OXYGEN8

INSTALLATION MANUAL
NOVA SERIES

Table of Contents

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 all of the instructions below! 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.

Warnings and Caution

Warnings and cautions appear at the appropriate sections throughout this manual. Please read these sections carefully.

Warning

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

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.

Caution

This label indicates a situation that may result in equipment or property damage only accidents.

2.0 Installation

2.1 Unwrapping the Product

When removing the shrink wrap, be cautious with knives and sharp tools to prevent scratching the paint.

The HMI, pressure sensor, external duct pressure sensor and all other optional field components will be found in the electrical box or fan compartment. They are secured there for transport and to easily find them on the job site.

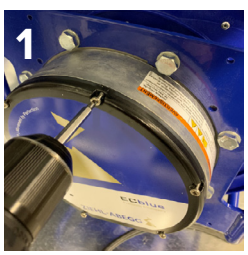
Unit Wrapped for Shipping

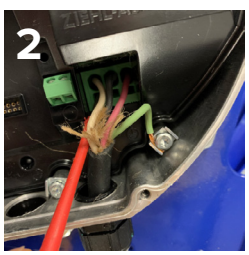
2.2 Split-unit Assembly (Specials Only)

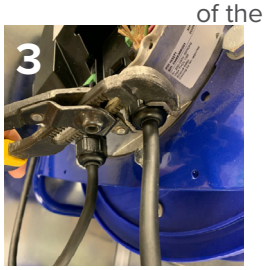
On the C-Series cabinets, by special request only for a premium, removing the fan section from the core section is possible for ease of installation and maneuverability in tight locations.

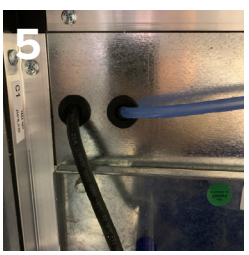
Use the following steps to disassemble the fan section from the core section:

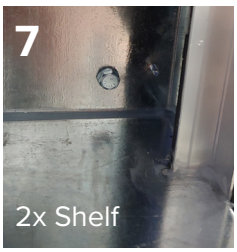
1. Before bolting the split modules together, locate the matching quick connects and pair them up, observing the condition to ensure they haven't been damaged in transit.
2. Connect all quick connects and hand-tighten the threaded locking shealth fully on each.
3. Insert bolts into angle brackets for each corner and top shelf and fully tighten into hex nut.
4. Unravel the coiled pressure tube in the upper half of the Heat Exchanger module.
5. Route the tube through the open grommet on fan wall and zup ties on inner fan cabinet walls up to the nozzle port on the fan bell mouth.
6. Connect press tube onto the nozzle port, ensuring a snug fit and that the tube is free from the fan blades.
7. Tighten zip ties to secure tube. DO NOT COMPRESS TUBING
8. Repeat steps 2-5 for the tubing in the bottom half of the unit.





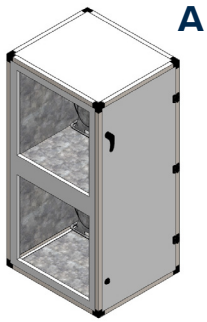


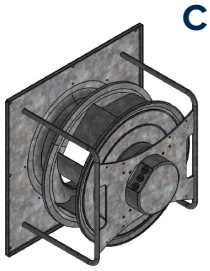


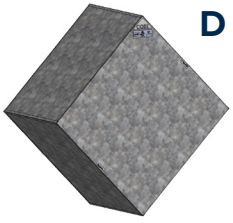


2.3 Weights

Model	Specials Only		Fan **(C)** lbs.	Core **(D)** lbs.	Indoor Total Weight (H/V) lbs.	Outdoor Total Weight* lbs.
	Fan Section (A) lbs.	**Core Section (B)** lbs.				
A16	Shipped as 1 Piece		27 x 2	28	320/330	
A18	Shipped as 1 Piece		27 x 2	28	380/390	490
B20	Shipped as 1 Piece		29 x 2	45	425/435	
B22	Shipped as 1 Piece		29 x 2	45	470/480	610
C20	215	360	38 x 2	72	550/575	
C20 - Bypass	260	470	38 x 2	72	695	
C22	Shipped as 1 Piece		38 x 2	72	600/615	770
C22 - Bypass	Shipped as 1 Piece		38 x 2	72	770	960
C24	255	390	51 x 2	88	630/645	
C26	Shipped as 1 Piece		51 x 2	88	675/690	860
C26 - Bypass	Shipped as 1 Piece		51 x 2	88	880	1100
C30	325	450	75 x 2	55 x 2	755/775	
C32	Shipped as 1 Piece		75 x 2	55 x 2	810	1000
C32 - Bypass	Shipped as 1 Piece		75 x 2	55 x 2	1030	1275
C40	Shipped as 1 Piece		38 x 4	72 x 2	905	1120
C40 - Bypass	Shipped as 1 Piece		38 x 4	72 x 2	1225	1490
C48	Shipped as 1 Piece		51 x 4	88 x 2	1055	1300
C48 - Bypass	Shipped as 1 Piece		51 x 4	88 x 2	1395	1690
C58	Shipped as 1 Piece		38 x 6	72 x 3	1265	1530
C70	Shipped as 1 Piece		51 x 6	88 x 3	1495	1790







*Outdoor total weights exclude coils and coil casings

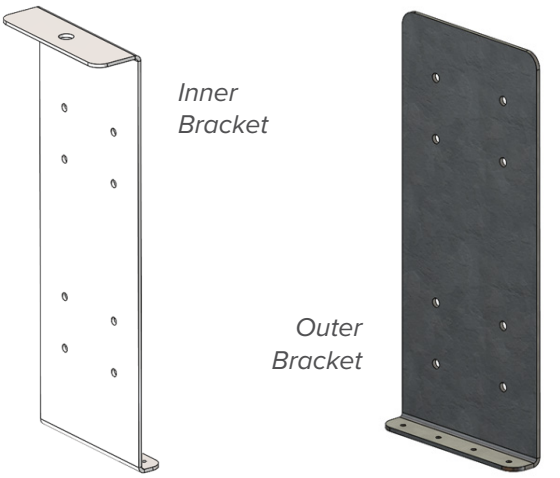
2.4 Horizontal Installation

2.4.1 Front Doors

The hanging brackets are supplied loose with the necessary hardware to install them. They are not shipped assembled due to the variability of installation access on job sites.

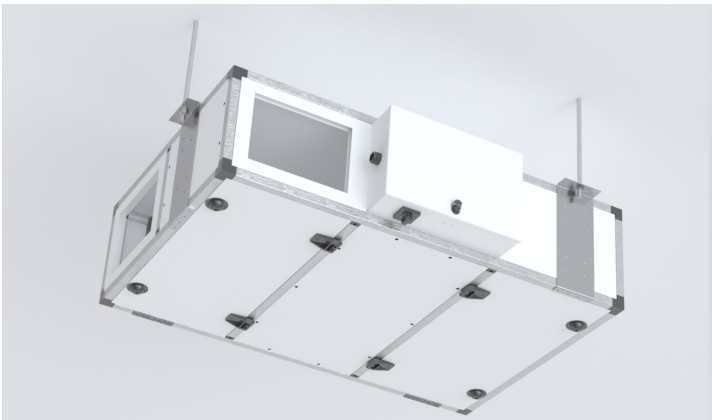
Each hanging bracket is composed of two pieces: an inner component and an outer component. The units are designed to have four sets of brackets to support the unit.

Note Depending on the ducted opening location selected during the design phase, the location of the brackets will vary. Please consult your submittal drawings for specific locations.

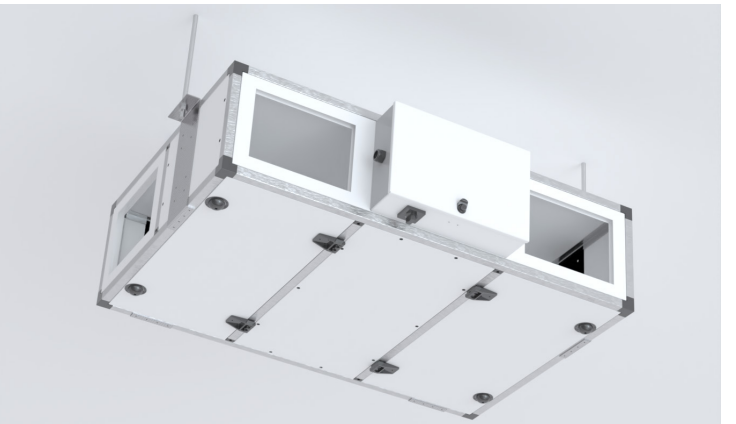


Warning

The unit must be installed with both the inner and outer bracket. Each unit must also have all four brackets installed to meet these guidelines.



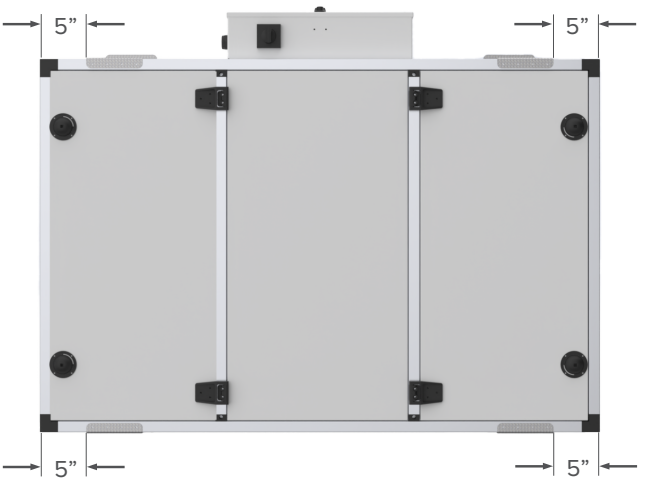
Unit with 1A Opening

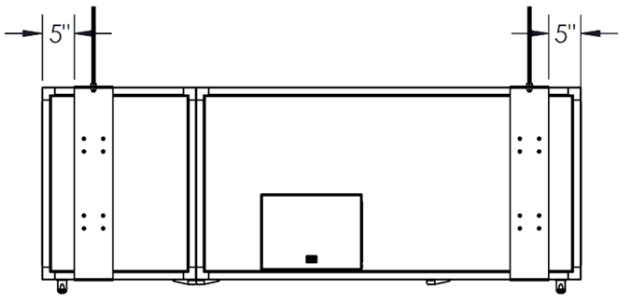


Unit with 1A and 3A Openings

Assembly of Hanging Brackets

1. Locate the position of the brackets on the outside of the unit.

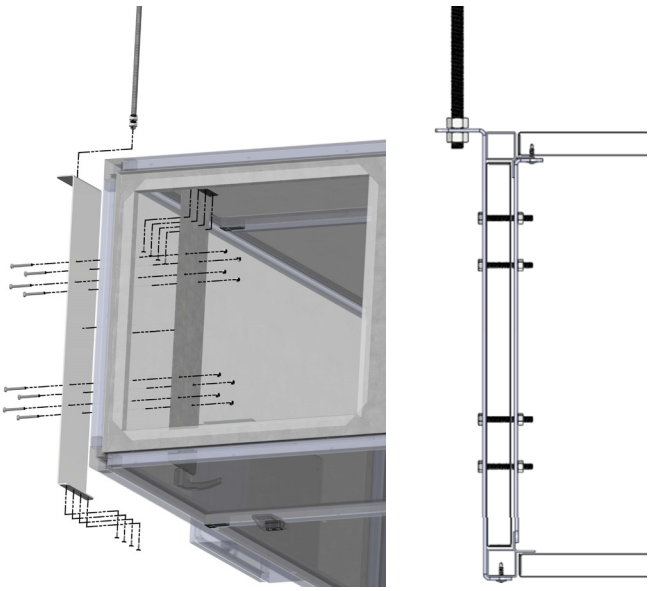




FRONT

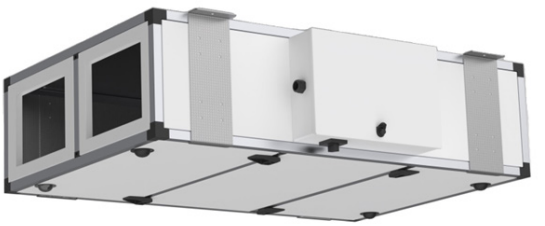
2. Mark the 8 hole locations and drill to allow for the ¼" bolt. 32 - ¼" bolts, 32 - ¼" lock nut, 32 - ¼" washers and 64 - ¼" washers have been provided with the unit.

3. Assemble the hanging bracket by aligning the 8 holes of the outer bracket through the unit and with the inner bracket. Note: the inner component should be oriented so that its flange is pointing to the ceiling, and the outer bracket has the single hole pointing to the ceiling.



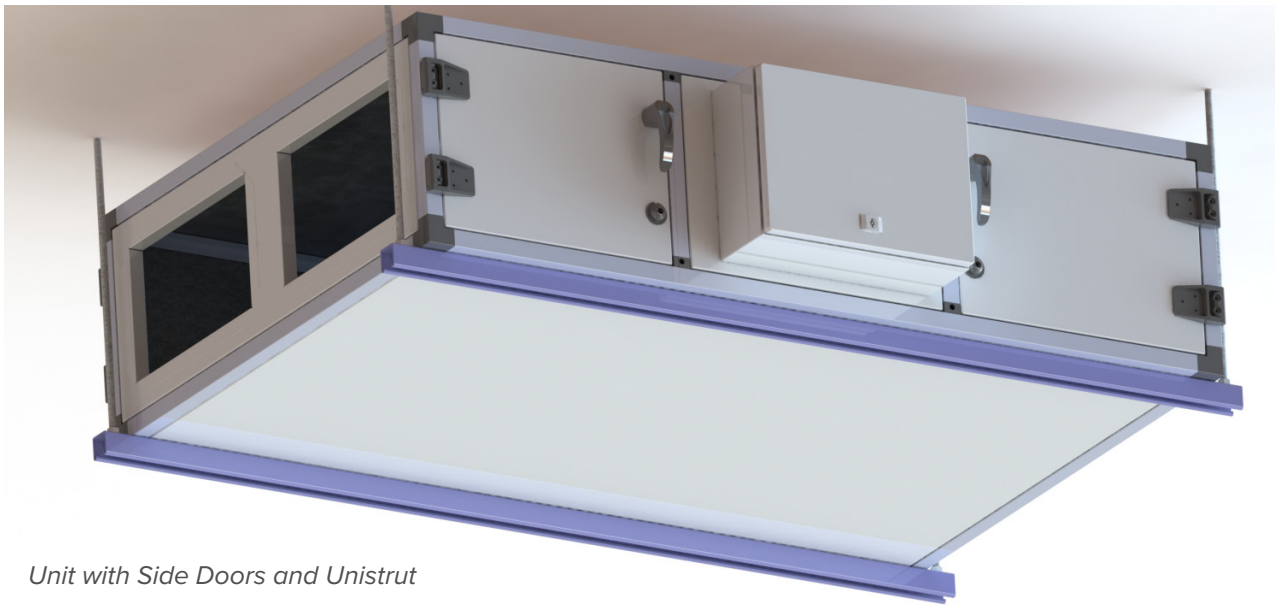
Bracket Alignment

4. Install the 8 bolts. **Caution** - Do not over tighten and crush the panel.
5. Install 4 tek-screws in the flange portion of the inner bracket and secure it to the top casing of the unit.
6. Install 4 tek-screws in the lower flange of the outer bracket to secure it to the bottom frame of the unit.
7. Repeat steps 1 through 6 for the remainder of the brackets.
8. The hole in the outer brackets are designed for a ½" threaded rod to hang the units by.



2.4.2 Side Doors

When a Nova unit is ordered with side doors, there is no access to install hanging brackets and the unit must be supported from below as seen in the image. The sizing of the supports is to be designed by the installing contractor.



