

## QUICK SET-UP GUIDE MULTI-STAGE AIR VOLUME - LG/LC/LH/LD ROOFTOP UNIT

### 1. M4 Unit Controller - Supply Multi-Stage Air Volume Control Mode

This unit is a Multi-Stage Air Volume unit. Units with Multi-Stage Air Volume are capable of delivering two or more stages/volumes of supply air. There are three blower types supported for Multi-Stage Air Volume:

- Belt driven blower with motors and external variable frequency drives – Blower type **M** in model number.
- Direct driven blower using motors with integrated variable frequency control – Blower type **E** in model number.

Use the following as a quick set-up guide for units with a two-stage thermostat. Refer to the installation instructions and Unit Controller manuals provided with each rooftop unit for more detail. When a control system with more than two stages is used, refer to the installation instructions.

#### 1.1. Set Maximum CFM

Determine the highest design specified blower CFM (typically heating CFM). Adjust the blower pulley to deliver that amount of CFM with only the blower operating. See *Determining Unit CFM* in the Blower Operation and Adjustment section of the installation instructions.

**TABLE 1  
Blower CFM Design Specifications**

Blower Speed	Design Specified CFM
Heating	
Cooling High	
Cooling Low	
Ventilation	

#### 1.2. Enter Design Specifications Into Controller

Use the mobile service app menu to enter the design specified blower CFM into the Unit Controller. Make sure blower CFM is within limitations shown in the installation instructions.

*RTU MENU > SETTINGS > RTU OPTIONS > BLOWER > SPEED*

#### 1.3. Set Damper Minimum Position

To maintain required minimum ventilation air volumes when the unit is in the occupied mode, two minimum damper positions must be set.

*The Unit Controller will open the damper to “Min OCP Blwr High” when blower CFM is at or ABOVE the “midpoint” CFM.*

*The Unit Controller will open the dampers to “Min OCP Blwr Low” when blower CFM is BELOW a “midpoint” CFM.*

The Unit Controller will calculate the “midpoint” CFM.

##### 1.3.1. Set Minimum Position 1

Use the following mobile service app menu to set “Min OCP Blwr High” for the blower CFM above the “midpoint” CFM. When navigating into this menu, the Unit Controller will run damper calibration and allow damper position adjustment.

*RTU MENU > SETTINGS > RTU OPTIONS > DAMPER*

Tap "Next" to skip tabs and complete damper position calibration until "Damper Calibration Blower Speed High" tab appears.

Measure the intake air CFM. If the CFM is lower than the design specified CFM for ventilation air, use the Unit Controller to increase the damper percent open. If the CFM is higher than specified, decrease the damper percent open.

*Note - Intake air CFM can also be determined using the outdoor air temperature, return air temperature and mixed air temperature. Refer to the economizer or outdoor air damper installation instructions.*

##### 1.3.2. Set Minimum Position 2

Use the following mobile service app menu in the Unit Controller to set “Min OCP Blwr Low” for the blower CFM below the “midpoint” CFM. When navigating into this menu, the Unit Controller will run damper calibration and allow damper position adjustment.

*RTU MENU > SETTINGS > RTU OPTIONS > DAMPER*

Tap "Next" to skip tabs and complete damper position calibration until "Damper Calibration Blower Speed High" tab appears.

Measure the intake air CFM. If the CFM is lower than the design specified CFM for ventilation air, use the Unit Controller to increase the damper percent open. If the CFM is higher than specified, decrease the damper percent open.

*Note - Intake air CFM can also be determined using the outdoor air temperature, return air temperature and mixed air temperature. Refer to the economizer or outdoor air damper installation instructions.*