

O X Y G E N 8

# TERRA

Operation & Maintenance Manual

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# 1.0 GENERAL INFORMATION

This manual includes important instructions for safe connection of the Energy Recovery Ventilator (ERV). Before connecting the unit, please read carefully and follow the instructions.

The manufacturer reserves the right to make changes, including changes in the technical documentation, without previous notification. Please keep this manual for future reference. Consider this manual a permanent part of the product.

This manual will show the manufacturers' recommended installation method. Please note that local codes and regulations may override these recommendations. The installation must follow local codes and standards.

The National Electric Code (NEC), the National Fire Protection Agency (NFPA), and the Canadian Electrical Code (CEC) must be followed. Installation of this product must be performed by a qualified and accredited professional in conformance with local and national codes, standards and licensing requirements.



**Caution:** This sign indicates a potentially hazardous situation, which may result in minor or moderate injury if not avoided. It may also alert against unsafe practices.



**Warning:** This sign indicates a situation that may result in equipment or property damage accidents.



**Danger:** This sign indicates a potentially hazardous situation, which could result in death or serious injury if not avoided.

## 2.0 CONFIGURATION CHART

The following is a complete description of the packaged model numbers and nomenclature.

### Main Code:

Terra\_XXX\_XXX\_X\_X\_X\_XXXX\_XX

Terra\_T06\_DXW\_S\_I\_R\_2081\_NA

### Sales Drawings:

Terra\_T06\_DXW\_S\_I\_R\_2081\_NA\_A

### Size

T06, T09, T12, T15, T18, T24, T32, T40, T48

### Coils

DX W-Control - DXW

HGRH 1 EKEQ Kits - HG1

HGRH 2 EKEQ Kits - HG2

HGRH 3 EKEQ Kits - HG3

HGRH 4 EXEQ Kits - HG4

### Type

Standard - S

### Location

Indoor - I

### Handing

Right Hand - R

Left Hand - L

### Fan Position

208/60/1 - 2081

208/60/3 - 2083

240/60/1 - 2401

460/60/3 - 4603

### Accessories

No Accessories - NA

Outdoor Air Accessory - OA

### Version (Generation)

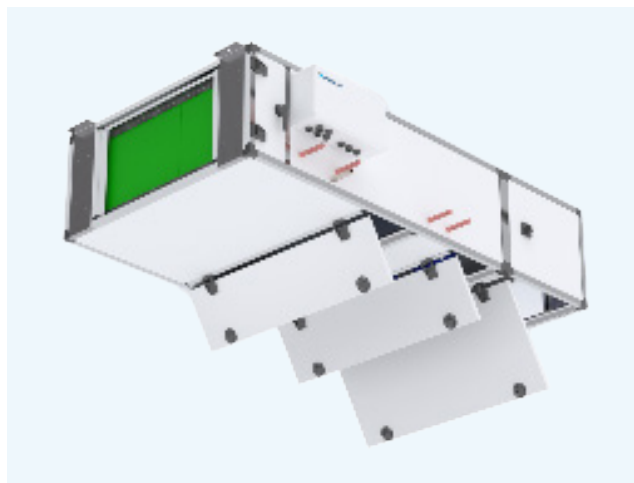
A,B,C, ...



## 3.0 SPECIFICATIONS

### 3.1 System Overview

Standard units come complete with EC fan(s), integrated conditioning coils, 2" filters, fully integrated controls and casing as outlined in the spec below.



### 3.2 General Specifications

#### Standard Features

##### Certification

UL Certified

##### Casing

Doubled walled, 1" insulation for compact indoor models  
20 gauge galvanized steel inner panel with  
22 gauge pre-painted white outer panel

##### Electrical and Controls

Configurable integrated controller with  
BACNet compatibility  
Single point power (SPP)

##### Filters

2" pleated OA MERV 13, RA MERV 8

##### Blowers and Motors

High-efficiency variable speed EC  
direct-drive motor  
Backward inclined fan

##### Warranty

Unit - 2 years from shipping

##### Mounting

Ceiling mount only

#### Options

##### Integrated Heating and Cooling

DX Coils (using EEV kit), HGRH Coils, and  
Electric pre-heat or re-heat available

##### Shut Off Damper

Outdoor air dampers (unit or duct mounted)

##### Frost Control

Electric Preheat  
Backup electric heat sequence for refrigerant  
defrost available

##### Warranty

5-year add-on available

### 3.3 Electrical - DOAS

The following table lists general electrical data of Terra units. This includes fan and controller power and does not include potential configurations with electrical heating from a single point power source. Specific data to these options can be found in the Selection Software for specific applications.

| MODEL | NOMINAL VOLTAGE | PHASE | MOTOR kW | SUPPLY AIR FAN QTY | SUPPLY AIR FAN FLA | EKEQ MAX QTY | MCA   | MOP (A) |
|-------|-----------------|-------|----------|--------------------|--------------------|--------------|-------|---------|
| T06   | 208-240         | 1     | 0.50     | 1                  | 2.5                | 1            | 3.41  | 15      |
| T09   | 208-240         | 1     | 0.78     | 1                  | 3.9                | 1            | 5.16  | 15      |
| T12   | 208-240         | 1     | 0.78     | 1                  | 3.9                | 2            | 5.16  | 15      |
| T15   | 208-240         | 1     | 0.78     | 2                  | 7.8                | 2            | 10.04 | 15      |
| T18   | 208-240         | 1     | 0.78     | 2                  | 7.8                | 2            | 10.04 | 15      |
|       | 208             | 3     | 2.00     | 1                  | 6.0                | 2            | 7.83  | 15      |
|       | 460             | 3     | 2.50     | 1                  | 4.0                | 2            | 5.14  | 15      |
| T24   | 208-240         | 1     | 0.78     | 2                  | 7.8                | 3            | 10.04 | 15      |
|       | 208             | 3     | 2.00     | 1                  | 6.0                | 3            | 7.83  | 15      |
|       | 460             | 3     | 2.50     | 1                  | 4.0                | 3            | 5.24  | 15      |
| T32   | 208             | 3     | 2.0      | 1                  | 8.6                | 4            | 10.75 | 15      |
|       | 460             | 3     | 2.5      | 1                  | 5.8                | 4            | 7.25  | 15      |
| T40   | 208             | 3     | 2.0      | 1                  | 9.0                | 4            | 11.25 | 20      |
|       | 460             | 3     | 2.5      | 1                  | 5.4                | 4            | 6.75  | 15      |
| T48   | 208             | 3     | 2.0      | 2                  | 6.0                | 4            | 13.50 | 15      |
|       | 460             | 3     | 2.5      | 2                  | 4.0                | 4            | 9.00  | 15      |

**MCA:** Minimum circuit ampacity

**MOP:** Maximum rating of over-current protective device

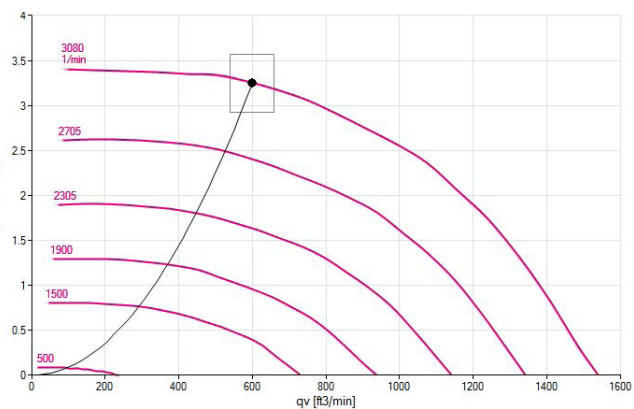
### 3.4 Fan Performance

| MODEL | NOMINAL VOLTAGE     | FAN SIZE [MM] | MOTOR POWER [kW]** | FAN FLA** | FAN QTY. | ESP WITH DIRTY FILTER@1' P.D. [IN W.C.]* |
|-------|---------------------|---------------|--------------------|-----------|----------|------------------------------------------|
| T06   | 208 - 240 / 1~ / 60 | 250           | 0.5                | 2.5       | 1        | 1.1                                      |
| T09   | 208 - 240 / 1~ / 60 | 280           | 0.78               | 3.9       | 1        | 1.8                                      |
| T12   | 208 - 240 / 1~ / 60 | 280           | 0.78               | 3.9       | 1        | 1.2                                      |
| T15   | 208 - 240 / 1~ / 60 | 280           | 0.78               | 3.9       | 2        | 1.6                                      |
| T18   | 208 - 240 / 1~ / 60 | 280           | 0.78               | 3.9       | 2        | 1.8                                      |
| T18   | 208 / 3~ / 60       | 310           | 2                  | 6         | 1        | 3.6                                      |
| T18   | 460 / 3~ / 60       | 310           | 2.5                | 4         | 1        | 4.8                                      |
| T24   | 208 - 240 / 1~ / 60 | 280           | 0.78               | 3.9       | 2        | 1.1                                      |
| T24   | 208 / 3~ / 60       | 310           | 2                  | 6         | 1        | 2.0                                      |
| T24   | 460 / 3~ / 60       | 310           | 2.5                | 4         | 1        | 3.3                                      |
| T32   | 208 / 3~ / 60       | 350           | 2                  | 8.6       | 1        | 2.5                                      |
|       | 460 / 3~ / 60       | 350           | 2.5                | 5.8       | 1        | 4.4                                      |
| T40   | 208 / 3~ / 60       | 400           | 2                  | 9         | 1        | 2.3                                      |
|       | 460 / 3~ / 60       | 400           | 2.5                | 5.4       | 1        | 2.7                                      |
| T48   | 208 / 3~ / 60       | 310           | 2                  | 6         | 2        | 2.7                                      |
|       | 460 / 3~ / 60       | 310           | 2.5                | 4         | 2        | 4.0                                      |