Unit with Side Doors and Unistrut

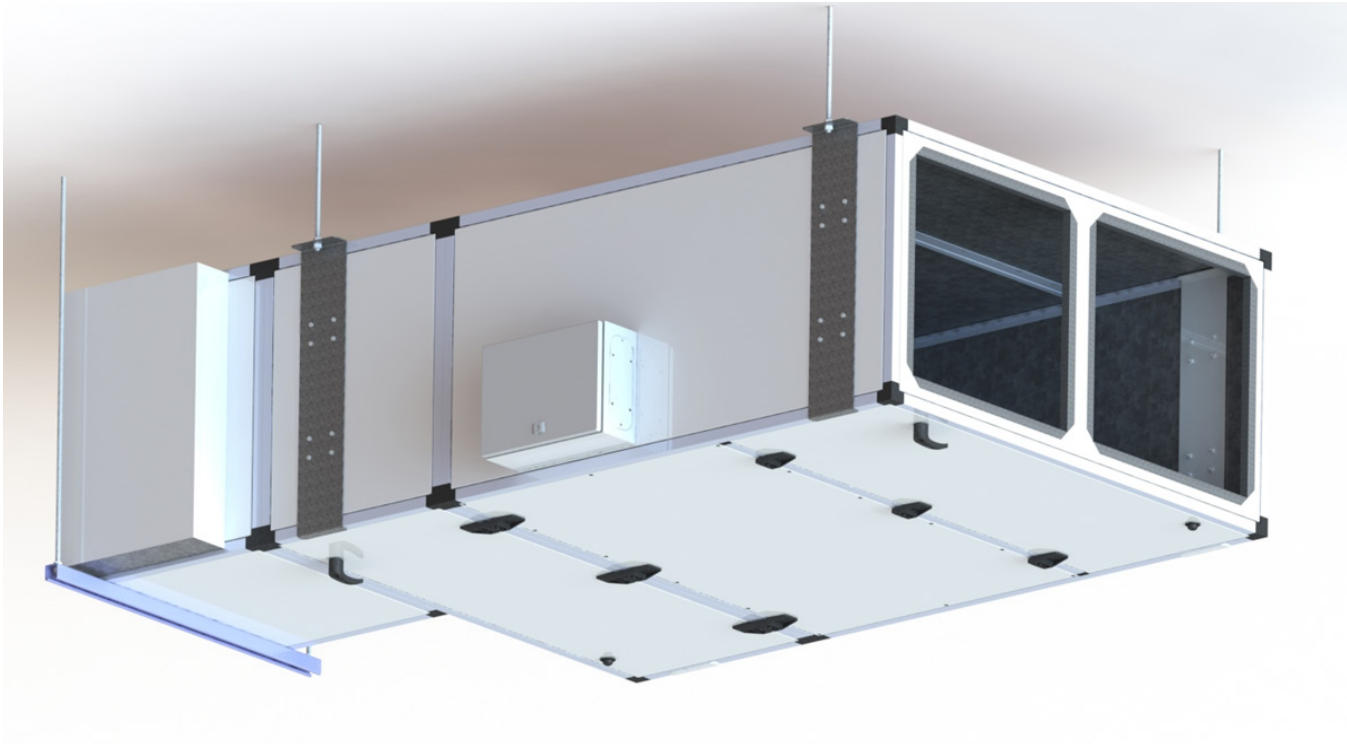
2.5 Vertical Installation

A floor mounted Nova unit will ship with an installed base rail. These units can be installed directly on the floor or a housekeeping pad.

Vertical Unit with Base Rails on Housekeeping Pad

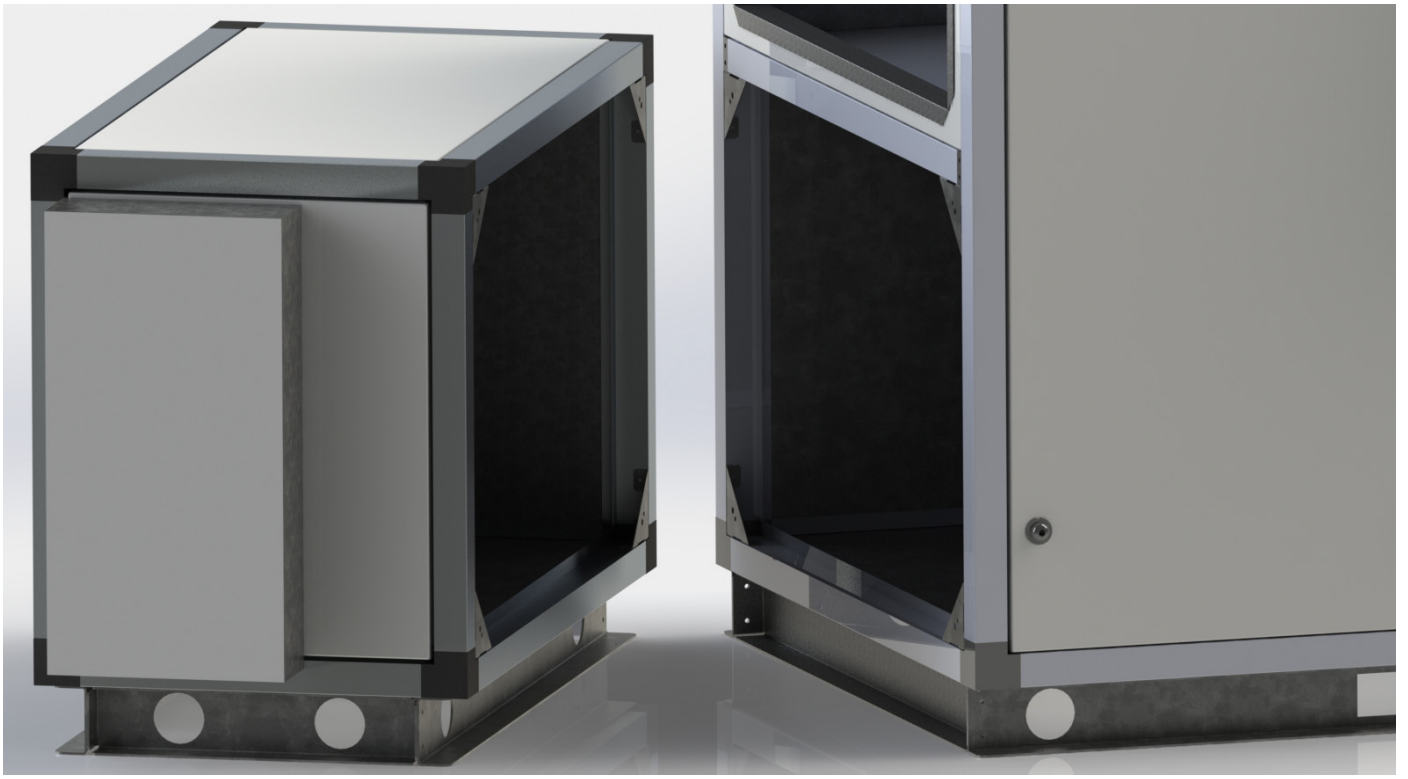
2.6 Installation of Accessories

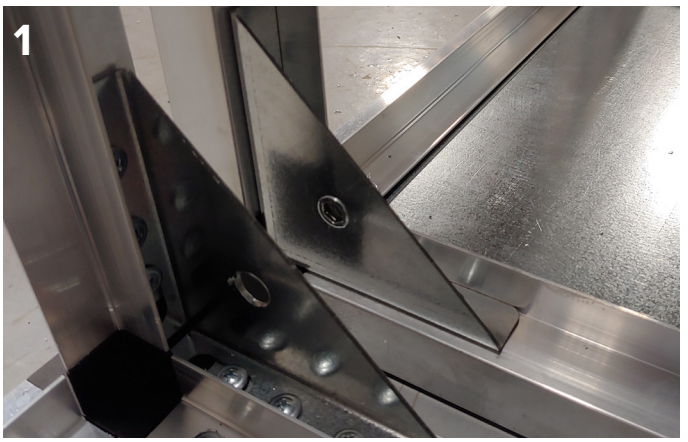
2.6.1 Horizontal Coupled Accessories

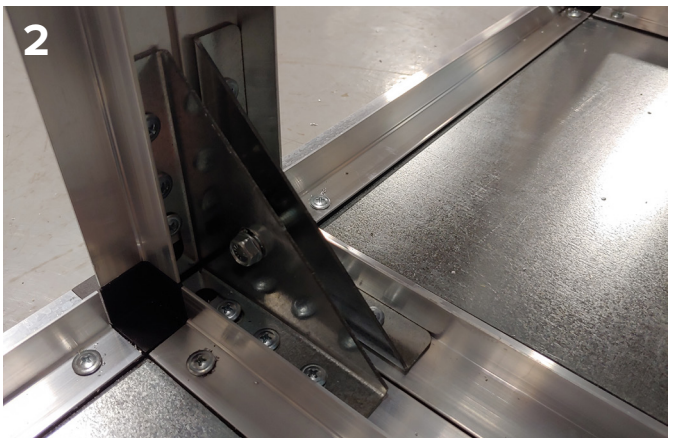


Note: Base unit shown is a special configuration.
Standard Nova units to dot come in two split modules as depicted above.

2.6.2 Vertical Coupled Accessories





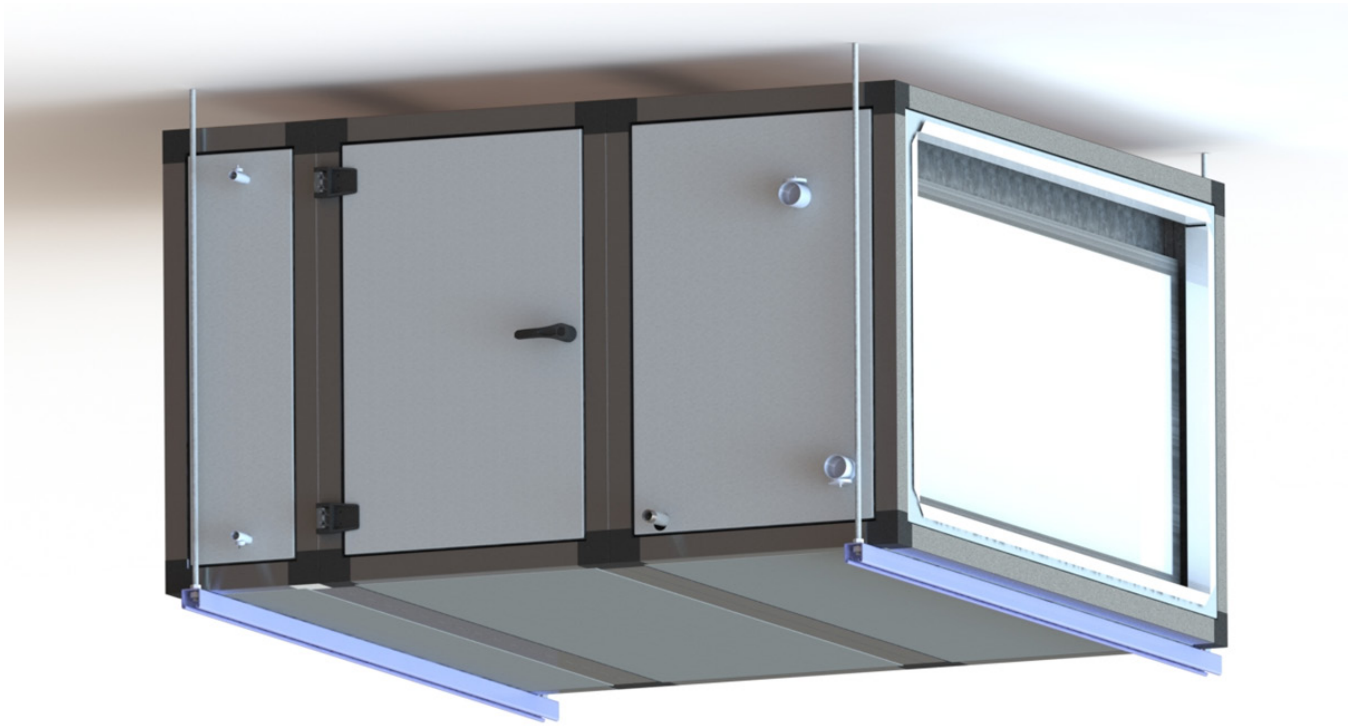


Base mounted accessories that are connect to a duct connection in the lower position of the unit will come with matching base rails.

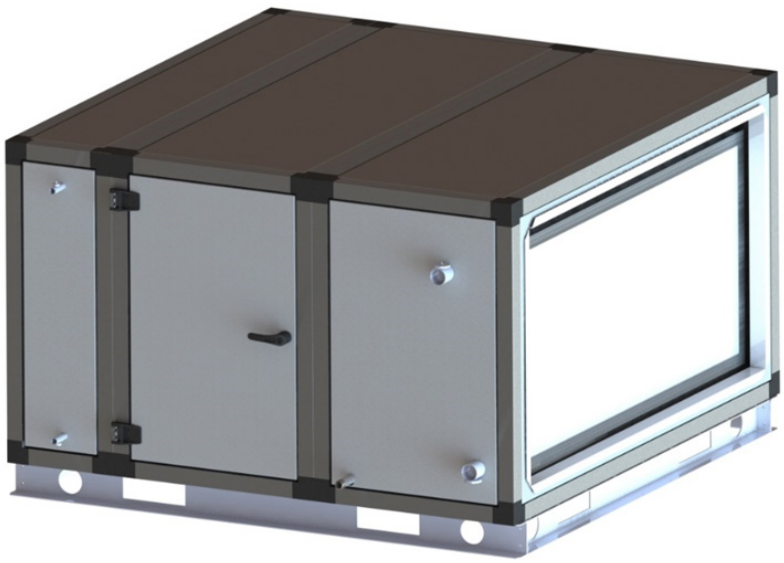
Accessories that are to be connected to a duct connection in the upper position will need to be supported externally. This can also be done with Unistrut or similar.

2.6.3 Decoupled Accessories

Ceiling hung decoupled accessories will not come with hanging brackets and can be supported in the ceiling with Unistrut and threaded rod or equivalent.

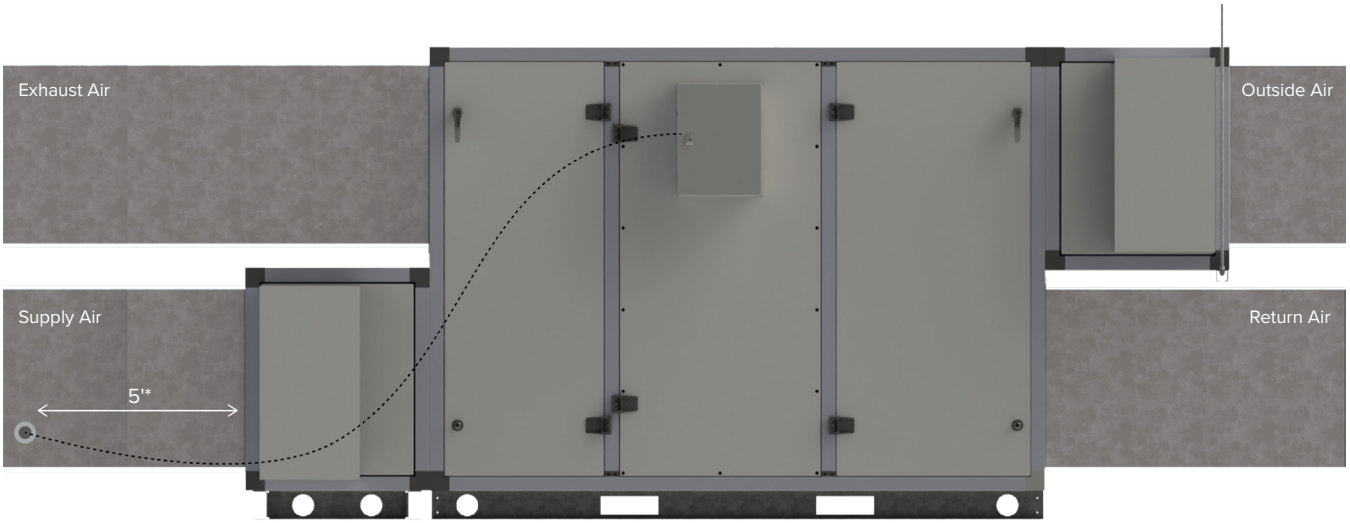


Accessory modules can come with base rails for floor mounting.



2.7 External Sensors

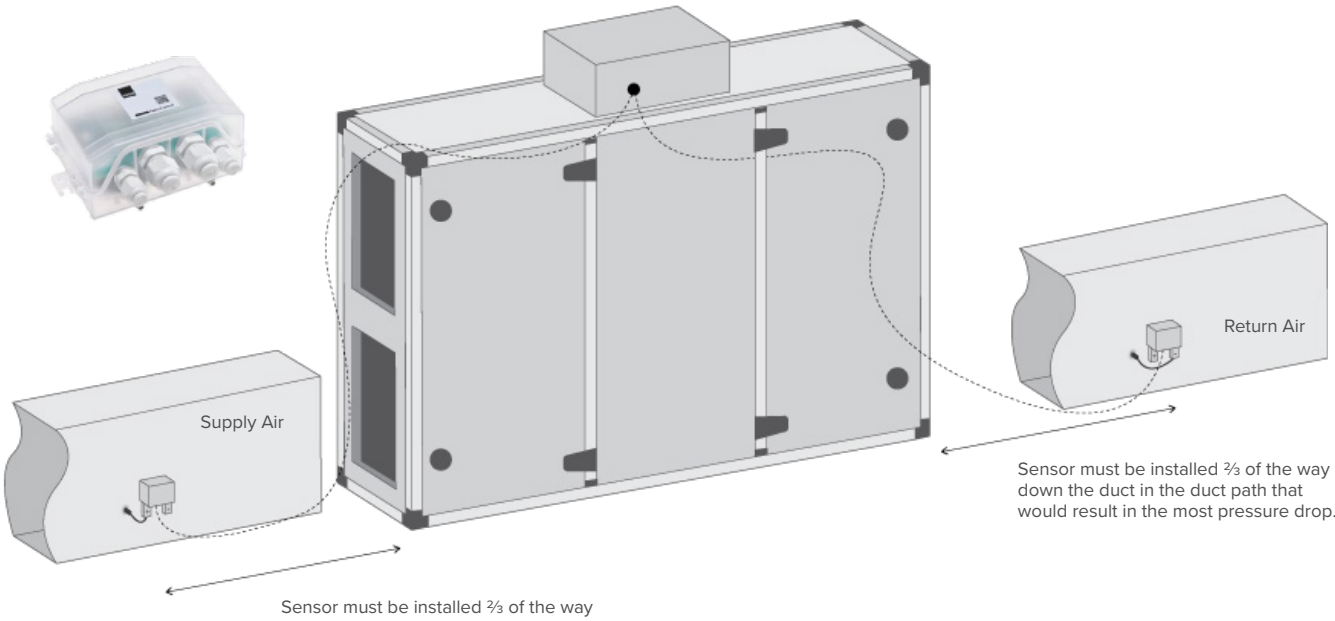
2.7.1 Supply Air Temperature Sensor



*Sensor must be installed a minimum of 5' from the heating or cooling module.

