

## QUICK SET-UP GUIDE

### MSAV™ (MULTI-STAGE AIR VOLUME) LGH/LCH ROOFTOP UNIT

## 1. Prodigy M2 Unit Controller — Supply Multi-Stage Air Volume (MSAV) Control Mode

This unit is a Multi-Stage Air Volume (MSAV™) unit. The blower will operate at lower speeds when demand is low and increase to higher speeds when demand is high. 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 following menu to enter the design specified blower CFM into the Unit Controller. Make sure blower CFM is within limitations shown in the installation instructions.

*Settings > Control > Guided Setup > Advanced Guided Setup > Setup Equipment > Change MSAV™ Settings? > Yes*

### 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 dampers to “Min OCP Blwr Low” when blower CFM is BELOW a “midpoint” CFM.*

*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 calculate the “midpoint” CFM.

#### 1.3.1. Set Minimum Position 1

Use the following 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 bring on the corresponding blower speed and allow damper position adjustment.

*Settings > Control > MSAV > Damper > Low Speed*

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 same menu in the Unit Controller to set “Min OCP Blwr High” for the blower CFM above the “midpoint” CFM. When navigating into this menu, the Unit Controller will bring on the corresponding blower speed and allow damper position adjustment.

*Settings > Control > MSAV > Damper > High Speed*

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.*

## 2. Prodigy 2.0 M3 Unit Controller — Supply Multi-Stage Air Volume (MSAV) Control Mode

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.
- Belt driven blower with two-speed motors - Blower type **T** in model number.

Refer to the unit parameter label, installation instruction or service manual for details on percentage outputs and factor CFM settings

Go to **SETUP > INSTALL** and navigate through the various screens until **MODEL NUMBER** appears. Set position **9** to the applicable blower type.

Refer to the unit parameter label, installation instruction or service manual for details on percentage outputs and factory default CFM settings.