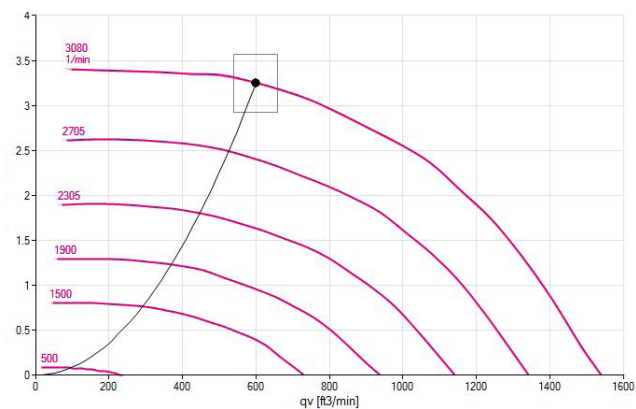
\*ESP is measured at 1" SP dirty filter conditions, based on 100% OA applications without preheater or mixing box.

\*\* Each motor

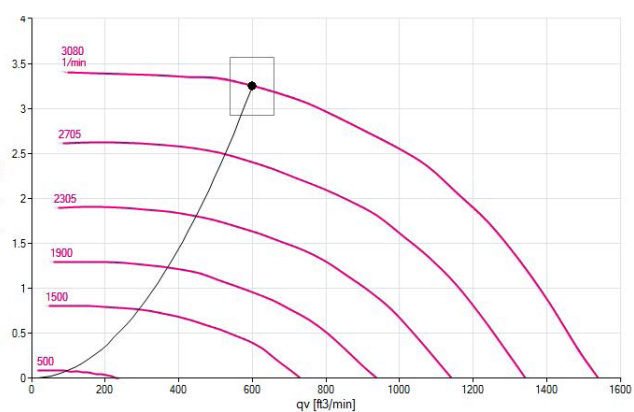
### 3.5 Air Performance



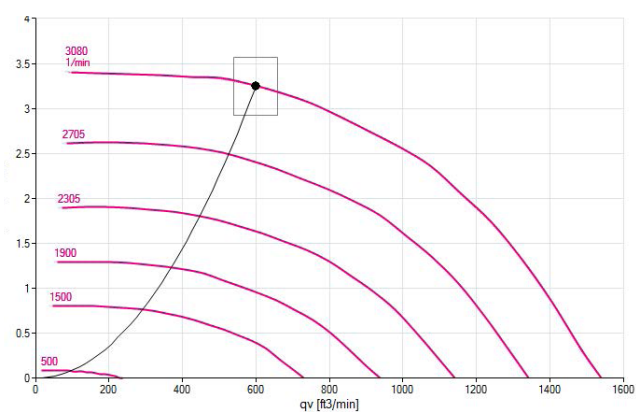
T06 – 600 CFM – 208-240 – 1ph



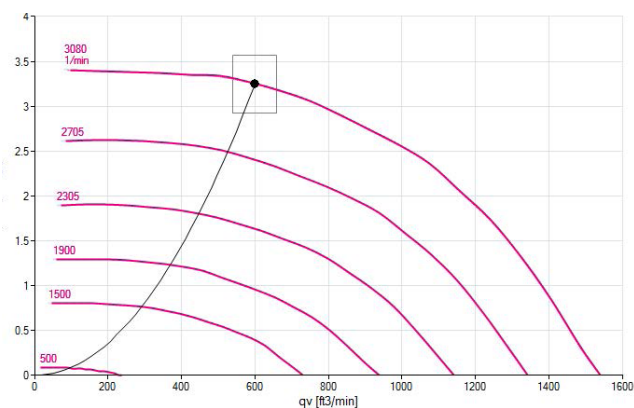
T09 – 900 CFM - 208-240 – 1ph



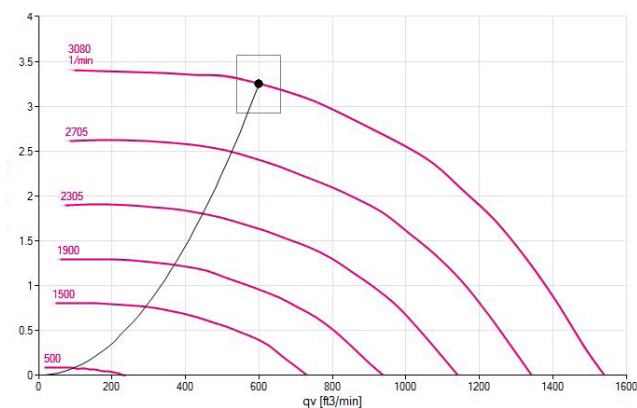
T12 – 1200 CFM – 208-204 – 1ph



T15 – 1500 CFM – 208-240 – 1ph

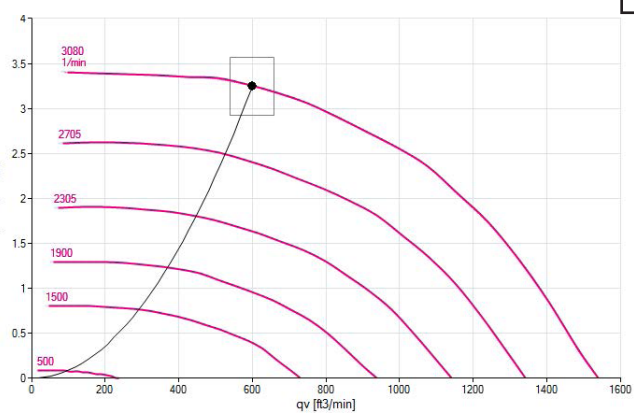


T18 – 1800 CFM – 208 – 3ph

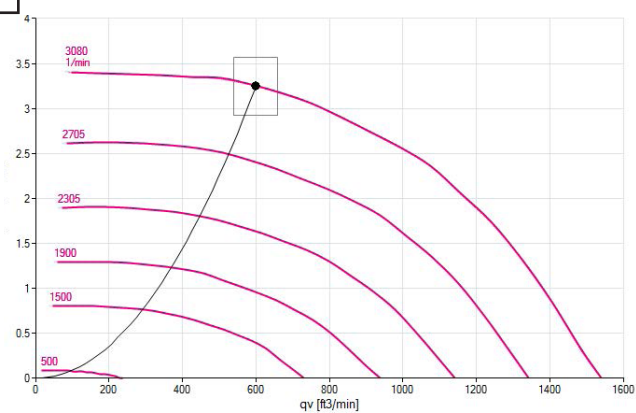


T18 – 1800 CFM – 208-240 – 1ph (2 fans)