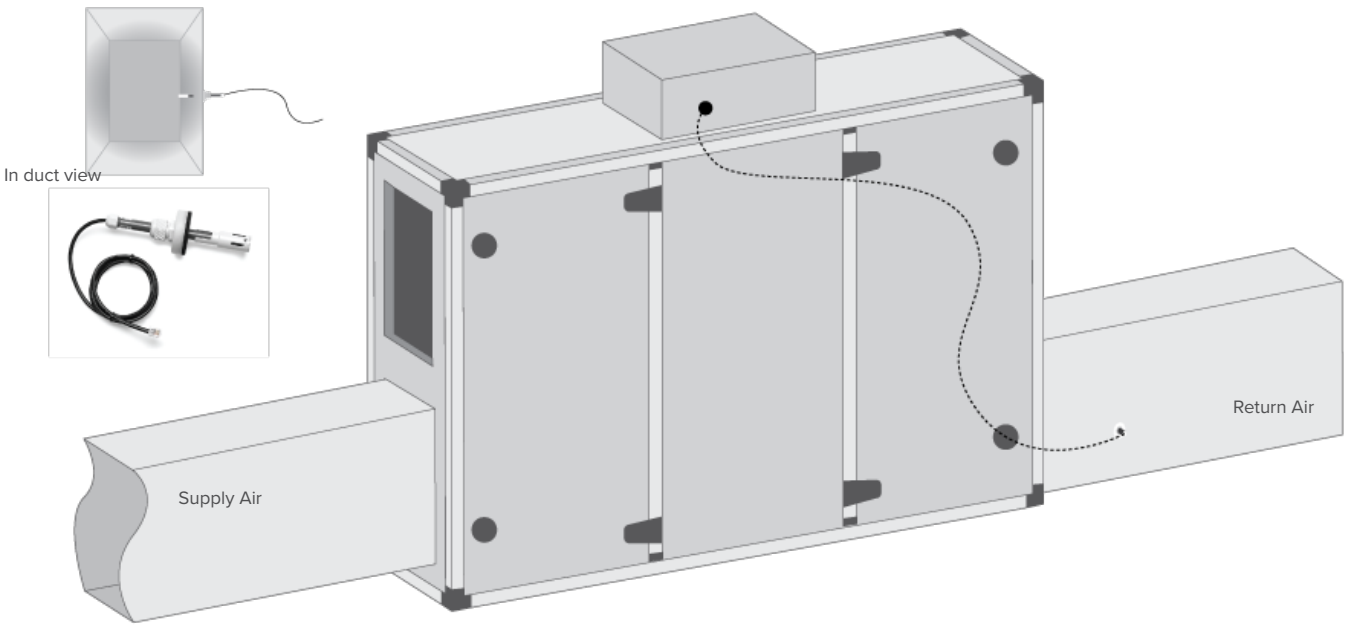
TTH-6202 sensors are installed in the ventilation duct using the accompanying bracket, which must be attached to a firm, level surface by means of two screws. The supply voltage is provided via the Modbus connection. TTH-6202 has a pre-fitted cable, which is equipped with a standard RJ12 connector. The cable may be extended up to 50 m using a Category 3 extension cable. The sensor must be mounted according to, and must be aligned parallel to the air flow in the center of the duct.

2.7.2 Pressure Sensor



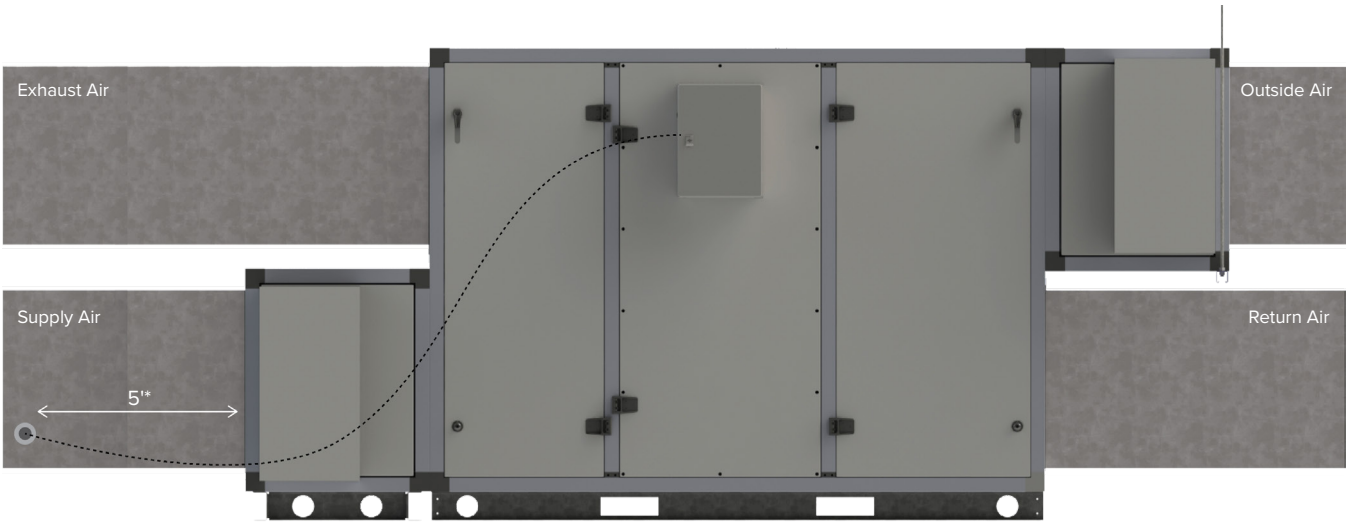
The enclosure is opened without the use of tools by pressing the snap lock at the side of the tube connectors. PTH-6202 is attached onto a level surface by 2 screws, which are screwed into a solid surface. PTH-6202 can be fitted in all directions without accuracy being affected. PTH-6202 also functions with only one tube fitted to the connectors (+ or -). However, two tubes should always be fitted to ensure a suitable enclosure rating, if the connectors do not face downwards. Pressure is supplied to the measurement unit by tubes, the highest pressure being connected to the '+ connector' and the lowest pressure to '- connector'. The pressure tubes must be as short as possible and must be secured in position to prevent vibration. To obtain the best possible results, pressure must be measured where there is least risk of turbulence, i.e. in the center of the ventilation duct and at a distance of at least twice the width of the duct from bends and six times the width from branches. If there is a risk of condensation forming in connection tubes, PTH-6202 is to be located in such a way that condensate fluids cannot flow back into the pressure transmitter.

2.7.3 CO_2/VOC Sensor

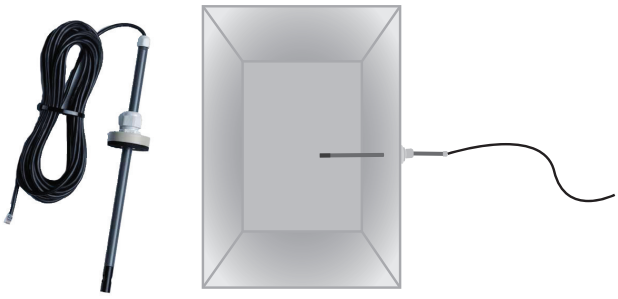


VTH-6202 sensors are installed in the ventilation duct using the accompanying bracket, which must be attached to a firm, level surface by means of two screws. The 18-30 V DC supply voltage (24 V DC nominal voltage) is provided via the Modbus connection. VTH-6202 has a pre-fitted 7000 mm cable, which is equipped with a standard RJ12 connector. The cable may be extended to as much as 50 m without any negative effects on measuring accuracy. The surrounding EMC environment must, however, be taken into account and must be capable of being defined as low. To extend the cable, use a crossover Category 3 extension cable, RJ12-RJ12, 6P6C. The sensor should be installed in such a way that the air flow in the duct can pass unhindered through the measuring hole at the end of the sensor, which should be aligned parallel to the air flow. Although the VTH-6202 is not affected by the position in which it is installed, it should not be installed in an upright position with the cable downwards as this may cause moisture to accumulate in the sensor.

2.7.4 Combination Temperature/ Humidity Sensor



*Sensor must be installed a minimum of 5' from the heating or cooling module.



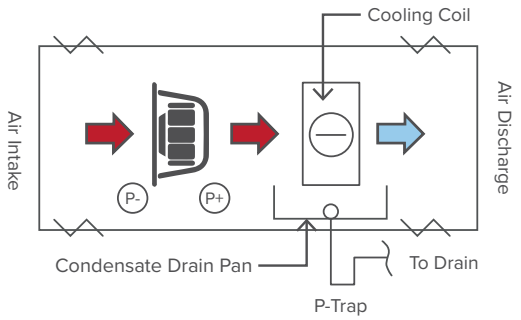
In duct view

HTH-6202 sensors are installed in the ventilation duct using the accompanying bracket, which must be attached to a firm, level surface by means of two screws. The 18-30 V DC supply voltage (24 V DC nominal voltage) is provided via the Modbus connection. HTH-6202 has a pre-fitted 7000 mm cable, which is equipped with a standard RJ12 connector. The cable may be extended to as much as 50 m without any negative effects on measuring accuracy. The surrounding EMC environment must, however, be taken into account and must be capable of being defined as low. To extend the cable, use a crossover Category 3 extension cable, RJ12-RJ12, 6P6C. The sensor should be installed in such a way that the air flow in the duct can pass unhindered through the measuring hole at the end of the sensor, which should be aligned parallel to the air flow. Although HTH-6202 is not affected by the position in which it is installed, it is advisable not to install the sensor in an upright position with the cable downwards as this may cause moisture to accumulate in the sensor. It is important that HTH-6202 is installed in such a way that the measuring hole is positioned at the center of the duct.

2.8 Condensate Drain P-Trap

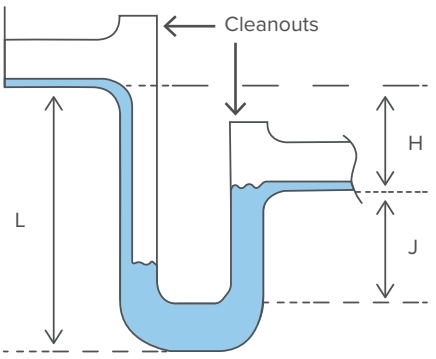
2.8.1 Blow-Through Configuration

Fan located upstream of the cooling coil



- The water collected in the drain pan below the cooling coil must be removed to prevent overflow, damage, and contamination to the air handler system and building.
- When the fan is ON, it creates **positive** pressure in the drain pan compartment which **aids the drainage of condensate.**

P-Trap Height



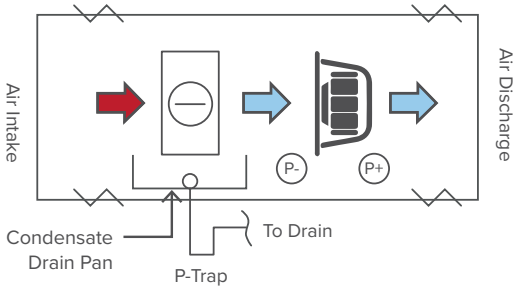
H = 1"

J = 1" for each 1" w.g. maximum static pressure (min 1")

L = H + J + Pipe Dia.

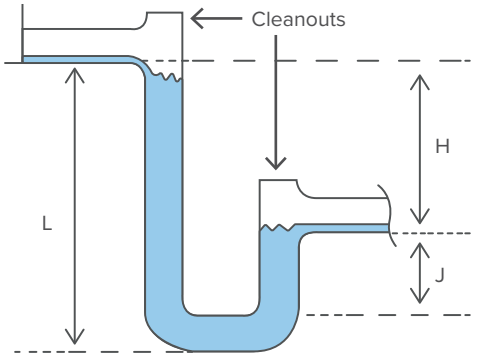
2.8.2 Draw-Through Configuration

Fan located downstream of the cooling coil



- The water collected in the drain pan below the cooling coil must be removed to prevent overflow, damage, and contamination to the air handler system and building.
- When the fan is ON, it creates **negative** pressure in the drain pan compartment which **can cause the drain to back up and make it harder to be removed.**

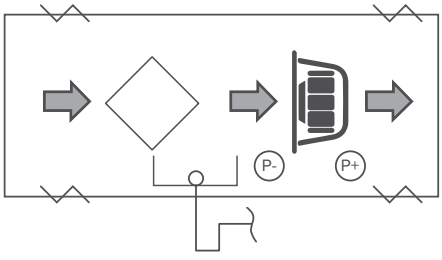
P-Trap Height

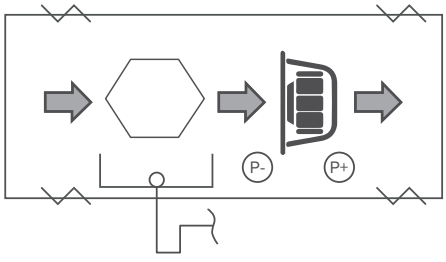


H = (1" for each 1" w.g. maximim static pressure) + 1"

J = H/2; (min 1")

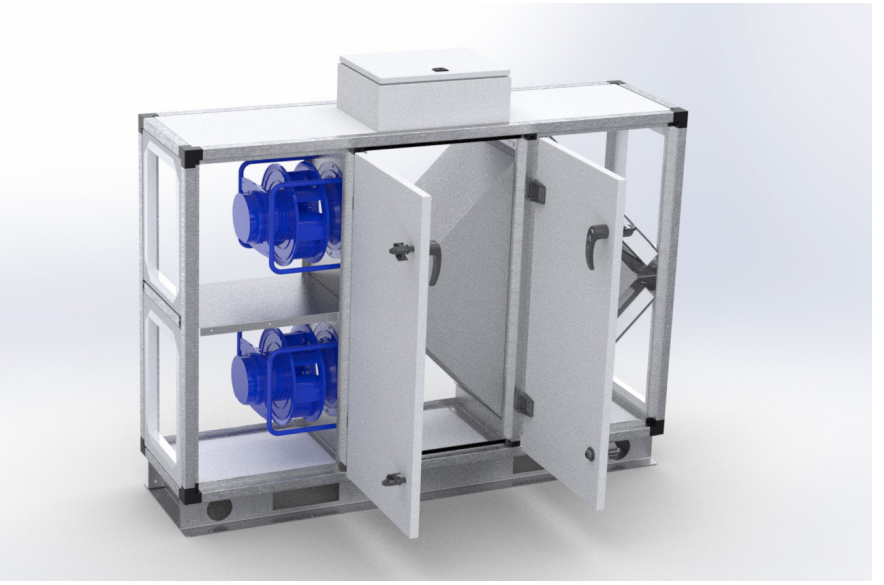
L = H + J + Pipe Dia.



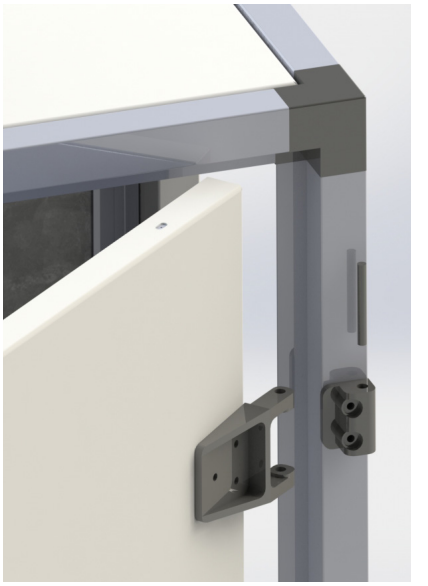


3.0 Accessing the Unit

3.1 Access Requirements



Unit with doors open



Door with removed hinge pin

Top of Unit

The National Electrical Code (NEC) stipulates that there must be a minimum of 36 inches of clearance from an electrical connection. The installing contractor must ensure there is at least 36 inches of clearance perpendicular to the top of the electrical box.

Front of Unit

In order to open the doors of the unit, the installing contractor must leave 48 inches perpendicular to the doors. If there is no intention to open the doors fully, they can be removed for servicing, by removing the hinge pins and lifting off the doors.

3.2 Removable Panel Option

As a special option, hinged access doors can be reaplced with panel blocks.

When removing a panel, loosen the bolts on each block so they can be rotated out of the way.

When replacing the panel, rotate the blocks back into place and tighten the bolts once again to ensure a good seal.

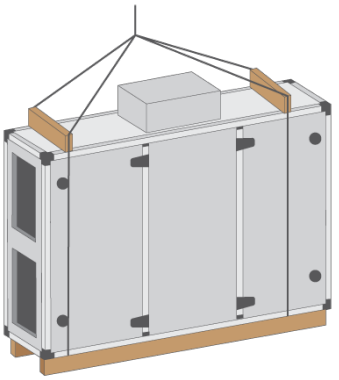
4.0 Lifting Requirements

Horizontally Installed Units

Once the mounting angles have been installed, the unit can be lifted by the angles.

