINITE NUMBER OF TIMES. WE RECOMMEND THAT ONLY A QUALIFIED TECHNICIAN MAKE THESE ADJUSTMENTS AS THEY CAN AFFECT THE NATURE OF THE VENTILATOR'S PERFORMANCE.  THE CUSTOMIZABLE FEATURES INCLUDE:
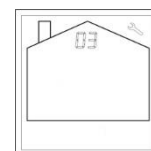
1. ADJUSTING THE RUN TIME OF THE MAINTENANCE CLOCK
2. CALIBRATING THE HUMIDITY SENSOR
3. TURNING OFF/ON RECIRCULATION FUNCTIONS.

TO ACCESS THE CUSTOM SETTINGS MENU, SIMULTANEOUSLY PRESS AND HOLD THE UP AND DOWN ARROW BUTTONS FOR **15 SECONDS**. YOU WILL NOTE THAT THE BACKLIGHT WOULD HAVE TURNED ON AFTER **10 SECONDS**. ONCE IN THE CUSTOM SETTINGS MENU, USE THE ARROW BUTTONS TO NAVIGATE AMONG CHOICES FOR A GIVEN SETTING. PRESSING THE MODE BUTTON WILL PRESERVE FACTORY SETTINGS OR INITIATE ANY CHANGE AND WILL MOVE YOU ON TO THE NEXT CUSTOMIZED FEATURE. AFTER **5 SECONDS** OF NO BUTTON ACTIVITY, CURRENT SETTINGS WILL BE WRITTEN AND THE CONTROL WILL RESUME REGULAR OPERATION AS PROGRAMMED.
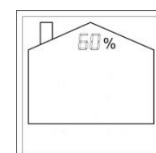
## Adjusting the Run Time Maintenance Clock

ONCE YOU ARE IN THE CUSTOM SETTINGS MODE THE FIRST OPTION WILL BE MAINTENANCE CLOCK. YOU WILL SEE THE FACTORY SETTING OF THIS FEATURE: 3 MONTHS. TO KEEP FACTORY SETTING, PRESS THE MODE BUTTON OR USE THE UP AND DOWN ARROW BUTTONS TO CHANGE THE SETTING IN THE RANGE OF 1-12 MONTHS. ONCE ANY DESIRED CHANGE TO THE SETTING IS IN PLACE (IF ANY), PRESS THE **MODE** BUTTON.
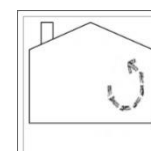
## Calibrating the Humidity Sensor

IF CALIBRATION IS NOT DESIRED, SKIP THIS STEP BY SIMPLY PRESSING THE MODE BUTTON TO KEEP FACTORY CALIBRATION ACTIVE. IF CALIBRATION IS DESIRED, USE THE UP AND DOWN ARROW KEYS TO CALIBRATE THE HUMIDITY SENSOR IN 5% INCREMENTS. TO PROGRAM ANY CHANGES, PRESS THE MODE BUTTON.

## Turn OFF/ON Recirculation Functions

YOU WILL NOW SEE AN ANIMATED RECIRCULATING ARROW INDICATING THAT THE RECIRCULATION BY FACTORY DEFAULT IS ENABLED. USE THE UP AND DOWN ARROW KEYS TO TURN OFF THE RECIRCULATION FUNCTIONS (STATIC ARROW) OR ON (ANIMATED ARROW).

AS NOTED PREVIOUSLY, RECIRCULATION FUNCTIONS MUST BE TURNED OFF FOR USE WITH VENTILATORS WITH A SERIAL NUMBER DATE CODE THAT COMES BEFORE MARCH, 2015: XXXXX15**03**XXX, AND VENTILATORS THAT DO NOT HAVE A RECIRCULATION DAMPER. FOR SUCH UNITS, USE OF RECIRCULATION FUNCTIONS WOULD ONLY RESULT IN <u>FULL-TIME, LOW-SPEED OPERATION</u>.