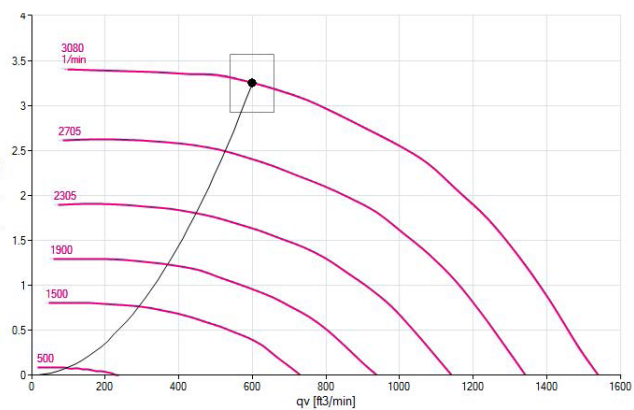




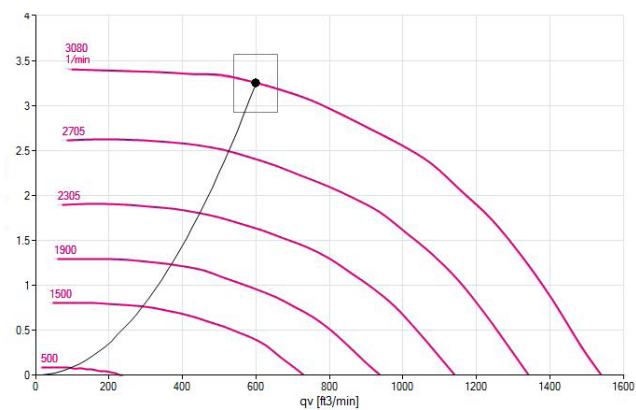
T18 – 1800 CFM – 460 – 3ph



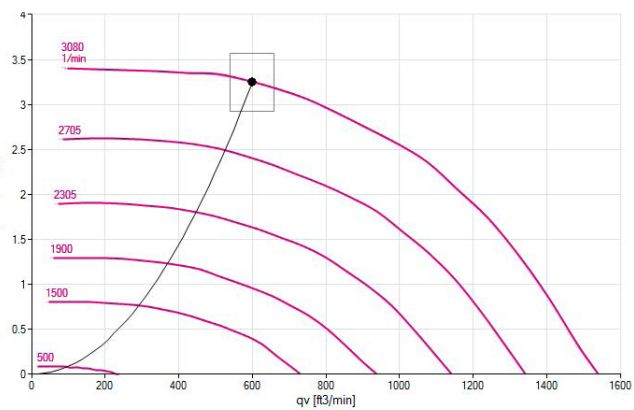
T24 – 2400 CFM – 208 – 3ph



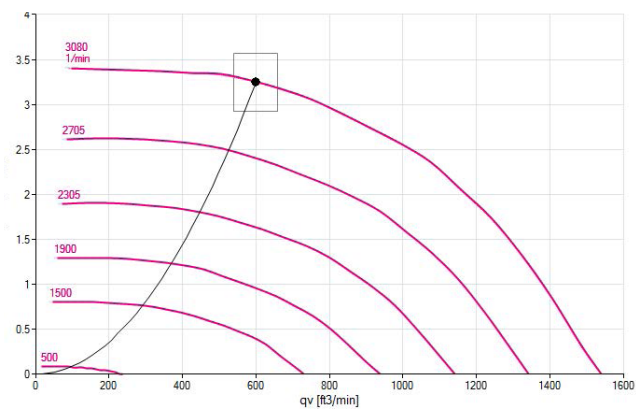
T24 – 2400 CFM – 208-240 – 1ph (2 fans)



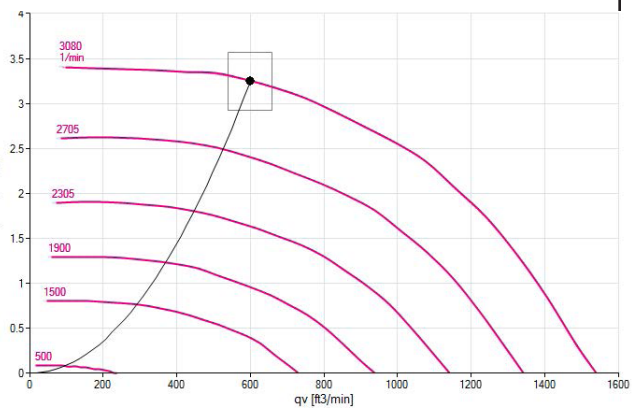
T24 – 2400 CFM – 460 – 3ph



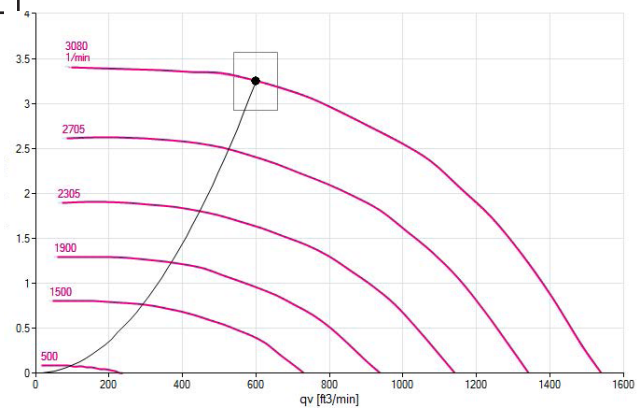
T32 – 3000 CFM – 208 – 3ph



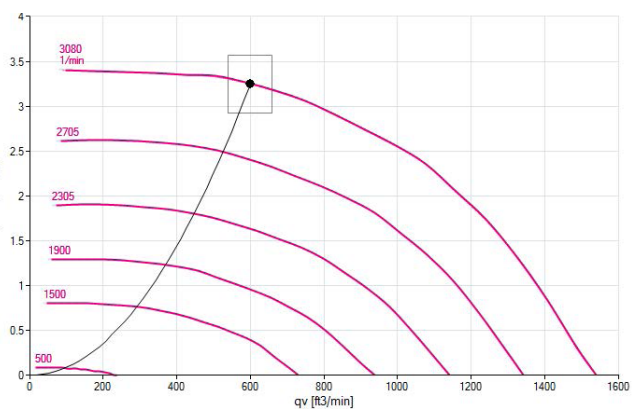
T32 – 3000 CFM – 460 – 3ph



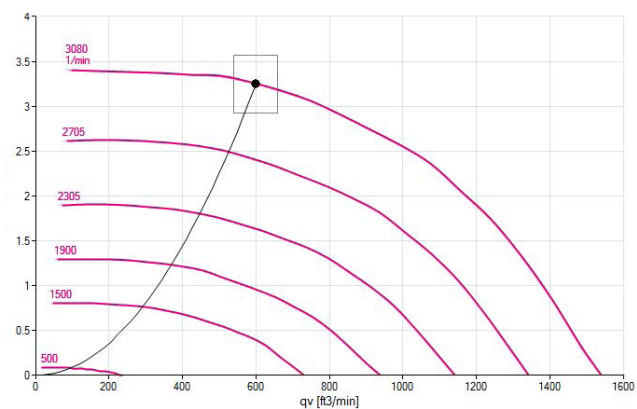
T40 – 3900 CFM – 208 – 3ph



T40 – 3900 CFM – 460 – 3ph



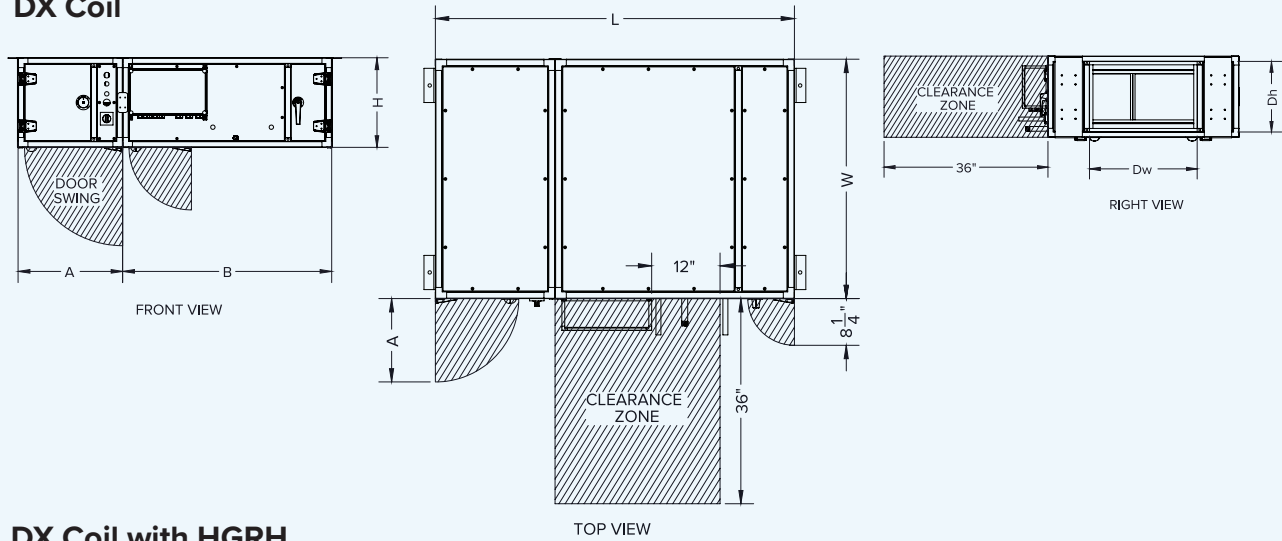
T48 – 4800 CFM – 208 – 3ph (2 fans)