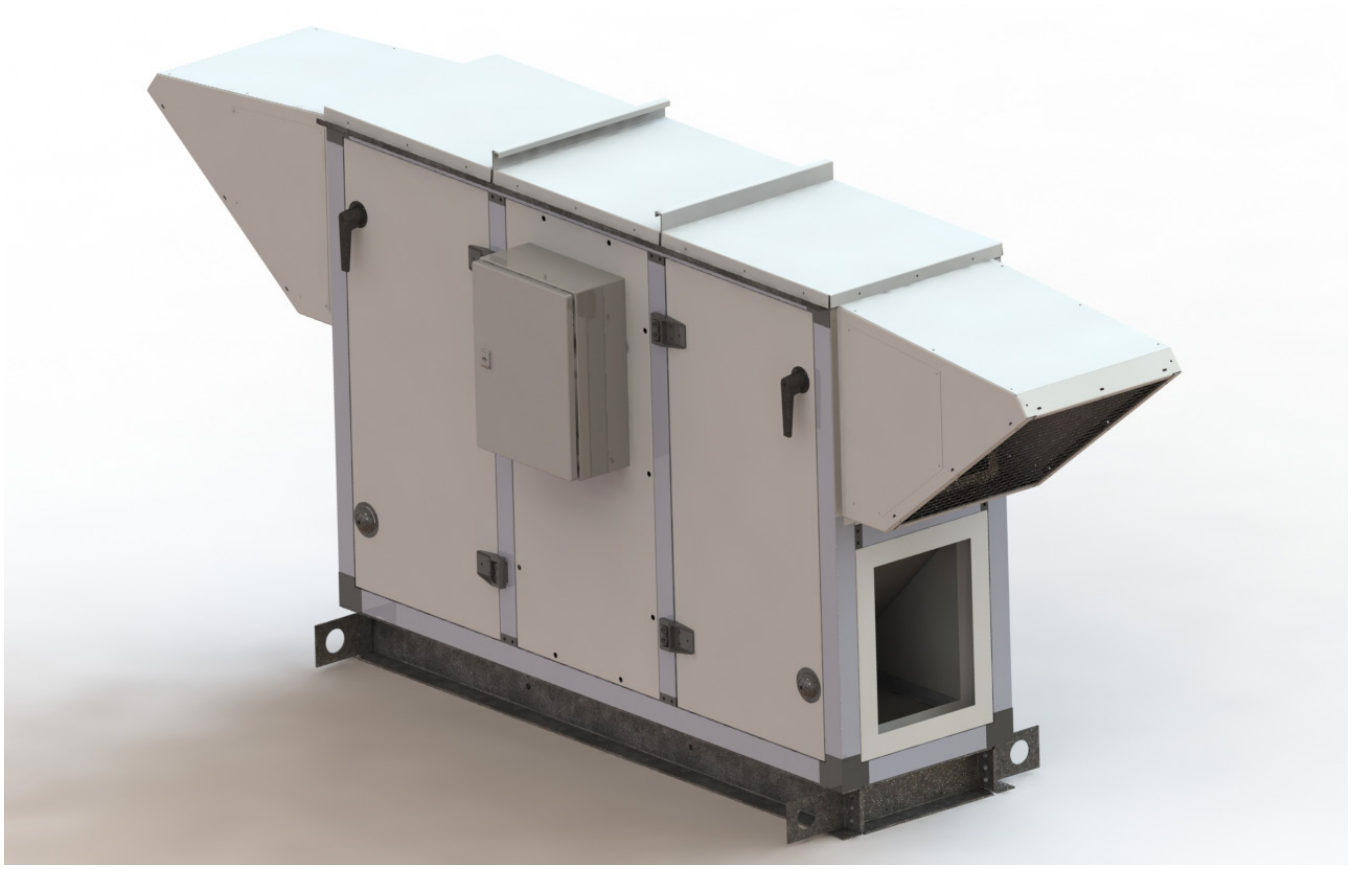
Vertically Installed Units

A vertically installed unit that is delivered with base rails, can be lifted from the base rail with the use of a spreader bar to prevent damage to the unit.



Unit with Spreader Bars

5.0 Nova Outdoor



5.1 General Notes

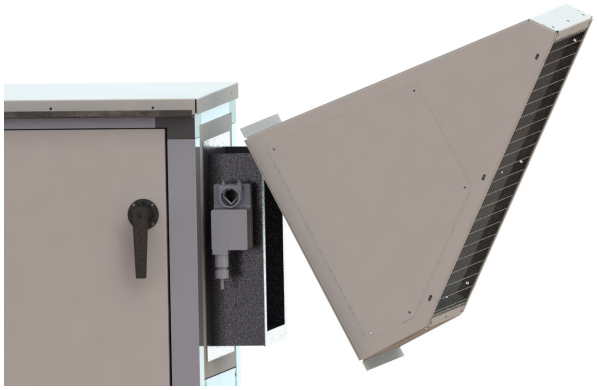
Motorized shutoff dampers come factory-installed to the unit. For special requests to have the dampers shipped loose, dampers shall be face-mounted over the labeled exhaust air and outdoor air openings. Actuators are accessed through removable access panels built into the hoods.

5.2 Hood Installation

Note: If optional shipped-loose hoods for on-site assembly are required, see the steps below. The same steps would be followed for hoods attached to preheater casing modules.

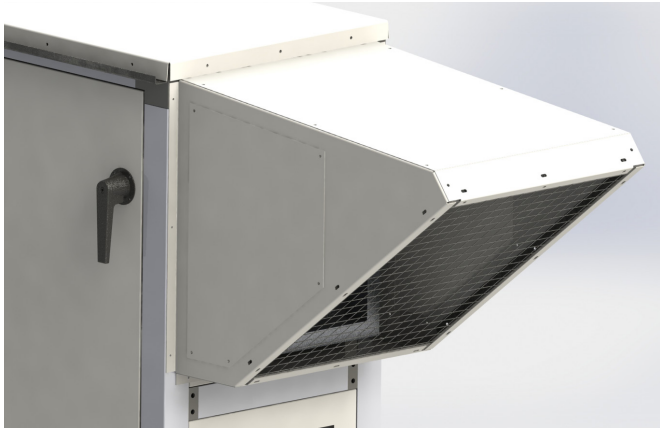
1. Hoods should come prepared with continuous 1” W x 1/8” T foam gaskets along the length of the mounting flanges. If not, apply it to the hood prior to installation.

2. Align the top hood flange under the roof flange, as shown below:



Hood Installation

3. Fasten the hood centered over the damper onto the outside of the unit using the roofing screws provided. Screw into the roof flange and top hood flange together as shown below. All precut holes in the hood should be screwed with the provided roofing screws.

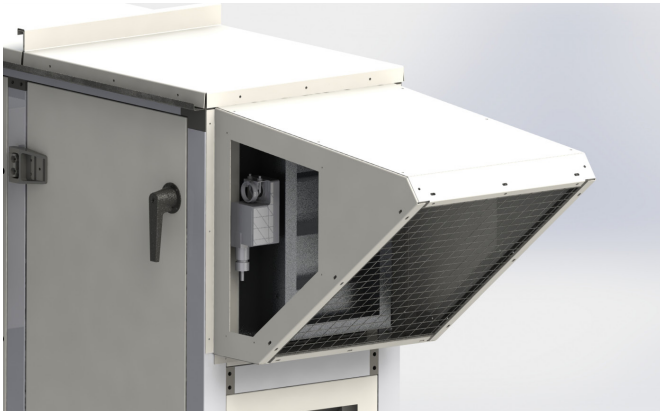


Sealing of hoods

4. Apply a thick bead of outdoor-rated caulking around the perimeter flanges of the installed hood to provide a continuous seal.Repeat the same steps for the second damper and hood combination.

5. Repeat the same steps for the second damper and hood combination.

6. Shutoff dampers can be accessed through a removable panel on the hood



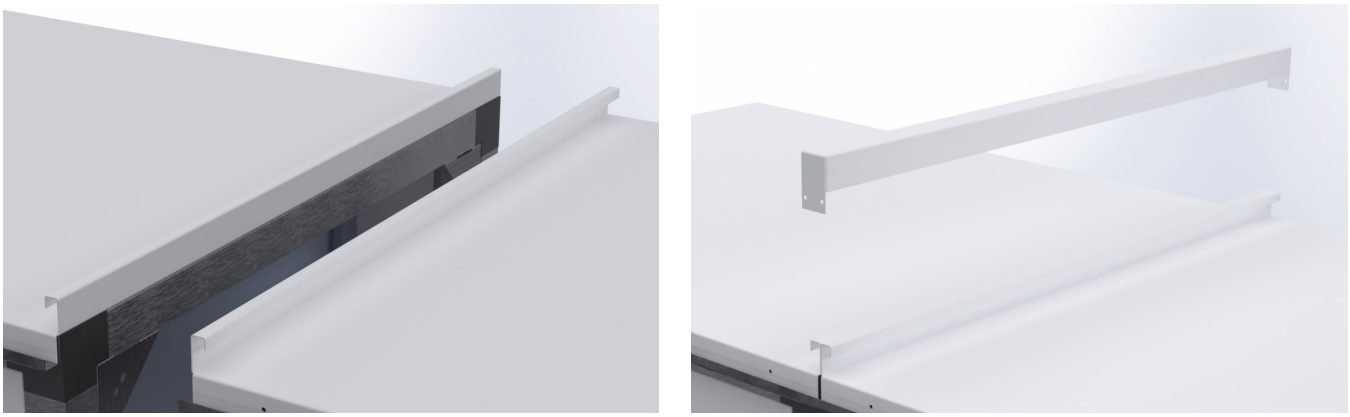
Accessing of shutoff dampers

5.2.1 Installing Cap Between Split Modules

For pre-heaters and decoupled combo coils in outdoor applications, the following instructions shall be followed for sealing the split connection.

1. Prior to installing the split roof cap, bolt the split modules together by referring to the general Nova Installation Manual.

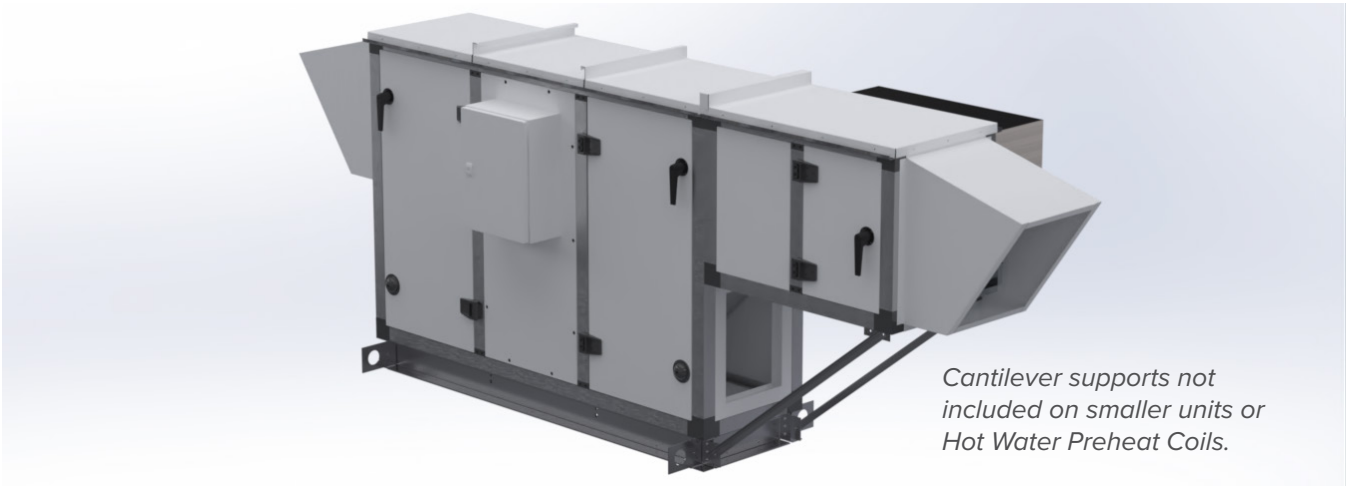
2. Once connected, the roof cap can be placed over the seam, and screwed into the front and back pre-cut holes using the roofing screws provided.



Sealing of roofs

5.3 Preheater Installation

Hydronic and electric preheat coils are mounted to the Outdoor Air connection on Nova outdoor units as a supported cantilever depicted below. One single preheat casing consists of a shutoff damper and filter upstream of the heating coil. Filters are accessible from the front access door, and the electric coil control boxes are typically mounted on the rear of the casing, opposite the access door.



Cantilever supports not included on smaller units or Hot Water Preheat Coils.

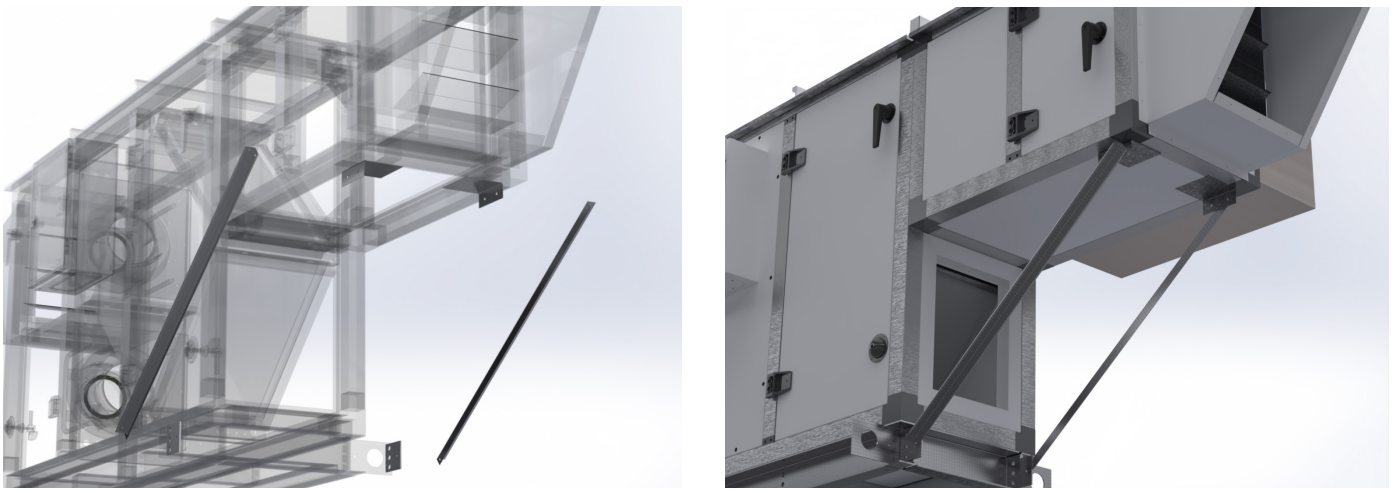
Note: The cantilevered electric preheater design may not include an access door depicted above, and the heater control panel may be on the front instead of the back of the unit.

5.3.1 Preheater Roof Installation: Factory-Installed Roof

The following steps shall be adhered to when mounting an outdoor unit preheater with factory-installed roofs when the preheater is shipped separately:

1. Assemble the preheater per coupled accessory installation procedure. Lift the preheater into position from below as per the following images. Refer to Coupled Coil installation instructions for bolted connections using the corner angle brackets.

2. Support the coil by bolting the preheat coil into position at the corner brackets and assemble the cantilever support beams as depicted in the following:



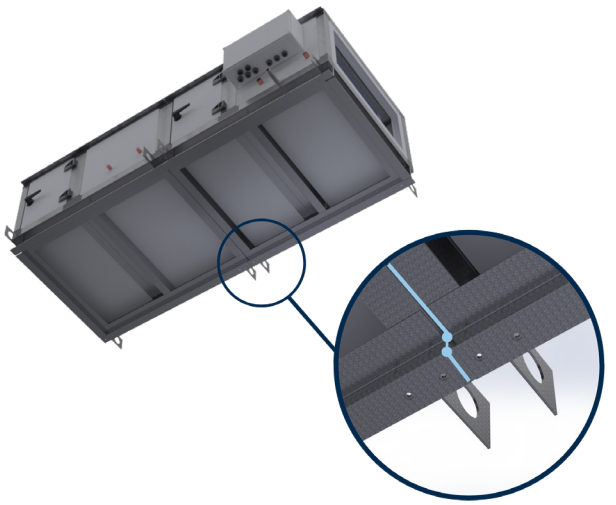
Overall / exploded views of cantilever support assembly

3. Install the split seam cap as previously described.

5.4 Decoupled Accessory Installation

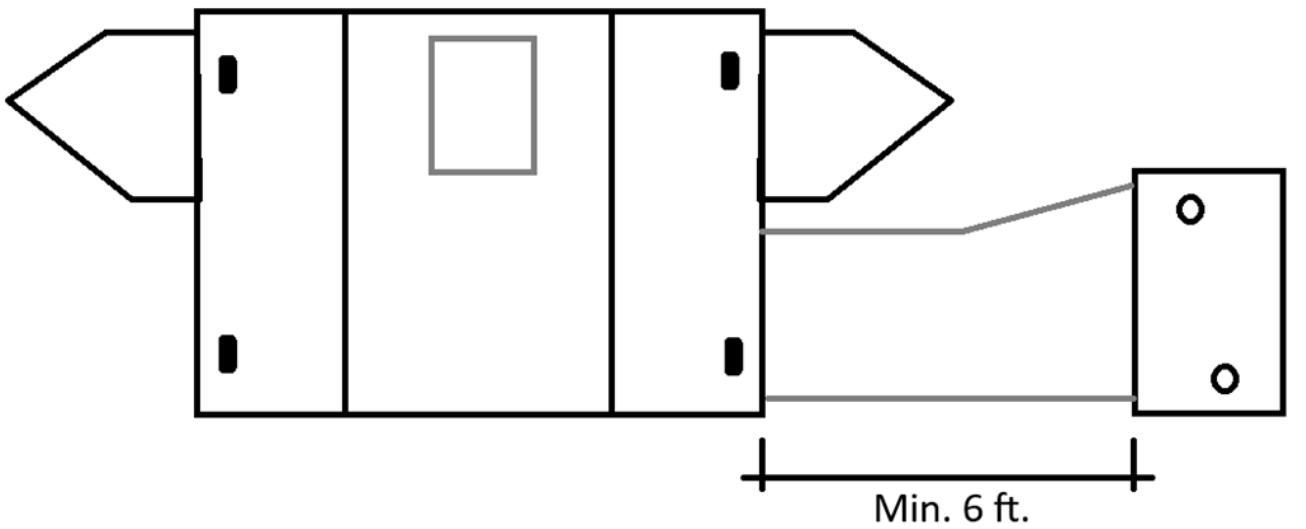
If optional decoupled outdoor accessories are shipped in multiple pieces, such as is common for Hot Gas Reheat applications, bold the two modules together with the provided hardware at each of the four corner brackets pairs, and install the split module seam cap as previously described.

Split decoupled outdoor accessory



When assembled, seal the bottom seam with outdoor-rated silicone as shown on the left.

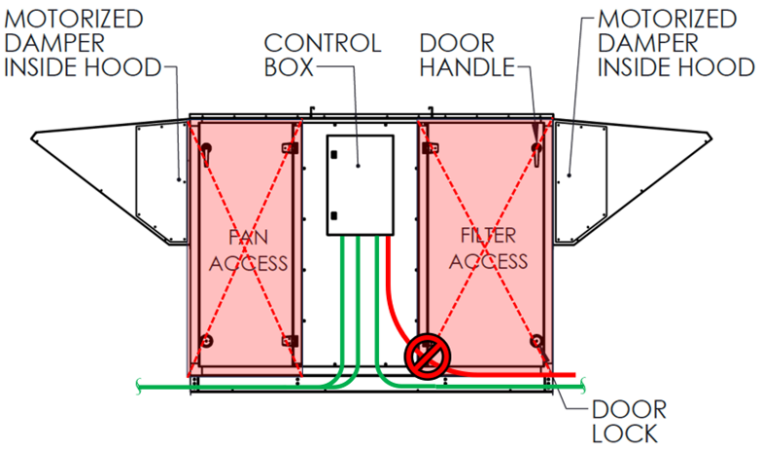
For outdoor installations involving an outdoor-mounted heating and/or cooling module in the supply air stream, a field-installed duct transition is required. Design and installation of the duct transition is not provided by the manufacturer. A minimum separation of 6' is required from the supply fan cabinet to the coil module as depicted in the following figure.



5.5 Outdoor Unit Control Panel Field Connections

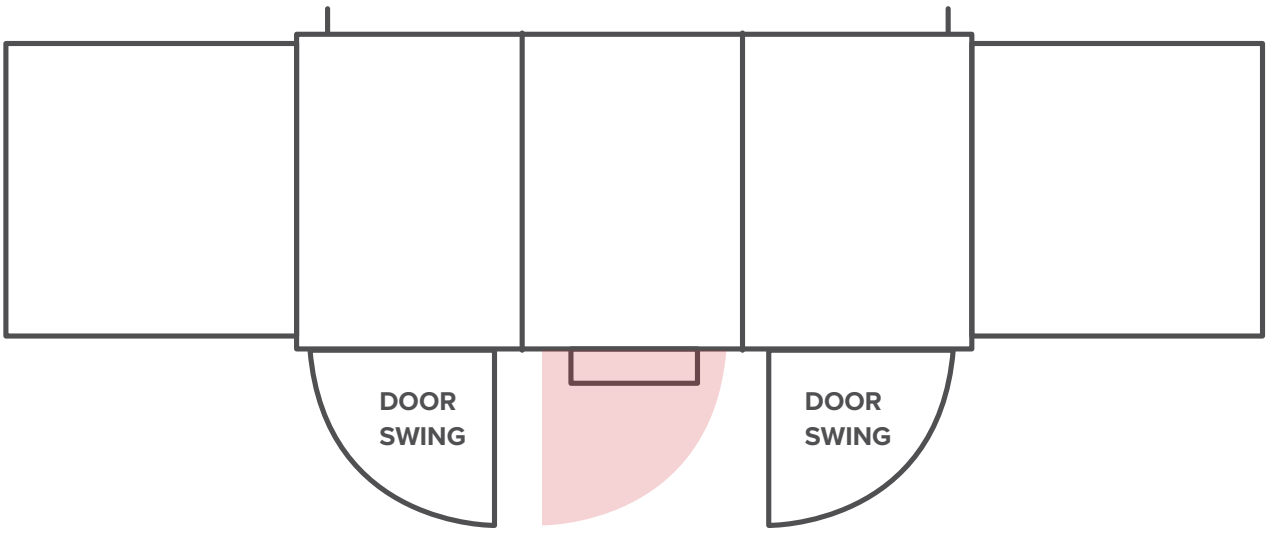
Field connections to the control panel must not obstruct the door swing of the Filter Access or Fan Access. It is recommended that electrical connections are made through the bottom of the panel.

Flexible conduit must be used to allow for access to the heat exchanger for low-frequency maintenance. Enough slack must be provided to flexible electrical connections for heat exchanger access and to not obstruct the Filter Access or Fan Access, as depicted below.



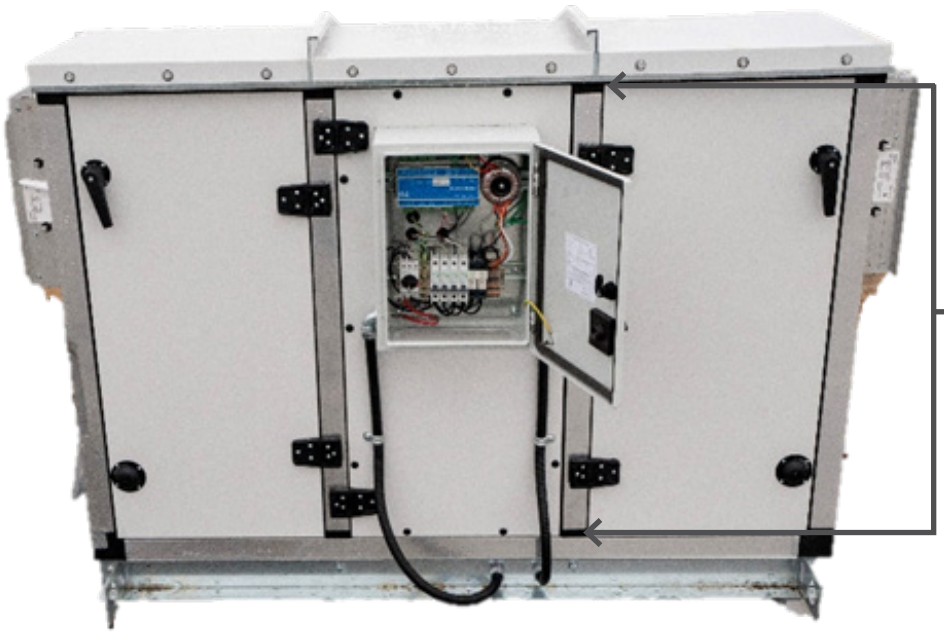
Front View

The middle panel is hinged to allow for access to the heat exchanger, as shown below. Fasteners around the perimeter of this panel must be unscrewed to allow access. **It is recommended to disconnect the unit power prior to accessing the heat exchanger.**



The following page shows example installations of outdoor units.

Nova Outdoor with pre-heater during commissioning process. The final assembly will not include any wiring outside conduit.



Nova Outdoor unit prior to installation of hoods. More slack must be provided in the flexible conduit that what is shown, to hinge the middle panel to access the heat exchanger.

Cleaning of the heat exchanger(s) may be required depending on the maintenance of the filters and temperature and humidity conditions. It is recommended to inspect the heat exchanger(s) yearly. If cleaning is required, the heat exchanger(s) can be removed by sliding them out the front of the unit. Please refer to the cleaning procedure outlined in the O&M manual.

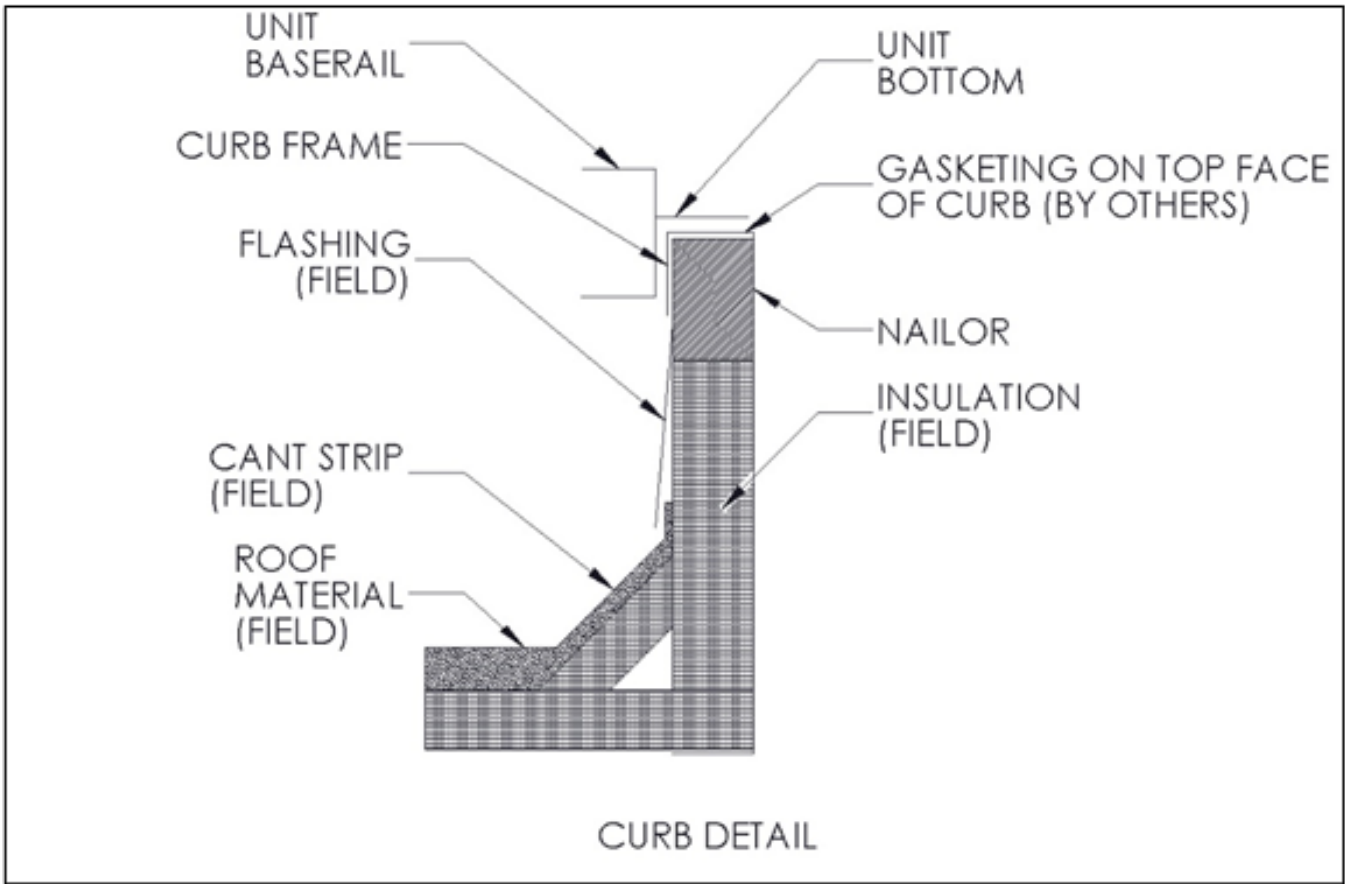
5.6 Outdoor Unit with Down Discharge On Roof Curb Installation

The Nova unit, complete with base frame (or baserail), is provided by Oxygen8. Curb engineering and construction, including gasketing (optional) between the roof curb and unit baserail, is provided by others.

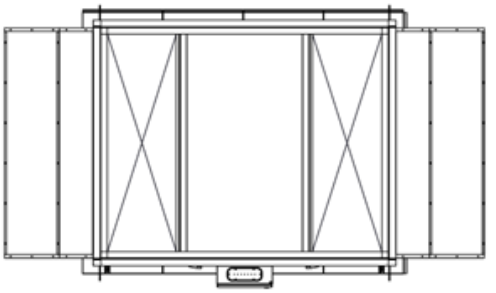
CDI Curbs (Crystal Distributions Inc.) provides Nova models in their selection software. It is recommended to select tie-down clips for a secure connection to the curb, and for A18-C32, it is strongly advised as they are tall and narrow. Visit their website for a quote: https://www.cdicurbs.com

CDI also has engineered seismic curbs at an additional fee: https://www.cdicurbs.com/conforming

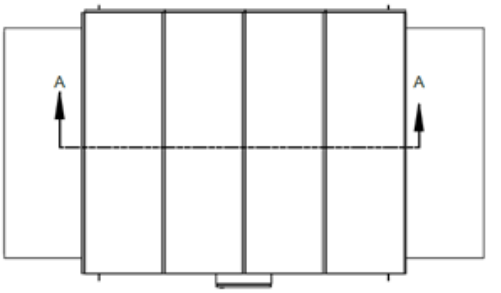
The detail below depicts example details of how a roof curb assembly would interface with the “UNIT BASERAIL”. For curb installation, refer to the specific curb manufacturer installation manual.



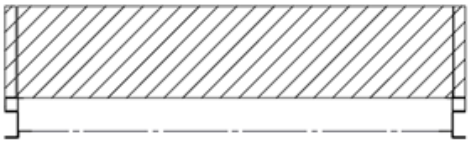
For reference, the following images show details of the unit's baserail and where the roof curb aligns with the unit.



BOTTOM VIEW

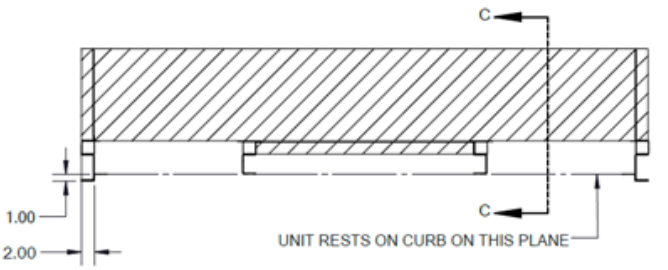


TOP VIEW



SECTION C-C
SCALE 1 : 16

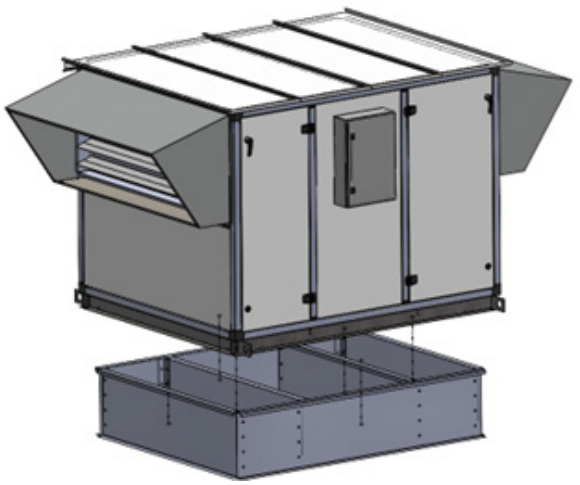
RIGHT VIEW

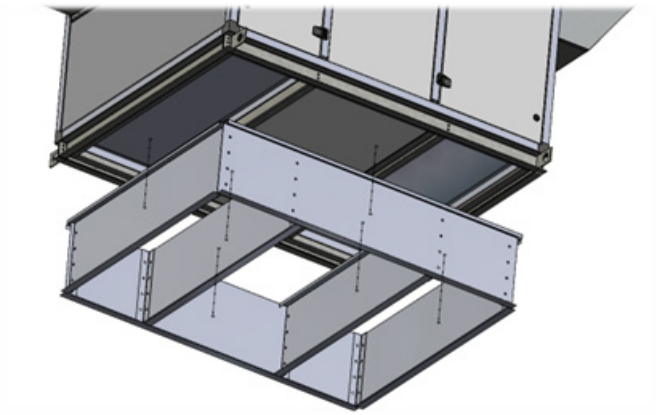


SECTION A-A
SCALE 1 : 16

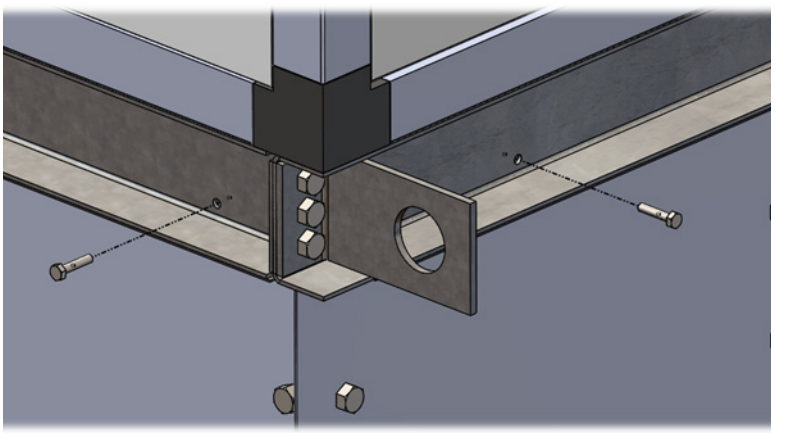
FRONT VIEW

Referring to the following images, the unit is lowered onto a layer of gasketing on the top surface of the roof curb, creating three separate sealed channels where the outer two are active Supply Air and Return Air channels.