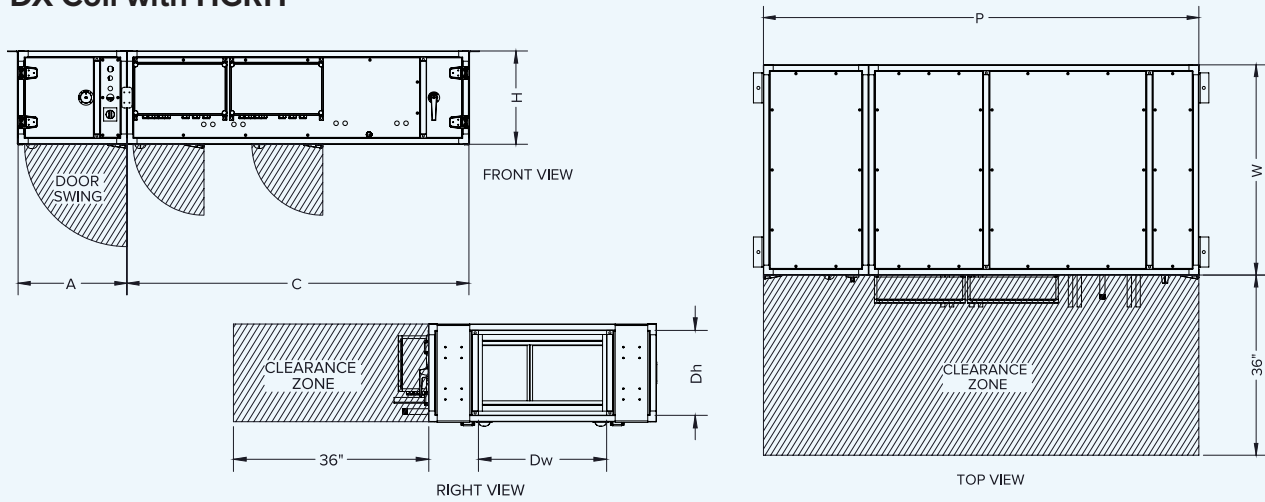
T48 – 4800 CFM – 460 – 3ph (2 fans)

## 3.6 Dimensions

### DX Coil



### DX Coil with HGRH



|             |          | <b>DX</b> | <b>HGRH</b> | <b>DX</b> | <b>HGRH</b> |          |          |                                |                                |
|-------------|----------|-----------|-------------|-----------|-------------|----------|----------|--------------------------------|--------------------------------|
|             | <b>A</b> | <b>B</b>  | <b>C</b>    | <b>P</b>  | <b>Q</b>    | <b>H</b> | <b>W</b> | <b>Dh</b>                      | <b>Dw</b>                      |
| <b>T06</b>  | 21       | 42        | 66          | 63        | 87          | 18       | 30       | 15 <sup>5</sup> / <sub>8</sub> | 11 <sup>3</sup> / <sub>8</sub> |
| <b>T09</b>  | 21       | 42        | 66          | 63        | 87          | 18       | 36       | 15 <sup>5</sup> / <sub>8</sub> | 17 <sup>3</sup> / <sub>8</sub> |
| <b>T12</b>  | 21       | 42/48     | 66          | 63/69     | 87          | 18       | 42       | 15 <sup>5</sup> / <sub>8</sub> | 23 <sup>3</sup> / <sub>8</sub> |
| <b>T15</b>  | 21       | 42/48     | 66          | 63/69     | 87          | 18       | 48       | 15 <sup>5</sup> / <sub>8</sub> | 29 <sup>3</sup> / <sub>8</sub> |
| <b>T18</b>  | 24       | 42/48     | 66          | 66/72     | 90          | 21       | 48       | 18 <sup>5</sup> / <sub>8</sub> | 29 <sup>3</sup> / <sub>8</sub> |
| <b>T24</b>  | 24       |           | 66          |           | 90          | 21       | 60       | 18 <sup>5</sup> / <sub>8</sub> | 41 <sup>3</sup> / <sub>8</sub> |
| <b>T24W</b> | 24       | 48        |             | 72        |             | 24       | 60       | 21 <sup>5</sup> / <sub>8</sub> | 41 <sup>3</sup> / <sub>8</sub> |
| <b>T32</b>  | 30       |           | 66/84       | 30        | 96/114      | 30       | 48       | 27 <sup>5</sup> / <sub>8</sub> | 29 <sup>3</sup> / <sub>8</sub> |
| <b>T40</b>  | 30       |           | 66/84       | 30        | 96/114      | 30       | 60       | 27 <sup>5</sup> / <sub>8</sub> | 41 <sup>3</sup> / <sub>8</sub> |
| <b>T48</b>  | 24       |           | 66/84       | 24        | 90/108      | 30       | 72       | 27 <sup>5</sup> / <sub>8</sub> | 53 <sup>3</sup> / <sub>8</sub> |

Dimensions are in inches. DX and HGRH section lengths depend on number of circuits, driven by coil capacity. Electric heater accessory lengths vary and are not included above.

## 4.0 CONFIGURING CONTROLS

### 4.1 Setting the Fan Operating Points

Under the “Fan Configuration” and “Fan Settings” screens, you can set the way in which fans and air volumes are to be controlled and regulated. Fans and air volumes can be controlled according to the following operating modes.

#### Start-Up Sequence

When the system is activated, the following start-up sequence is followed regardless of the selected control type (constant pressure, constant flow, CO<sub>2</sub>, VOC, etc.).

- 1.** The outdoor air damper is opened.
- 2.** The supply fan is started with the delayed time.
- 3.** Supply fan speed is increased until it reaches the setpoint for air quantity/duct pressure.
- 4.** When the supply fan has passed 90% of the setpoint for air quantity/duct pressure, startup heating, cooling resources under “Coil Configuration” and “DX Coil Configuration” screens.



## Constant Air Volume

- Supply and return fans are controlled in relation to flow/air volumes in the Supply and return ducts respectively.
- Air volumes are measured/calculated by measuring the difference between static and dynamic pressure across the fan.
- The difference between static and dynamic pressure is measured by means of pressure transmitters, built into the Huba Type 699M pressure sensor.

## Constant Pressure-RA Slave

- Supply fans are controlled in relation to pressure in the Supply duct.
- Return fans are followed Supply fans speed with offset but Terra ignored this function.
- The pressure is measured/calculated by measuring the Supply duct, field installed into the Huba Type 699M pressure sensor.

## Constant CO2

- Monitoring CO2 ppm by Siemens QPM2102/MO and comparing the setpoint for supply fans high, low speed selection.
- If the room or duct CO2 level is over the setpoint, fan speed is increased, thus increasing air volume/air turnover towards the supply air fan high speed air volume setting "Fan Configuration – Parameter 1.12".
- If the room or duct CO2 level is below the setpoint, fan speed is decreased, thus decreasing air volume/air turnover towards the supply air fan low speed air volume setting "Fan Configuration – Parameter 1.10".
- Terra ignored supply air fan speed offset setting "Fan Configuration – Parameter 1.41".



## Constant VOC

- Monitoring VOC % by Siemens QPM2102/ MO and comparing the setpoint for supply fans high, low speed selection.
- If the room or duct VOC level is over the setpoint, fan speed is increased, thus increasing air volume/air turnover towards the supply air fan high speed air volume setting “Fan Configuration – Parameter 1.12”.
- If the room or duct VOC level is below the setpoint, fan speed is decreased, thus decreasing air volume/air turnover towards the supply air fan low speed air volume setting “Fan Configuration – Parameter 1.10”.
- Terra ignored supply air fan speed offset setting “Fan Configuration – Parameter 1.51”.

## External 0-10V Control

- Supply air fans speed will follow the external 0-10V analog input signal as 0-100% speed.
- External 0-10V signal can be adjusted with offset setting “Fan Configuration – Parameter 1.60”
- If 0V is maintained for over 60 seconds, fans will proceed to stop.
- Terra does not use Parameter 1.61”.



## 4.2 Fan Control: Constant Air Volume

### Supply

#### 1.10 Supply Air Fan Low Speed

Set the required setpoint for Supply flow at “Low” speed.

#### 1.11 Supply Air Fan Mid Speed

Set the required setpoint for Supply flow at “Medium” speed.

#### 1.12 Supply Air Fan High Speed

Set the required setpoint for Supply flow at “High” speed.

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## 4.3 Fan Control: Constant Pressure Return Air Slave

### Supply

#### 1.31 Supply Air Fan Low Speed

Set the required setpoint for Supply pressure at “Low” speed

#### 1.32 Supply Air Fan Mid Speed

Set the required setpoint for Supply pressure at “Medium” speed

#### 1.33 Supply Air Fan High Speed

Set the required setpoint for Supply pressure at “High” speed

#### 1.2 Supply Fan Max. Airflow

Set the required setpoint for maximum air pressure in the supply duct.

#### 1.3 Return Fan Max. Airflow

Terra ignored this parameter

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

**Note:** Air volume has higher priority than the pressure setpoint, i.e. if the pressure setpoint is not achieved before the maximum air volume is reached, the air volume setting will prevent further increases in fan speed.