An alternative step for narrower units is to fasten the unit to the roof curb by drilling ¼” screws through the baserail directly to the curb through the two precut holes at each corner, as shown in the image below. It is up to the project engineer (others) to determine whether wind conditions of the specific job warrant a fastened connection between baserail and roof curb, but it is recommended that engineered tie-down clips be used and are available for selection on the CDI website.



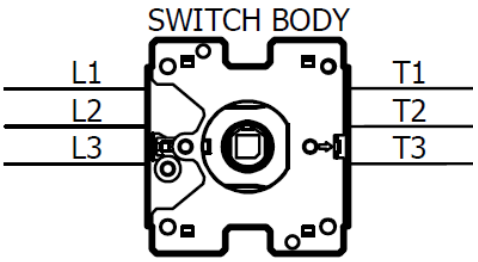
6.0 Electrical Hook Ups

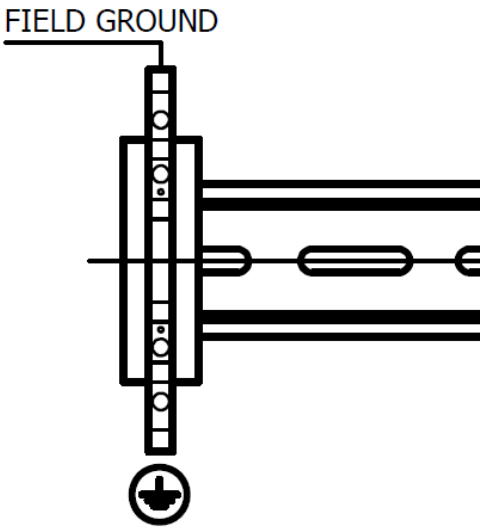
Warning

Hazardous voltage, disconnect all electrical power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be accidentally re-engaged.

3 phase, 4 wire, 208V, 460V -10% - +15%, 60Hz

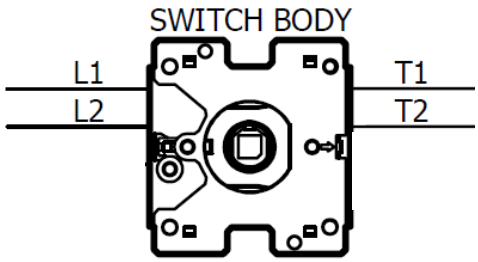
Recommended fuse diagram





1 phase, 3 wire, 240V -10% - +15%, 60Hz

Recommended fuse diagram



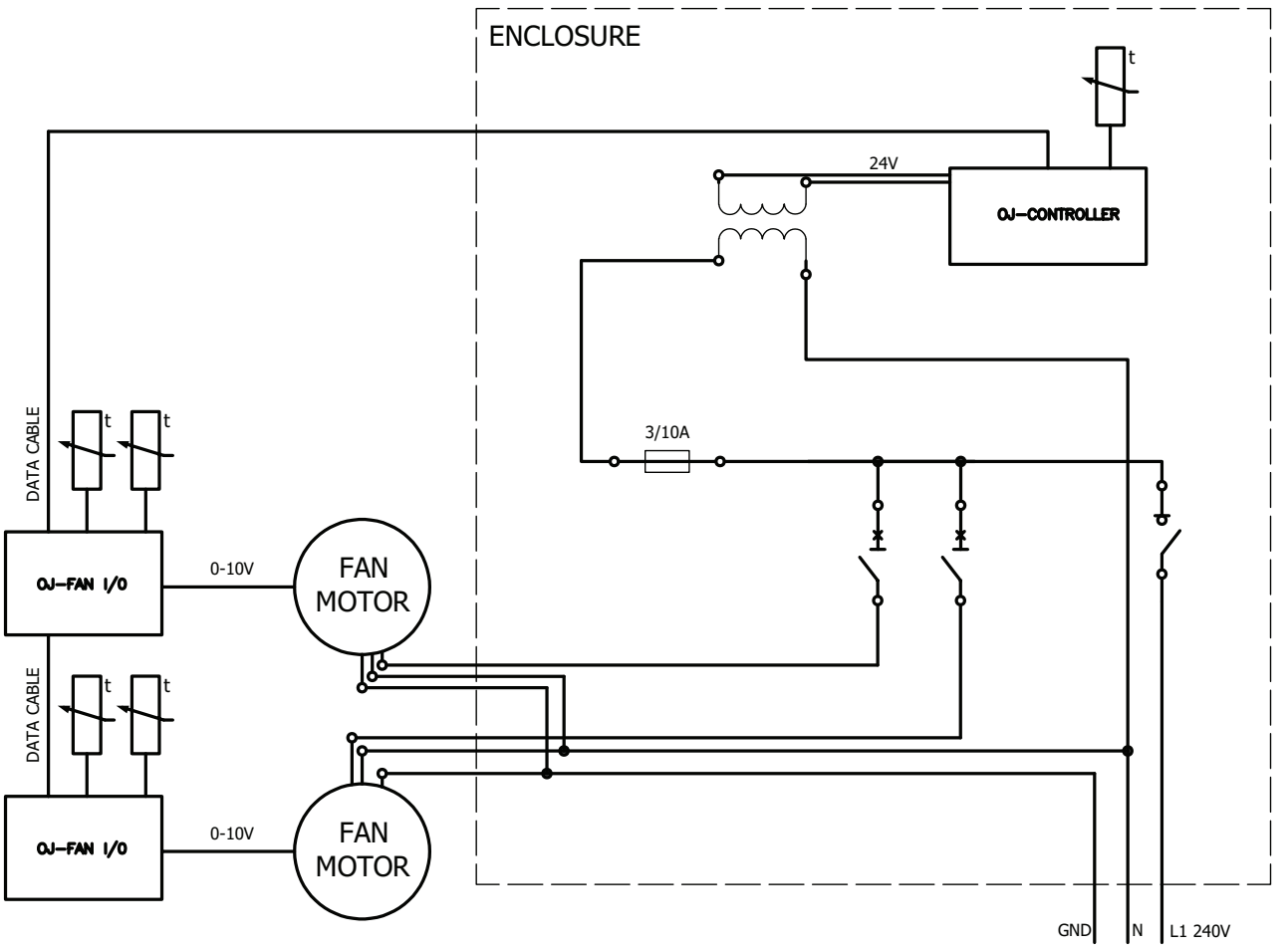
Note: Larger units are complete with a grounding lug that is used in place of the ground terminal shown above.

6.1 Electrical Information

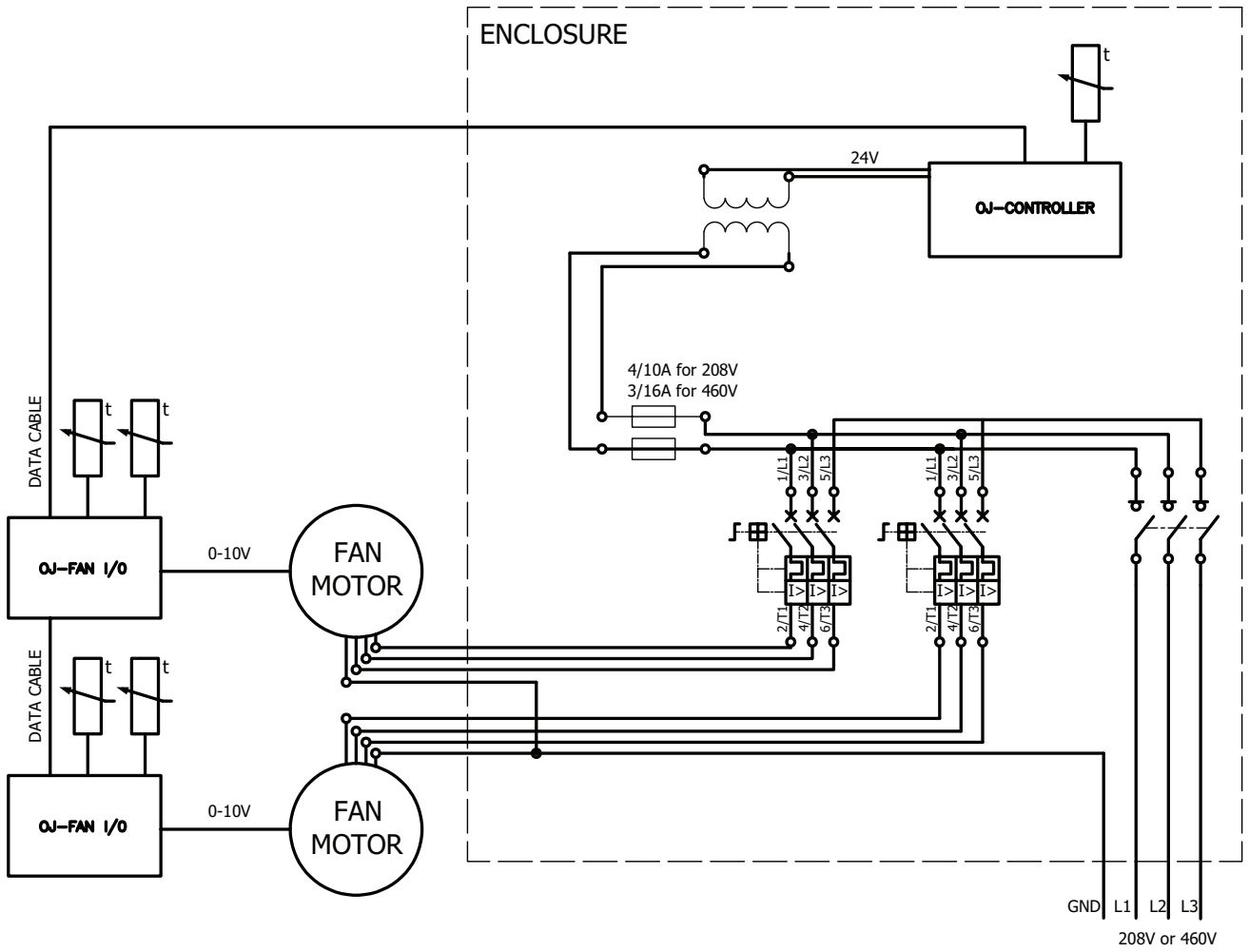
Model	Airflow	Nom. V.	Phase	Motor kW	SA Fan Qty.	SA Fan FLA	RA Fan Qty.	RA Fan FLA	Tnsfmr FLA	Fuse Size	Total	MCA	MROP D	Rcmd Fuse
A16/A18	775	240 / 208	1	0.5	1	2.50	1	2.50	0.29	3/10	5.29	5.91	8.41	15A
B20/B22	1300	240 / 208	1	0.78	1	3.90	1	3.90	0.29	3/10	8.09	9.06	12.96	15A
B20/B22	1300	208	3	2.00	1	6.00	1	6.00	0.33	4/10	12.33	13.83	19.83	15A
B20/B22	1300	460	3	2.50	1	4.00	1	4.00	0.14	3/16	8.14	9.14	13.14	15A
C20/C22	2200	208	3	2.00	1	6.00	1	6.00	0.33	4/10	12.33	13.83	19.83	15A
C20/C22	2200	460	3	2.50	1	4.00	1	4.00	0.14	3/16	8.14	9.14	13.14	15A
C24/C26	2700	208	3	2.7	1	8.60	1	8.60	0.33	4/10	17.53	19.68	28.28	25A
C24/C26	2700	460	3	3.7	1	5.80	1	5.80	0.14	3/16	11.74	13.19	18.99	15A
C30/C32	3500	208	3	3	1	9.00	1	9.00	0.33	4/10	18.33	20.58	29.58	25A
C30/C32	3500	460	3	3.3	1	5.40	1	5.40	0.14	3/16	10.94	12.29	17.69	15A
C40	4400	208	3	2.00	2	6.00	2	6.00	0.33	4/10	24.33	27.33	39.33	35A
C40	4400	460	3	2.50	2	4.00	2	4.00	0.14	3/16	16.14	18.14	26.14	25A
C48	5400	208	3	2.7	2	8.60	2	8.60	0.33	4/10	34.73	39.03	56.23	50A
C48	5400	460	3	3.7	2	5.80	2	5.80	0.14	3/16	23.34	26.24	37.84	35A
C58	6600	208	3	2.00	3	6.00	3	6.00	0.33	4/10	36.33	40.83	58.83	50A
C58	6600	460	3	2.50	3	4.00	3	4.00	0.14	3/16	24.14	27.14	39.14	35A
C70	8100	208	3	2.7	3	8.60	3	8.60	0.33	4/10	51.93	58.38	84.18	80A
C70	8100	460	3	3.7	3	5.80	3	5.80	0.14	3/16	34.94	39.29	56.69	50A

6.2 Single Phase Electrical Hook-Up (2 Fans)

Attention: Single phase electric consists of single Line, Neutral and Ground OR two hot lines and Ground (Line 1, Line 2 and Ground) based on voltage availability.