## 4.4 Fan Control: Constant CO2

### 1.40 Return Air CO2 Setpoint

Set the required CO2 setpoint (default 1000 ppm)

### 1.41 Supply Air Fan Speed Offset

Terra ignored this parameter

### 1.42 Min Run Time

Set the minimum time the fan will run at high speed (after exceeding the CO2 setpoint)

### 1.43 Sensor Selection

Select the location of the CO2 sensor:  
Duct or Room

### 1.10 Supply Fan Low Speed

Set the required setpoint for supply air fan at low speed.

### 1.12 Supply Fan High Speed

Set the required setpoint for supply air fan at high speed.

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

## 4.5 Fan Control: Constant VOC

### Supply

### 1.43 Sensor Selection

Select the location of the VOC sensor:  
Duct or Room

### 1.50 Return Air VOC Setpoint

Set the required VOC setpoint (default 70%)

### 1.51 Supply Air Fan Speed Offset

Terra ignored this parameter

### 1.52 Min Run Time

Set the minimum time the fan will run at high speed (after exceeding the VOC setpoint.)

### 1.10 Supply Fan Low Speed

Set the required setpoint for supply air fan at low speed.

### 1.12 Supply Fan High Speed

Set the required setpoint for supply air fan at high speed.

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

## 4.6 Fan Control: External 0-10V Mode

### 1.60 Supply Air Fan Speed Offset

Set the supply air fan speed offset for the external 0-10V signal through 0-100% ratio (Offset is subtracted. For example, when the offset is 20%, the Supply Fan speed will be voltage input).

### 1.61 Return Air Fan Speed Offset

Terra does not use this parameter

## 4.7 Fan Settings

### Supply

### 1.80 Supply Air Fan Enable

Set the supply air fan enable

### 1.81 Supply Air Fan Start Delay

Set the supply air fan start delay time after damper open

### 1.82 Supply Air Fan K Factor

Set the supply air fan K factor (factory setting)

### 1.83 SA Fan PID Proportional Gain

Set the supply air fan speed PID gain factor (factory setting)

### 1.84 SA Fan PID Integral Time

Set the supply air fan speed PID I-time factor (factory setting)

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## 4.8 Preheat & Heat Configuration

### Preheater

#### 2.1 Preheater Type

Set the preheater type as none, electric or water

#### 2.2 Temperature Setpoint

Set the outdoor air temperature setpoint for the preheater starting

#### 2.3 PID Proportional Band

Set the preheater PID P-band factor (factory setting)

#### 2.4 PID Integral Time

Set the preheater PID I-time factor (factory setting)

#### 2.10 Min/Max Air Flow Protection

Set the electric preheater minimum air flow enable

#### 2.11 Minimum Air Flow for 0% Heating

Set the electric preheater minimum air flow enable

#### 2.20 Standby Temperature

Set the water preheater standby temperature setpoint. Preheater valve will be positioning for the setpoint

#### 2.21 Frost Protection Temperature

Set the water preheater frost protection temperature setpoint. Frost protection act from adding "2.22 Frost Protection P-Band" parameter and preheater will control the linear power

#### 2.22 Frost Protection P-Band

Set the water preheater frost protection P-band

#### 2.23 Frost Protection Alarm Temperature

Set the water preheater frost protection alarm temperature. Even though the frost protection operation, the return water temperature reached the setpoint, alarm and stop.

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## Post-heater

### 2.30 Heater Type

Set the post-heater type as none, electric or water

### 2.31 PID Proportional Band

Set the post-heater PID P-band factor (factory setting)

### 2.32 PID Integral Time

Set the post-heater PID I-time factor (factory setting)

### 2.40 Min/Max Air Flow Protection

Set the electric post-heater minimum air flow enable

### 2.41 Minimum Air Flow for 0% Heating

Set the electric post-heater minimum air flow for starting

### 2.42 Flushing Time (All Electric Heaters)

Set the electric pre/post-heater flushing time. When system stop, maintain 25% fan speed with flushing time

### 2.50 Standby Temperature

Set the water post-heater standby temperature setpoint. Post-heater valve will be positioning for the setpoint

### 2.51 Frost Protection Temperature

Set the water post-heater frost protection temperature setpoint. Frost protection act from adding "2.52 Frost Protection P-Band" parameter and preheater will control the linear power

### 2.52 Frost Protection P-Band

Set the water post-heater frost protection P-band

### 2.53 Frost Protection Alarm Temperature

Set the water post-heater frost protection alarm temperature. Even though the frost protection operation, the return water temperature reached the setpoint, alarm and stop

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## 4.9 Coil Configuration

### 3.1 Coil Type

Set the coil type as None, DX coil, WaterCooling, HGRH or Condensing Unit

### 3.2 Minimum Supply Air Temp.

Set the minimum supply air temperature

### 3.3 OA Temp. to Stop Cooling

Set the cooling stop temperature for outdoor air temperature

### 3.4 Forced Cooling

Set the forced cooling enable

### 3.5 Forced Cooling Ramp

Set the forced cooling increase speed

### 3.6 PID Proportional Band

Set the DX coil, WaterCooling PID P-band factor (factory setting)

### 3.7 PID Integral Time

Set the DX coil, WaterCooling PID I-time factor (factory setting)

### 3.20 Dehumidification Enable

Set the dehumidification enable for DX coil, WaterCooling with post heater or HGRH combination

### 3.21 RH Setpoint

Set the dehumidification start RH setpoint

### 3.22 Dewpoint Margin

Set the exit dehumidification dewpoint margin. Exit dewpoint target calculate with the temperature and RH setpoint

### 3.23 Dehumidification Cooling Output

Set the dehumidification cooling output for DX coil, WaterCooling with post heater combination

### 3.24 Sensor Selection

Set the dehumidification sensor as SA, RA, Room or Dewpoint + SA sensor options

### 3.30 Temperature Deadband

Set the HGRH temperature deadband

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan          |            |
|---------------------------------------|------------|
| <b>1.10</b> Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b> Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b> Supply Air Fan High Speed | 2700.0 cfm |

### **3.31 Switch Over Time**

Set the HGHR heating/cooling mode switch over time

### **3.32 Cooling Enable**

Set the cooling enable for HGRH. When enable, HGRH will work with heating, cooling and dehumidification. When disable, HGRH will work with heating or dehumidification (cooling)

### **3.40 Temperature Deadband**

Set the temperature deadband for the condensing unit

### **3.41 Cooling Stage 1**

Set the condensing unit cooling stage 1 enable

### **3.42 Cooling Stage 1 Stable Time**

Set the condensing unit cooling stage 1 stable time

### **3.43 Cooling Stage 2**

Set the condensing unit cooling stage 2 enable

### **3.44 Cooling Stage 2 Stable Time**

Set the condensing unit cooling stage 2 stable time When enabled 3.43 parameter, work after 3.42 and not in the current temperature of setpoint deadband

## 4.10 DX Coil Configuration

### 3.50 Control Mode Selection

Set the DX coil W-controller mode as Step or PI Control Mode

### 3.51 Mode Switch Time

Set the mode switch time for heating or cooling mode changing conditions

### 3.52 Mode Restart Time

Set the time to wait after the mode (Heating or Cooling) has changed before allowing another change

### 3.53 Cooling Upper 1 Step DB

Set the cooling step 1 start deadband

### 3.54 Cooling Upper 2~4 Steps DB

Set the cooling steps 2~4 start deadband

### 3.55 Cooling Lower Temp. Deadband

Set the cooling overshoot deadband

### 3.56 Cooling Step 1 Stable Time

Set the cooling step 1 elapse time before step 2 starts. If during the stable time, the current temperature meets the deadband, time will expire immediately

### 3.57 Cooling Step 2 Stable Time

Set the cooling step 2 elapse time before step 3 starts. If during the stable time, the current temperature meets the deadband, time will expire immediately

### 3.58 Cooling Step 3 Stable Time

Set the cooling step 3 maintain time before the step 4 During the stable time, the current temperature meet the deadband, time will be expired immediately

### 3.59 Cooling Step 4 Stable Time

Set the cooling step 4 elapse time. If during the stable time, the current temperature meets the deadband, time will expire immediately

### 3.60 Heating Upper Temp. Deadband

Set the heating overshoot deadband

### 3.61 Heating Lower 1 Step DB

Set the heating step 1 start deadband

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |





### **3.62 Heating Lower 2~4 Steps DB**

Set the heating steps 2~4 start deadband

### **3.63 Heating Step 1 Stable Time**

Set the heating step 1 elapse time before step 2 starts. If during the stable time, the current temperature meets the deadband, time will expire immediately

### **3.64 Heating Step 2 Stable Time**

Set the heating step 2 elapse time before step 3 starts. If during the stable time, the current temperature meets the deadband, time will expire immediately

### **3.65 Heating Step 3 Stable Time**

Set the heating step 3 elapse time before step 4 starts. If during the stable time, the current temperature meets the deadband, time will expire immediately

### **3.66 Heating Step 4 Stable Time**

Set the heating step 4 elapse time. If during the stable time, the current temperature meets the deadband, time will expire immediately

### **3.67 DX Coil Operation Mode**

Set the DX Coil W-Controller operation mode (Both: heating/cooling, Cooling: only cooling)

### **3.68 Step Overshoot Time**

Set the step overshoot time. When above the deadband, maintain the current step during the time before stepping down

### **3.69 Step Undershoot Time**

Set the step undershoot time. When under the deadband, maintain the current step during the time before stepping up

### **3.70 Step 1 Voltage**

Set the step 1 voltage signal

### **3.71 Step 2 Voltage**

Set the step 2 voltage signal

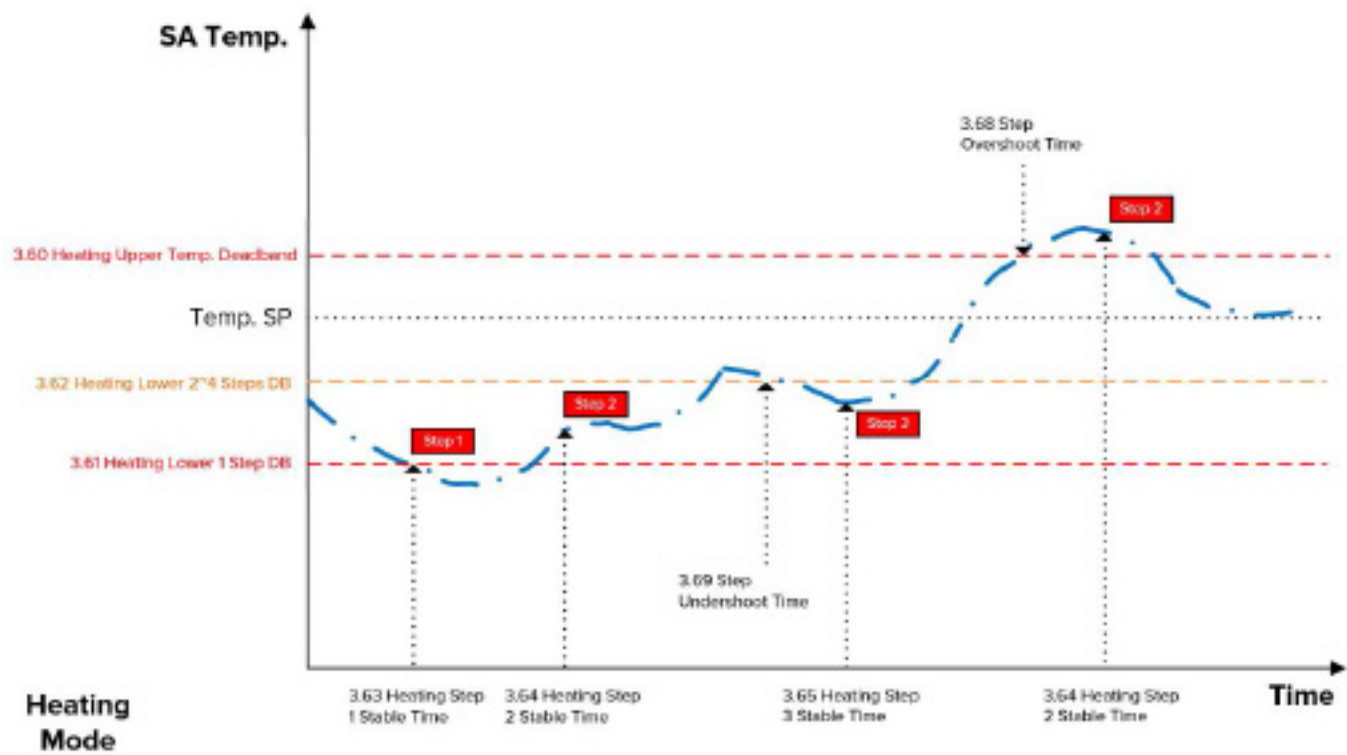
### **3.72 Step 3 Voltage**

Set the step 3 voltage signal

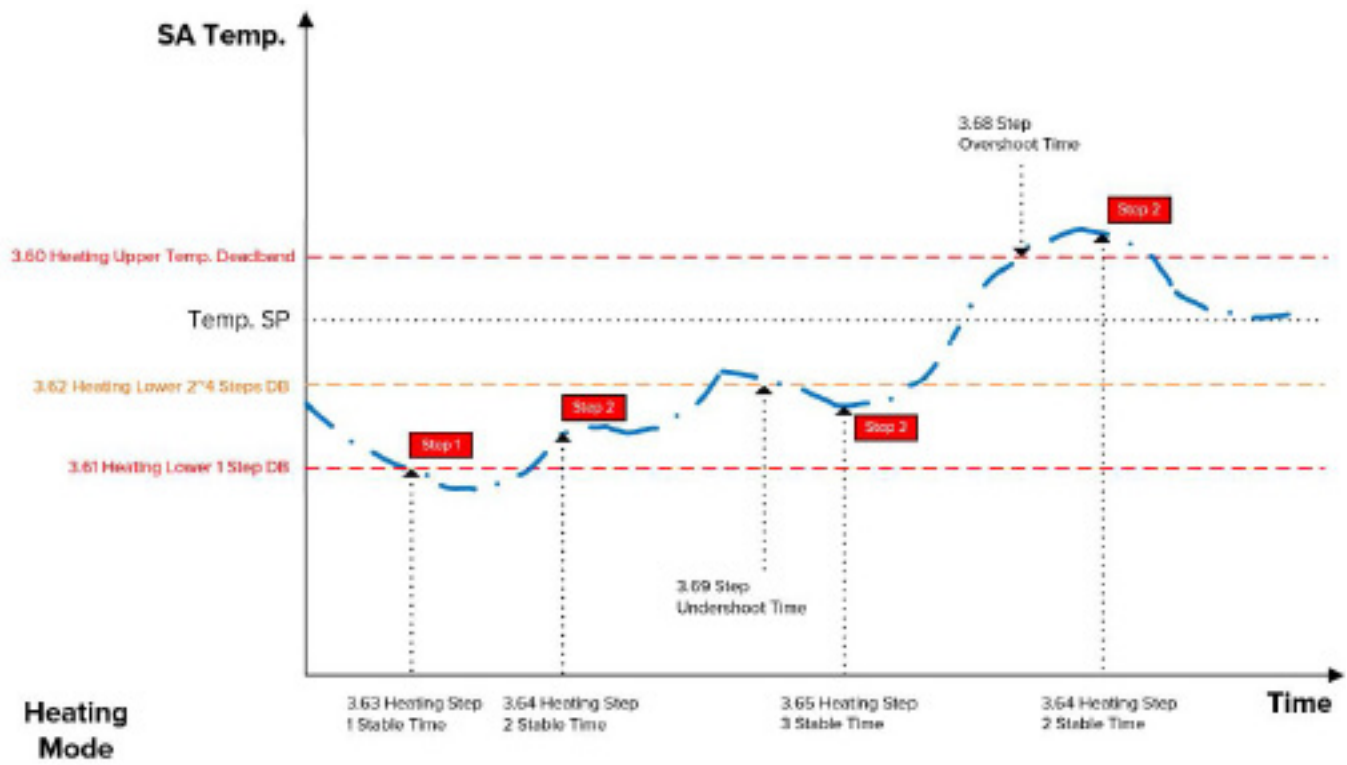
### **3.73 Step 4 Voltage**

Set the step 4 voltage signal

DX Coil W-Controller Heating Mode



DX Coil W-Controller Cooling Mode



## 4.11 Filter & Damper Configuration

### 4.1 Outdoor Air Damper

Set the outdoor air damper enable

### 4.2 Outdoor Air Damper Delay Time

Set the outdoor air damper delay time

### 4.3 Exhaust Air Damper

Terra ignored this parameter

### 4.4 Exhaust Air Damper Delay Time

Terra ignored this parameter

### 4.5 OA Damper Feedback

Set the outdoor air damper feedback

### 4.6 EA Damper Feedback

Terra ignored this parameter

### 4.10 Outdoor Air Filter

Set the outdoor air filter monitoring enable

### 4.11 Alarm Type

Set the outdoor air filter alarm type as.  
StaticPressure or TimeBased

### 4.12 Static Pressure Limit

Set the outdoor air filter static pressure  
warning limit

### 4.13 Filter Operation Time Limit

Set the outdoor air filter operation time  
warning time

### 4.14 Reset

Set the outdoor air filter operation time  
initialize

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

**Note:** The other parameters as “Exhaust Air Filter Settings”, “Bypass Damper & Core Settings” and “Core Frost Protection Settings” are ignored for Terra.