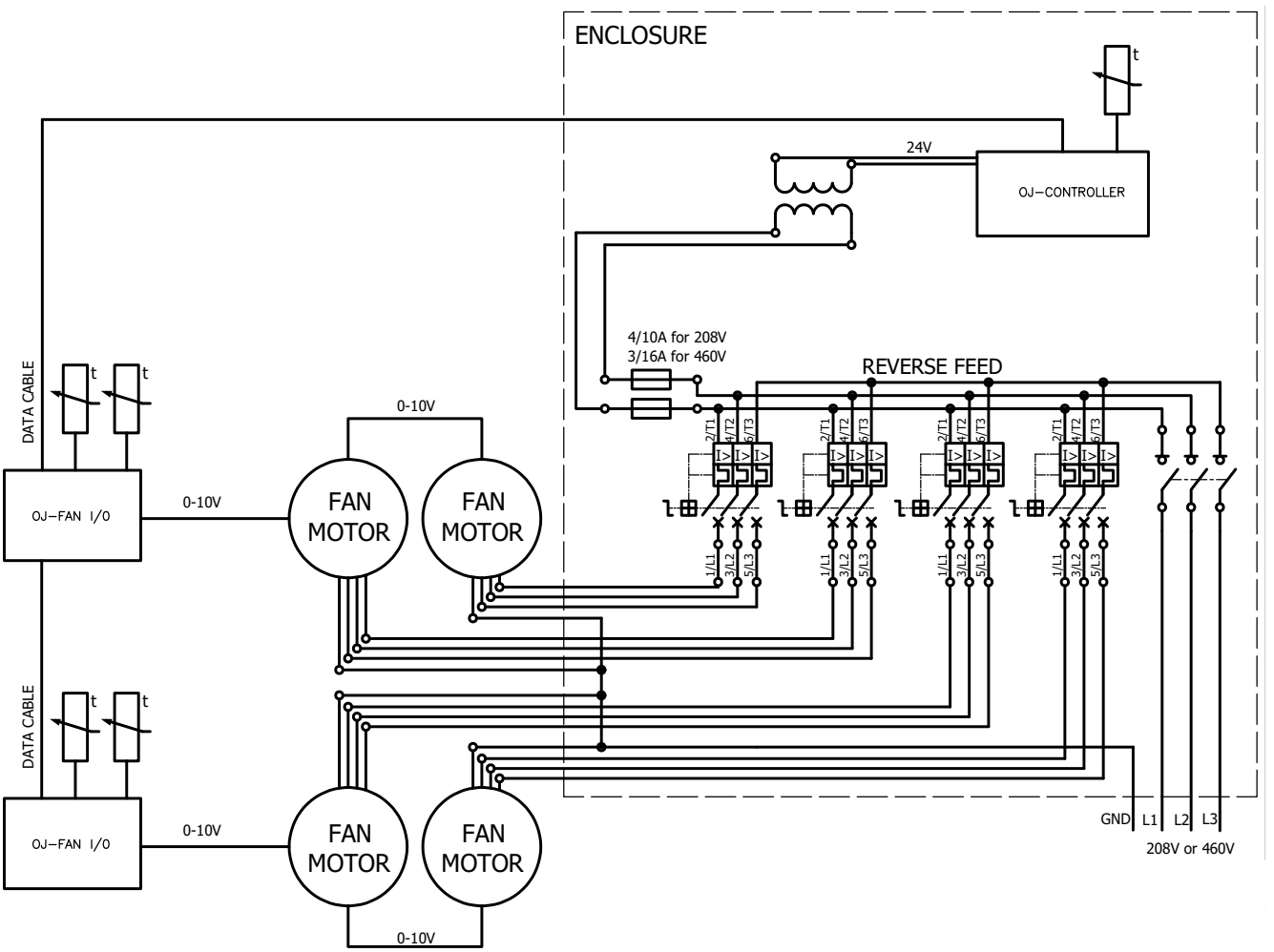


6.3 Three-Phase Electrical Hook-Up (2 Fans)



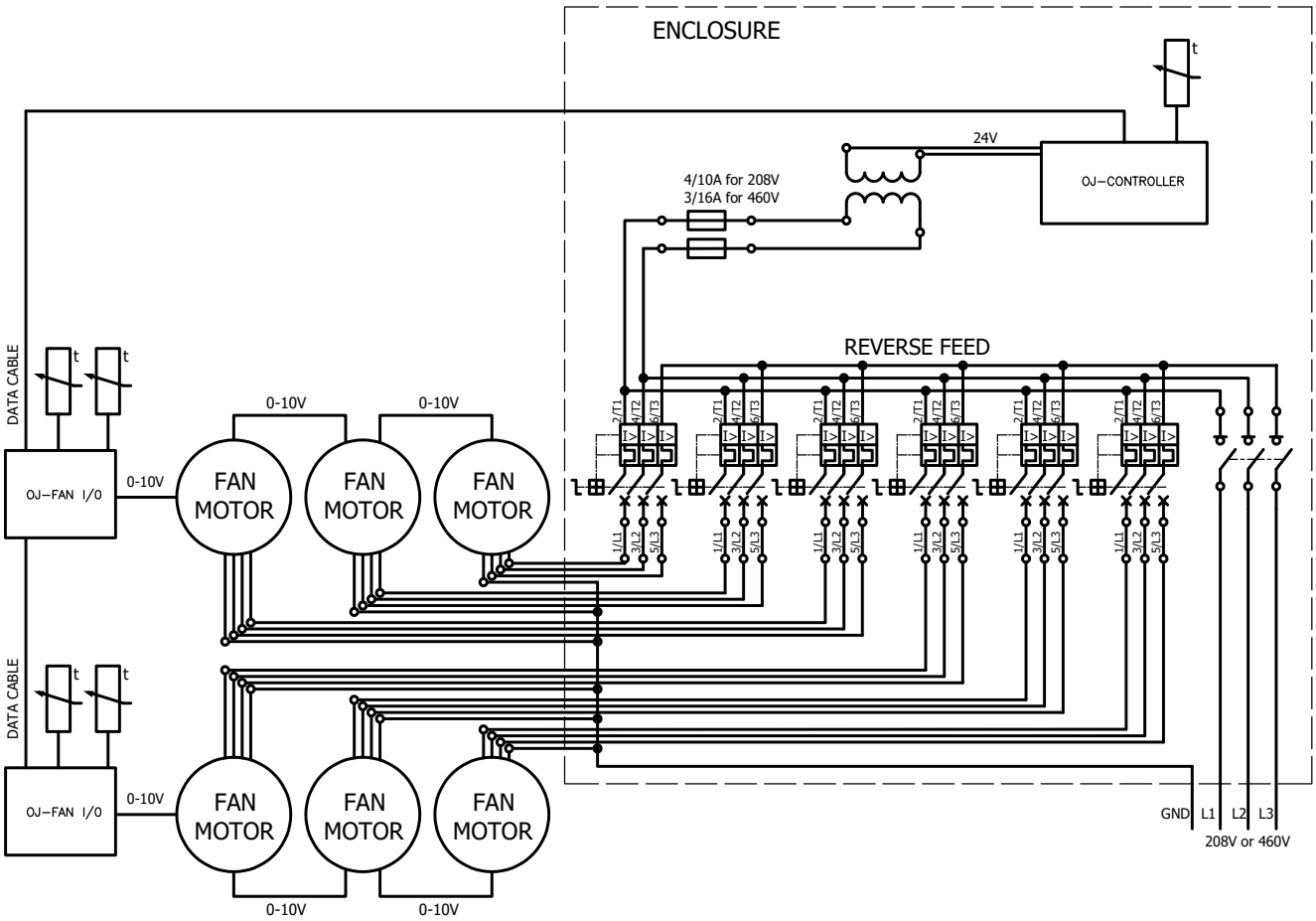
6.4 Three-Phase Electrical Hook Up (4 Fans)

3 phase, 4 wire, 208V, 460V -10% – +15%, 60Hz



6.5 Three-Phase Electrical Hook Up (6 Fans)

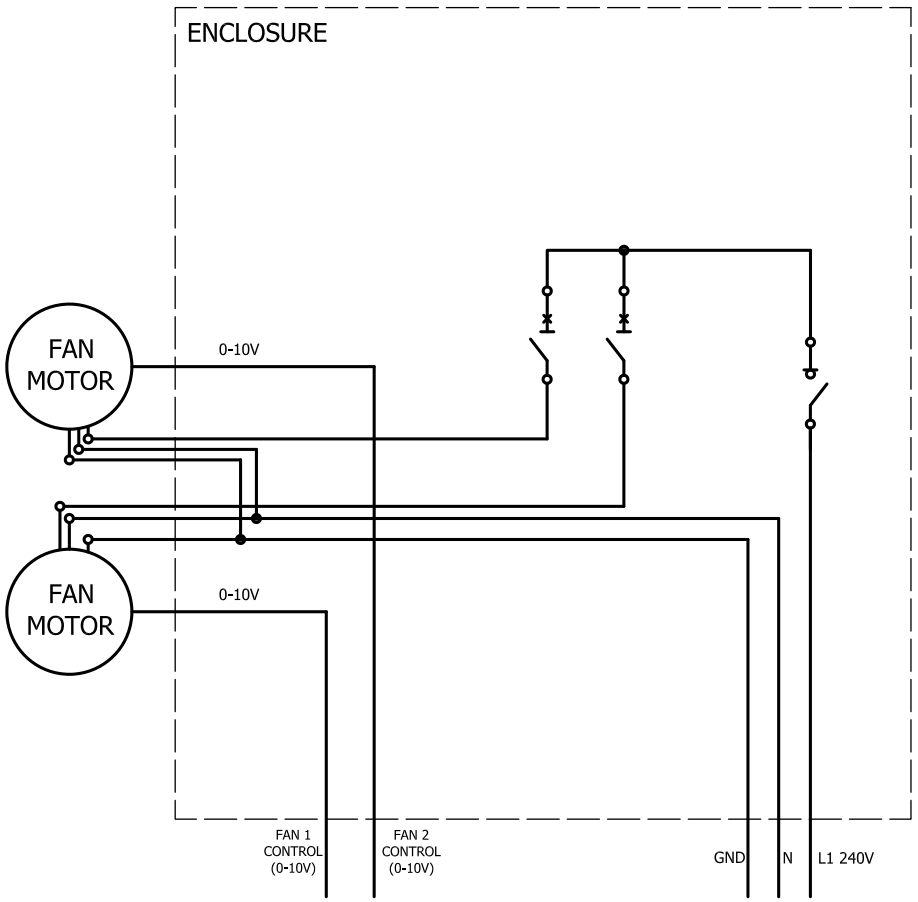
3 phase, 4 wire, 208V, 460V -10% – +15%, 60Hz



6.6 Single-Phase Lite Electrical Hook Up (2 Fans)

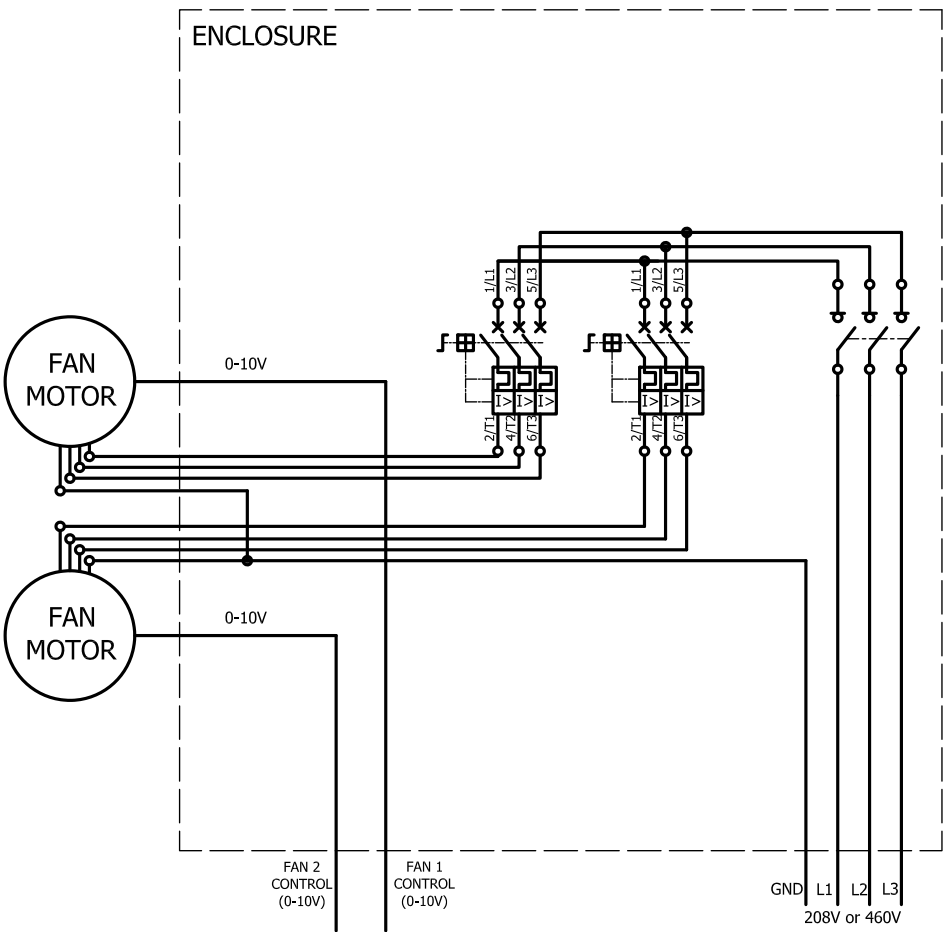
Attention: Single phase electrical consists of single 240V hot, neutral and ground. Dual 120V feeds will not work.

1 phase, 3 wire, 240V -10% – +15%, 60Hz



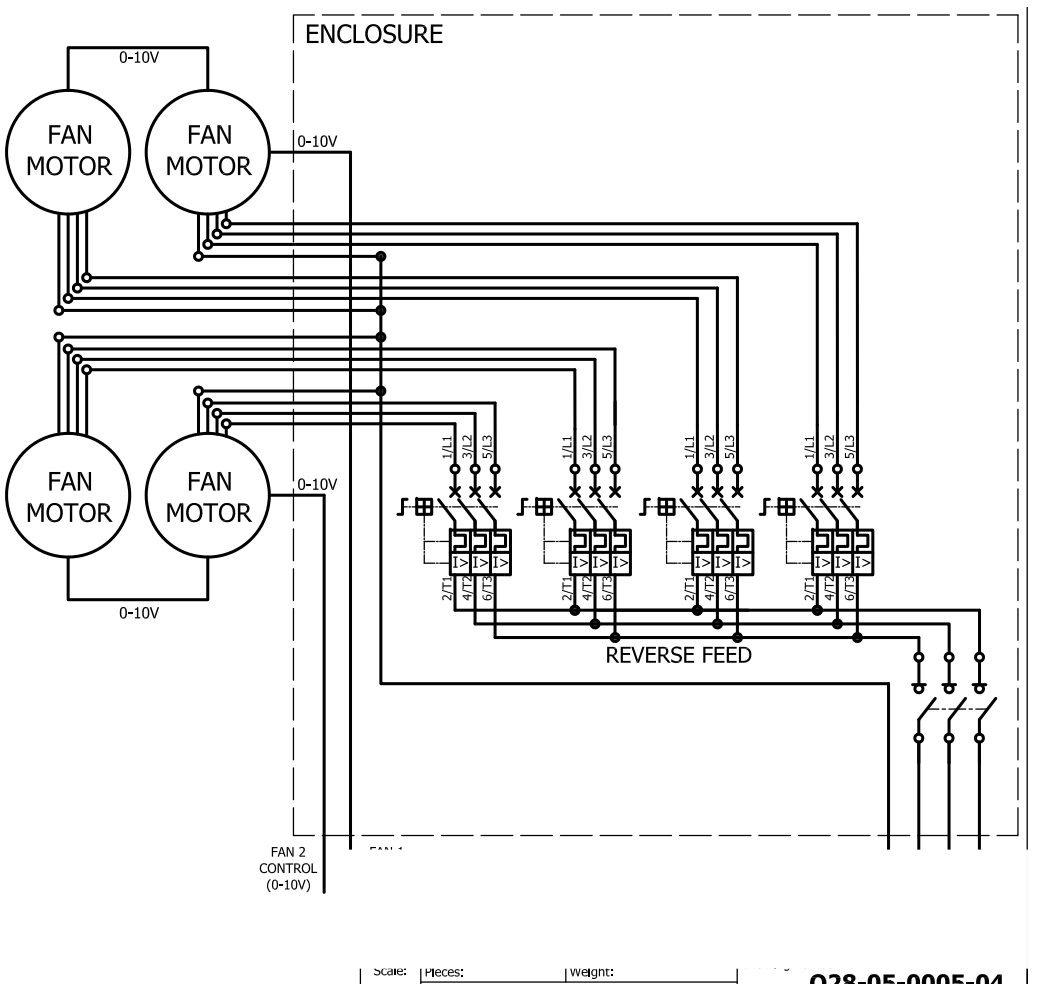
6.7 Three-Phase Lite Electrical Hook Up (2 Fans)

3 phase, 4 wire, 208V, 460V -10% – +15%, 60Hz



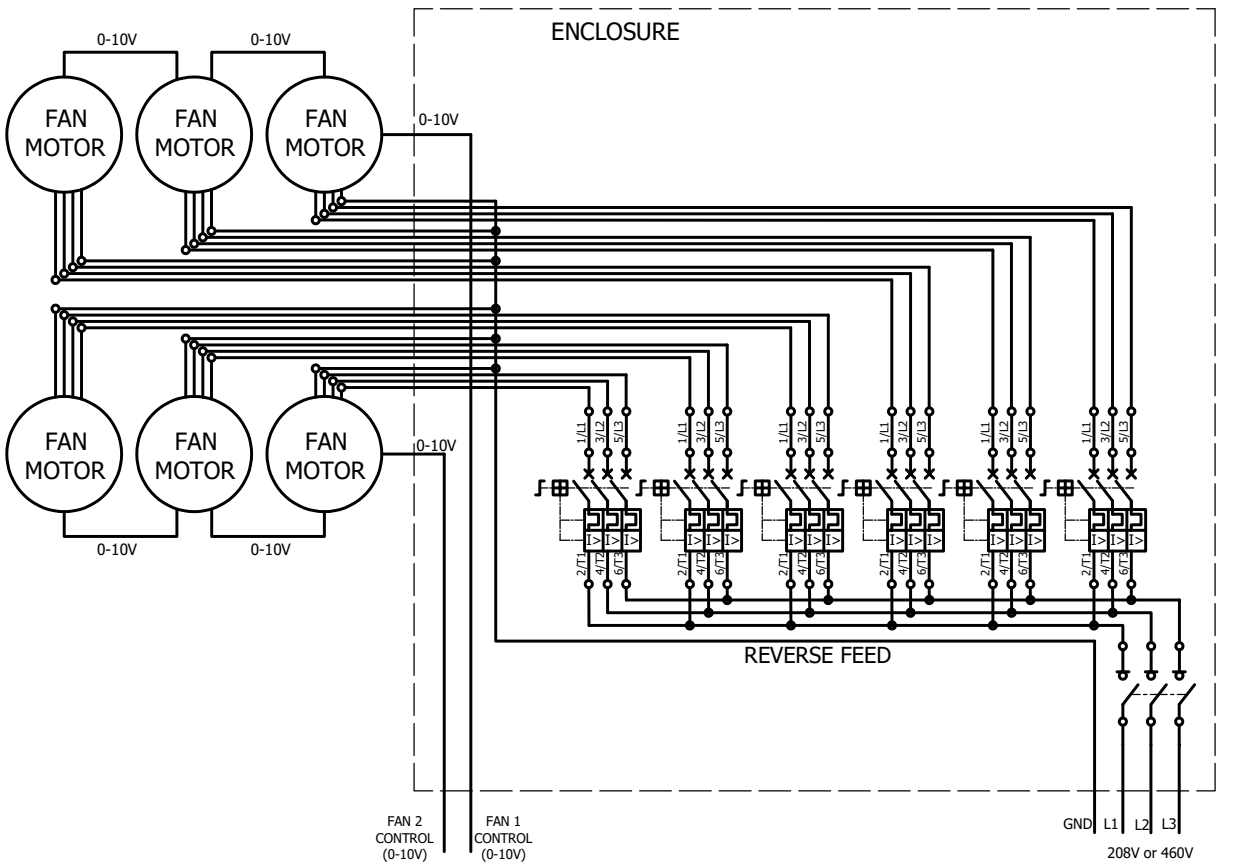
6.8 Three-Phase Lite Electrical Hook Up (4 Fans)