## 4.12 General Configuration

### 5.1 Temperature Setpoint

Set the temperature setpoint. Use parameter 5.10 (below) to select the setpoint type

### 5.2 Temperature Control Mode

Set the temperature control mode as “Constant Supply Air Temp”, “Constant Return Air Temp”, or “Constant Room Air Temp”

### 5.3 Setpoint Compensation

Set the setpoint compensation enable. From outdoor temperature, can compensate for setpoint with the linear ratio

### 5.4 Winter Start Temperature

Set the Winter start outdoor temperature

### 5.5 Winter Max. Temperature

Set the Winter lowest outdoor temperature

### 5.6 Winter Temperature Difference

Set the Winter temperature difference from start to Max. temperature

### 5.7 Summer Start Temperature

Set the Summer start outdoor temperature

### 5.8 Summer Max. Temperature

Set the Summer highest outdoor temperature

### 5.9 Summer Temperature Difference

Set the Summer temperature difference from start to max temperature

### 5.10 Temperature Setpoint Type

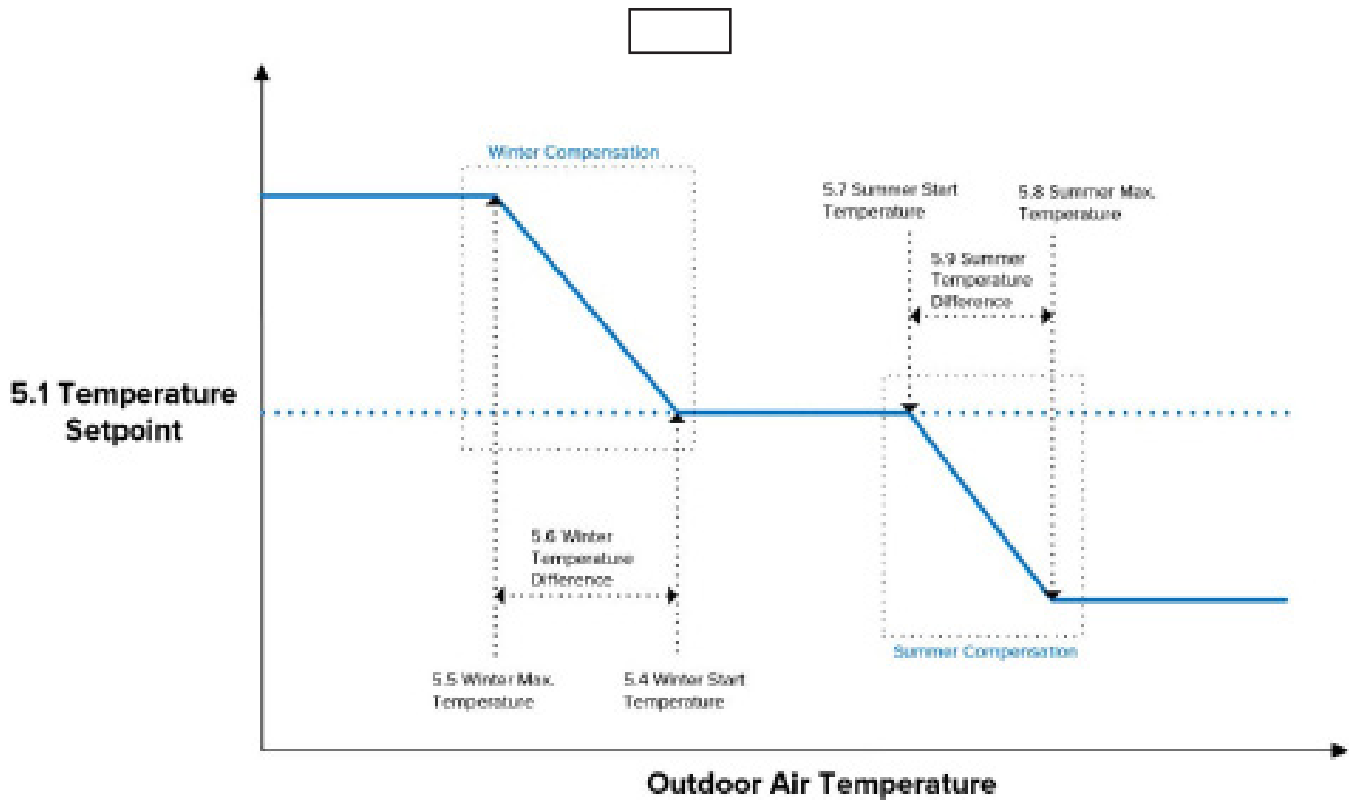
Set the temperature setpoint type as “Single”, “Summer/Winter” or “Occupied/Unoccupied”

### 5.11 Summer/Winter Change Reference

Set the Summer/Winter change reference as “OA Temperature” or “External-BACnet”  
When 5.10 set “Summer/Winter”, the temperature setpoint set from 5.14 or 5.15 parameters

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |



### 5.12 Reference OAT Setpoint

Set the reference outdoor temperature setpoint. Set 5.10 “Summer/Winter” and 5.11 “OAT Temperature” compare 5.12 with the current outdoor air temperature for the selection of Winter or Summer

### 5.13 Reference OAT Deadband

Set the reference outdoor temperature deadband

- Winter Setpoint  
Current OAT < 5.12 OAT Setpoint - 5.13
- Summer Setpoint  
Current OAT > 5.12 OAT Setpoint + 5.13

In the deadband, keep the current mode

### 5.14 Summer Temperature Setpoint

Set the Summer temperature setpoint

### 5.15 Winter Temperature Setpoint

Set the Winter temperature setpoint

### 5.16 Occupied Temperature Setpoint

Set the occupied temperature setpoint. Set 5.10 “Occupied/Unoccupied”, the occupancy sensor will check the motion of the room and sensor on will setup with this setpoint

### 5.17 Unoccupied Temperature Setpoint

Set the occupied temperature setpoint  
Set 5.10 “Occupied/Unoccupied”, the occupancy sensor will check the motion of the room and sensor on will setup with this setpoint

### 5.18 Occupancy Sensor Min. Run Time

Set the occupancy sensor minimum run time. When occupancy sensor on, will run at least this time

### 5.30 External Start/Stop Enable

Set the external start/stop signal enable  
Working with Digital input 2 IO

### 5.31 External Start/Stop Mode

Set the external start/stop signal mode

- Start:On/Stop:Off – N/O
- Start:Off/Stop:On – N/C

### 5.40 Temperature Unit Selection

Set the temperature unit °C or °F  
Only can setup when unit stop mode

### 5.41 Temp. Setpoint Source

Set the temperature setpoint from Web HMI or Unitouch

### 5.42 CO2/VOC Sensor Enable

Set the CO2/VOC sensor enable and show data on HMI

### 5.43 PM2.5 Sensor Enable

Set the PM2.5 sensor enable and show data on HMI

### 5.44 Unitouch Enable

Set the Unitouch enable and show room data on HMI

### 5.46 Dial LCD Enable

Set the Dial LCD enable and subnet status with warning

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |

#### **5.47 Nova Ventum/Terra Fan Config**

Set Terra and select fan type as ZA or PSC Fan

#### **5.48 SA Temperature Source**

Set the SA temperature from duct or internal

#### **5.49 RA Temperature Source**

Terra does not use this parameter

#### **5.50 SA Pressure Sensor Enable**

Set the sensor enable and show data on HMI

#### **5.51 RA Pressure Sensor Enable**

Terra does not use this parameter

## 4.13 Alarm Settings

### 6.1 Low SA Temp. Deadband

Set the low supply air temperature alarm deadband. Low supply air temperature = Temperature SP - Deadband

### 6.2 Low SA Temperature Time

Set the low supply air temperature alarm delay time

### 6.3 Low SA Temp. Alarm Enable

Set the low supply air temperature alarm enable. This alarm stops system and manual reset

### 6.10 External Stop Alarm DI Enable

Set the external stop alarm digital input signal (N/C) enable

### 6.11 External Stop Alarm SA Fan Speed

Set the external stop alarm supply fan speed  
When set over 0%, supply fans keep that speed and opened dampers

### 6.12 External Stop Alarm RA Fan Speed

Set the external stop alarm return fan speed. When a value over 0% is set, return fan maintains that speed while dampers remain open

### 6.13 Auto Reset

Set the auto reset

- Disable: system stop and manual reset
- Enable: system stop and auto reset

### 6.20 Unit Fire Alarm SA Temperature

Set the unit internal fire alarm supply air temperature. System stops and requires manual reset

### 6.20 Unit Fire Alarm RA Temperature

Set the unit internal fire alarm return air temperature. System stops and requires manual reset

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |



## 4.14 Locking the Fan Speed

On the Home screen, by clicking on the supply fan, a popup screen opens. Select Hand on SA Fan Mode and then enter the desired speed on Hand Speed.

The function, which is used for VAV installations in particular, allows the installer to maintain constant air quantity during system adjustment.

The Hand Speed remains until the fans are changed to Auto.

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## 4.15 Locking the Pre/Post Heater

On the Home screen, by clicking on the preheater, a popup screen opens. Select Hand on Pre Heater Mode and then enter the desired preheater power on Pre Heater Hand Output.

Same way for Post Heater.

The function, which is used for preheater testing, allows the installer to make sure preheater operation during commissioning.

The Hand Output remains until the pre/post heaters are changed to Auto

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## 4.16 Locking the DX Coil: W-Controller

On the Home screen, by clicking on the DX coil, a popup screen opens. Select Hand on DX Coil Mode and then enter the desired DX coil step power on DX Coil Hand Output.

Select Heating/Cooling mode for checking VAV operation which is working W-Controller ABC board.

Monitoring the current and exit dewpoints data.

The Hand Output and Operation Mode remains until the DX coil is changed to Auto.

|             |                           | Constant Flow Supply Air Fan |
|-------------|---------------------------|------------------------------|
| <b>1.10</b> | Supply Air Fan Low Speed  | 1500.0 cfm                   |
| <b>1.11</b> | Supply Air Fan Mid Speed  | 2000.0 cfm                   |
| <b>1.12</b> | Supply Air Fan High Speed | 2700.0 cfm                   |

## 4.17 Locking the HGRH: D-Controller

On the Home screen, by clicking on the HGRH, a popup screen opens. Select Hand on HGRH Mode and then select the desired HGRH mode as stop, heating, cooling and dehumidification on HGRH Hand Command.

- Heating: DX coil on - heating
- Cooling: DX coil on – cooling
- Dehumidification: DX (cooling), Reheat on Monitoring data
- Dewpoint Target
- Dewpoint Exit Dehumidification (Target-Margin)
- Current SA Dewpoint
- Current OA Dewpoint (if installed outdoor sensor)
- Dewpoint Difference

The Hand Output and Operation Mode remains until the HGRH Mode is changed to Auto.

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |

## 4.18 Locking the Damper

On the Home screen, by clicking on the Damper, a popup screen opens. Select Hand on Damper Mode and then select the desired Damper as close or open on Damper Hand Command.

Damper hand mode will take a command immediately so, very careful operation during system is running.

The Hand Output remains until the Damper Mode is changed to Auto.

| Constant Flow Supply Air Fan |                           |            |
|------------------------------|---------------------------|------------|
| <b>1.10</b>                  | Supply Air Fan Low Speed  | 1500.0 cfm |
| <b>1.11</b>                  | Supply Air Fan Mid Speed  | 2000.0 cfm |
| <b>1.12</b>                  | Supply Air Fan High Speed | 2700.0 cfm |

## 4.19 Communication Protocols

### External Communication

Setting communication parameters for TCP/IP, LAN, Web browser and BMS

#### Set Internet Connection

##### Static/Dynamic

DHCP = IP address assigned from DHCP server on local network or from the Internet

Static = the installer must set the following communication parameters:

- IP address
- NetMask
- Gateway
- Primary DNS
- Secondary DNS

The screenshot displays the ECLYPSE network configuration interface. On the left is a blue sidebar with icons for Home, Network, BACnet, Users, System, IoT, and B/E Room Devices. The main area has tabs for Ethernet, Wireless, and Diagnostic. Under the Ethernet tab, the 'Ethernet Primary' section is active. It shows a checked 'DHCP' box, with a blue arrow pointing to it. Below this, the IP Address is set to 192.168.0.20, Subnet Mask to 255.255.255.0, Gateway to 192.168.0.1, Primary DNS to 192.168.0.1, and Secondary DNS is empty. An 'Apply' button is at the bottom right.

| Parameter     | Value                               |
|---------------|-------------------------------------|
| DHCP          | <input checked="" type="checkbox"/> |
| IP Address    | 192.168.0.20                        |
| Subnet Mask   | 255.255.255.0                       |
| Gateway       | 192.168.0.1                         |
| Primary DNS   | 192.168.0.1                         |
| Secondary DNS |                                     |

## BACnet

### Settings for external BACnet communication

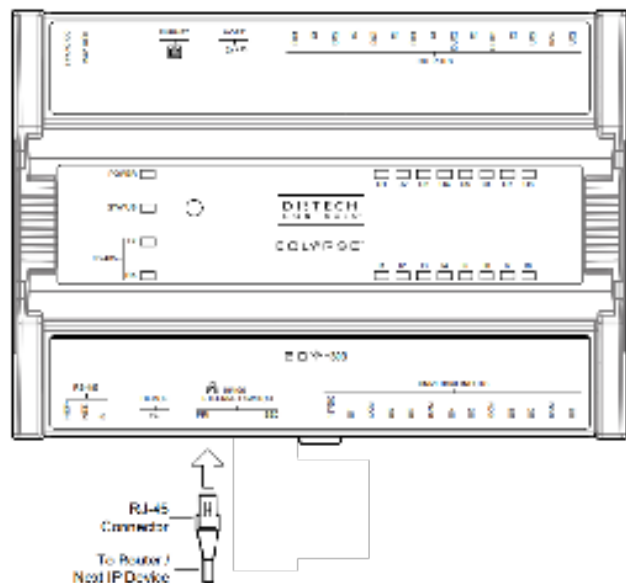
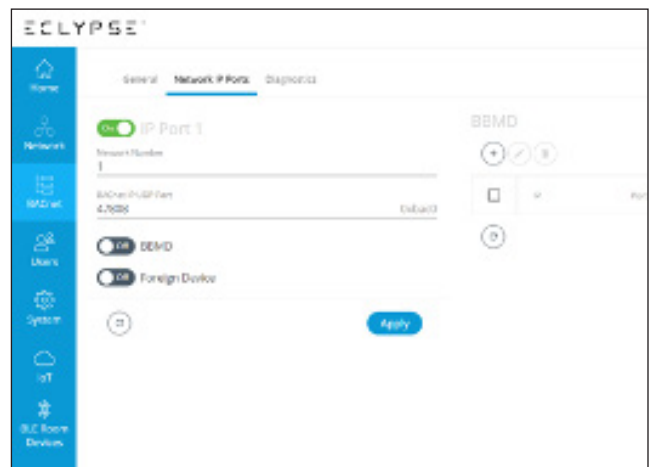
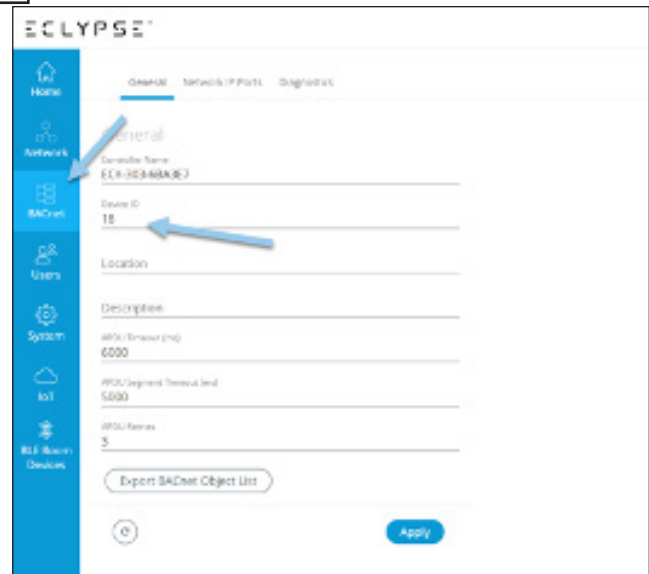
BACnet IP is enabled by default

On the General Tab, it is possible to edit:

- Controller Name
- Device ID
- Location
- Description
- APDU
- APDU Segment Timeout
- APDU Retries

On Network IP Ports, it is possible to edit:

- Network Number
- BACnet IP UDP Port
- Use a standard RJ45 cable External BACnet TCP/IP connects to plug connector "TCP/IP"



## 4.20 Restore/Back-Up Setting

On the “System” screen, and under the “Backup & Restore” tab, it is possible to restore a backup of an existing program and configuration. Contact Oxygen8 for the proper backup file.

### To Restore

- 1.** Click on “Import Backup From PC”
- 2.** Click “Select File”
- 3.** Navigate to the location where the file is saved and select it
- 4.** Hit the “User Management”, “Network Configuration”, “EC-gfxProgram and BACnet objects”, “BACnet Configuration” and “Firmware Modules” check boxes
- 5.** Click “Next”
- 6.** Hit the “ECY303\_RTU” check box
- 7.** Click “Next”
- 8.** Hit the “Remove backup file after restore” check box
- 9.** Click on “FINISH” to commit to restoring the backup

The controller will restore the files and reboot. This process takes about 3 minutes.