3 phase, 4 wire, 208V, 460V -10% – +15%, 60Hz

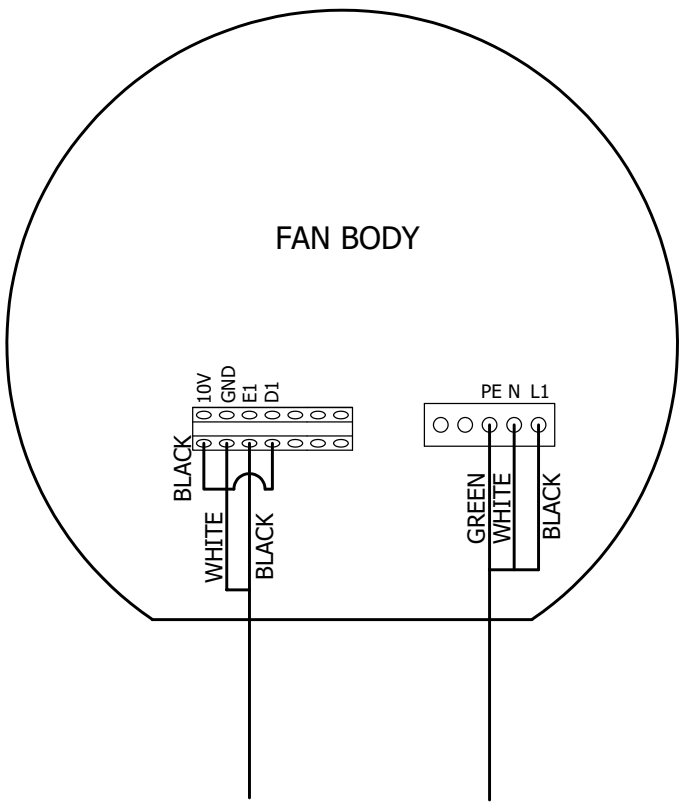


6.9 Three-Phase Electrical Hook Up (6 Fans)

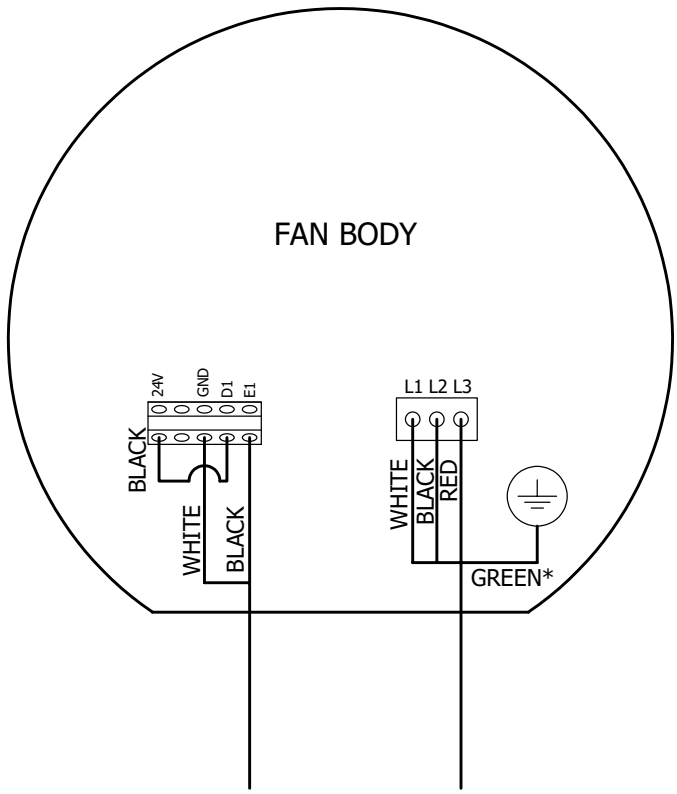
3 phase, 4 wire, 208V, 460V -10% – +15%, 60Hz



6.10 Fan Connection - Single Phase



6.11 Fan Connection - Three Phase



6.12 Electrical Control Box Connection Guides

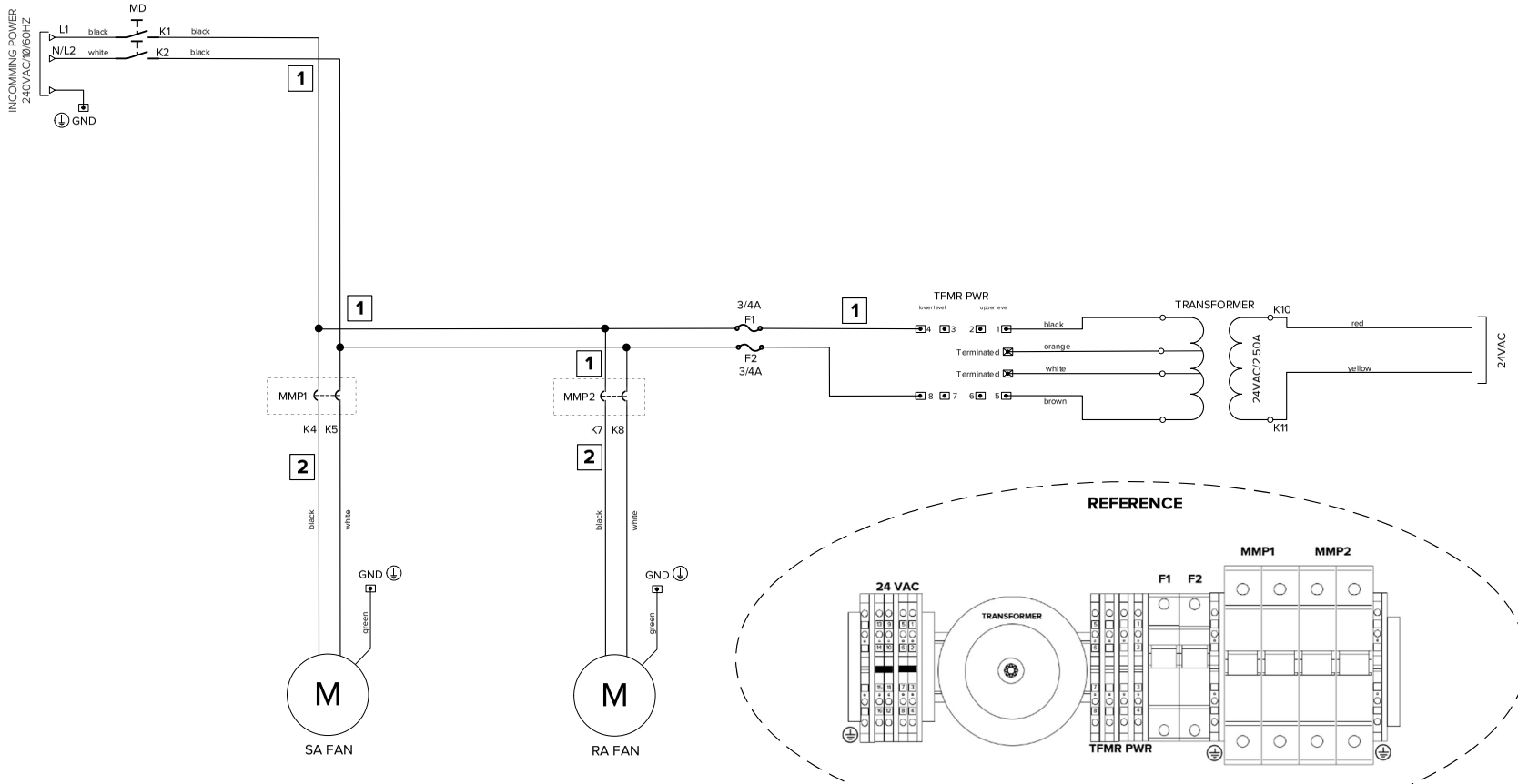
1. **Verification of Unit Compatibility**
   Prior to installation, ensure that the information on the unit's nameplate matches the power supply specifications. In cases where single-point power wiring connections are specified, the power source for the external control box shall originate from the electrical heater. Make all necessary connection terminations to the primary terminal block. Detailed wiring diagrams, specific to the unit, can be found in this manual, illustrating both factory and field wiring configurations.
2. **Overcurrent and Short Circuit Protection**
   All units require the provision of field-supplied electrical overcurrent and short circuit protection. Ensure that the selected protective device does not exceed the Maximum Recommended Overcurrent Protection (MROP) specified on the unit's nameplate. Local electrical codes may also mandate the presence of a disconnect switch within visible range of the unit. However, it is advisable not to install field-supplied overcurrent protection or disconnect switches on the unit itself.
3. **External Control Panel**
   In cases where an external control box is utilized, properly route the conduit away from potential hazards, sharp edges, or occupied areas, and ensure it is securely fastened at intervals not exceeding 3 feet unless otherwise specified by local codes and standards. Use the appropriate hardware for the conduit diameter and appropriate fasteners for anchoring into the wall material.
4. **Flex Conduit**
   The unit is equipped with the necessary length of flexible conduit for connecting the external control box to the unit. It is crucial not to modify or extend this conduit.

5. **Compliance with Electrical Codes**
   It is imperative to adhere to the access clearance, mounting height, and other installation requirements stipulated by the National Electrical Code (NEC) and any applicable local codes and standards for safety and ease of maintenance.

Wiring Diagrams

7.1 Nova 240V, Single Phase, S1

NO.	COLOUR	TYPE	PCs	PART NUMBER
1	BLACK	SINGLE WIRE 10AWG	8	000011-001
2	BLACK	18/3 (L1, L2, GND)	2	000007-001



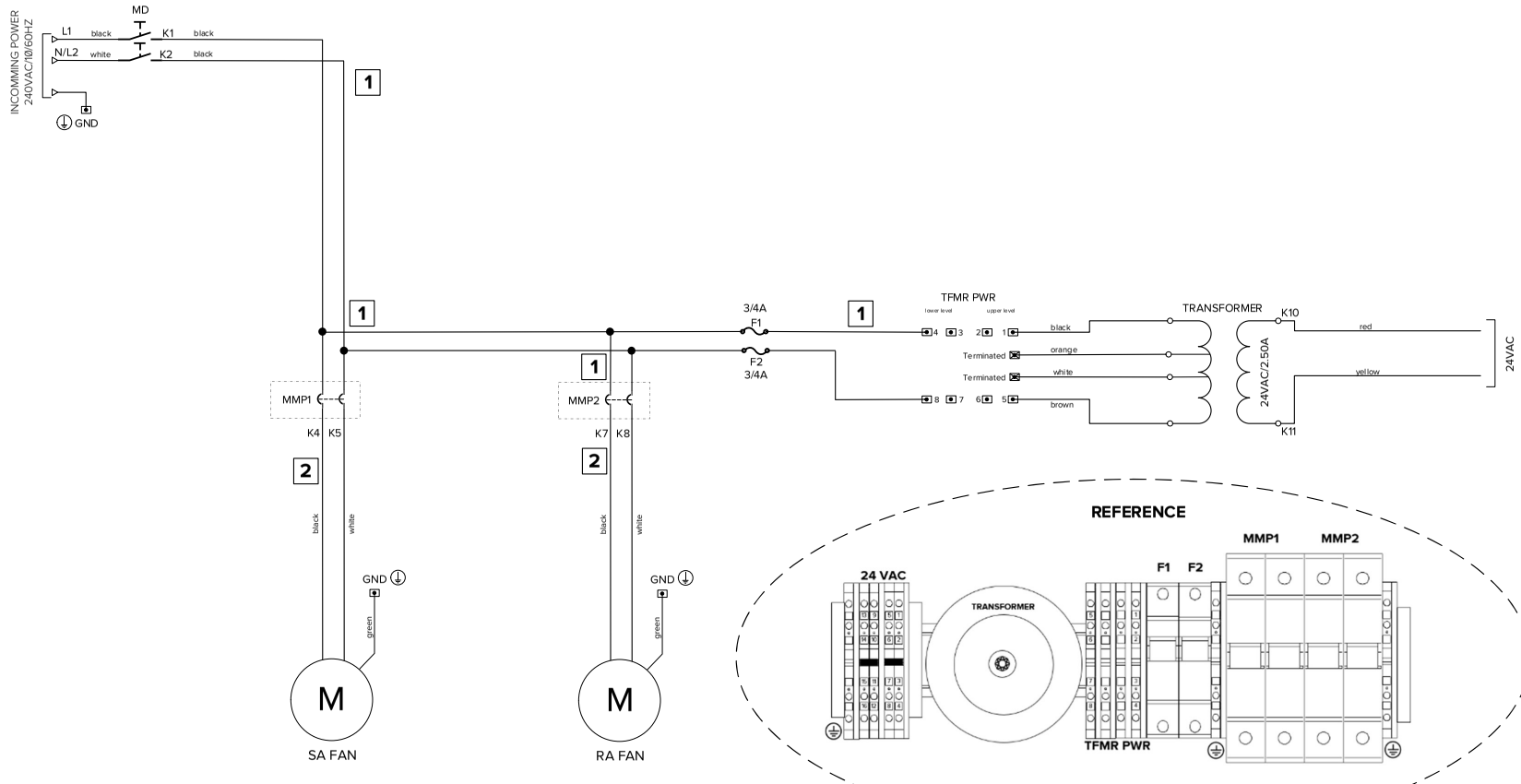
Legend

- Factory wired
- Communication
- Enclosed unit
- Field wiring required

DRAWN BY: KC	OXYGEN8		
APPROVED: AS	DRAWING TITTLE: POWER CONNECTIONS 240 VAC/1Ø/60Hz/2FANS/S1		
REVISION: 1.2	DRAWING NUMBER: O28_022_0008_00		CONTROLLER: ECY-303
DATE: 06-09-2023	SCALE: NTS	SIZE: A3	SHEET: 1 of 7

7.2 Nova 240V, Single Phase, S2

NO.	COLOUR	TYPE	PCs	PART NUMBER
1	BLACK	SINGLE WIRE 10AWG	8	000011-001
2	BLACK	18/3 (L1, L2, GND)	2	000007-001

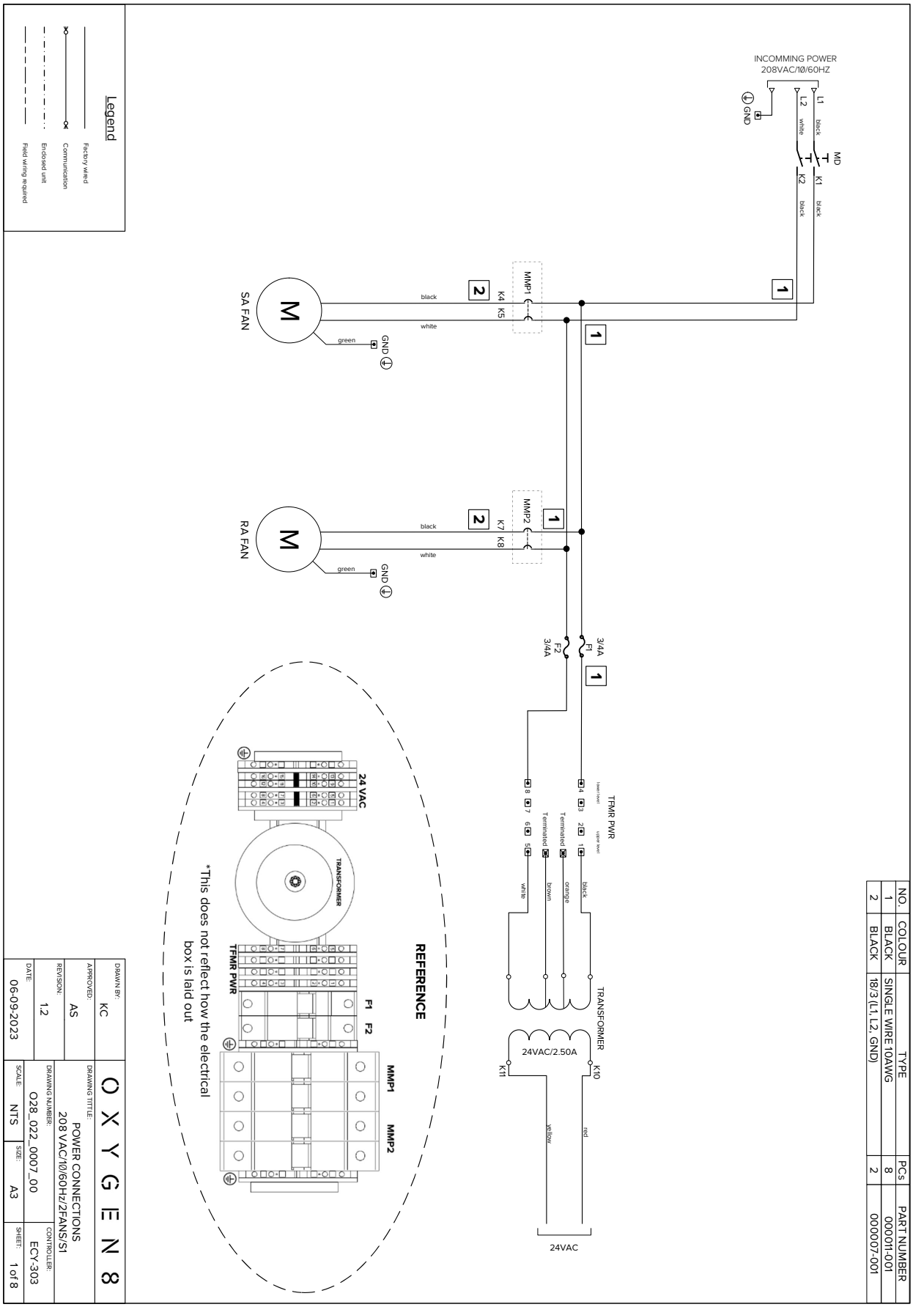


Legend

- Factory wired
- Communication
- Enclosed unit
- Field wiring required

DRAWN BY: KC	OXYGEN8
APPROVED: AS	DRAWING TITTLE: POWER CONNECTIONS 240 VAC/10/60Hz/2FANS/S2
REVISION: 1.2	DRAWING NUMBER: O28_022_0008_01 — CONTROLLER: ECY-303
DATE: 06-09-2023	SCALE: NTS — SIZE: A3 — SHEET: 1 of 7

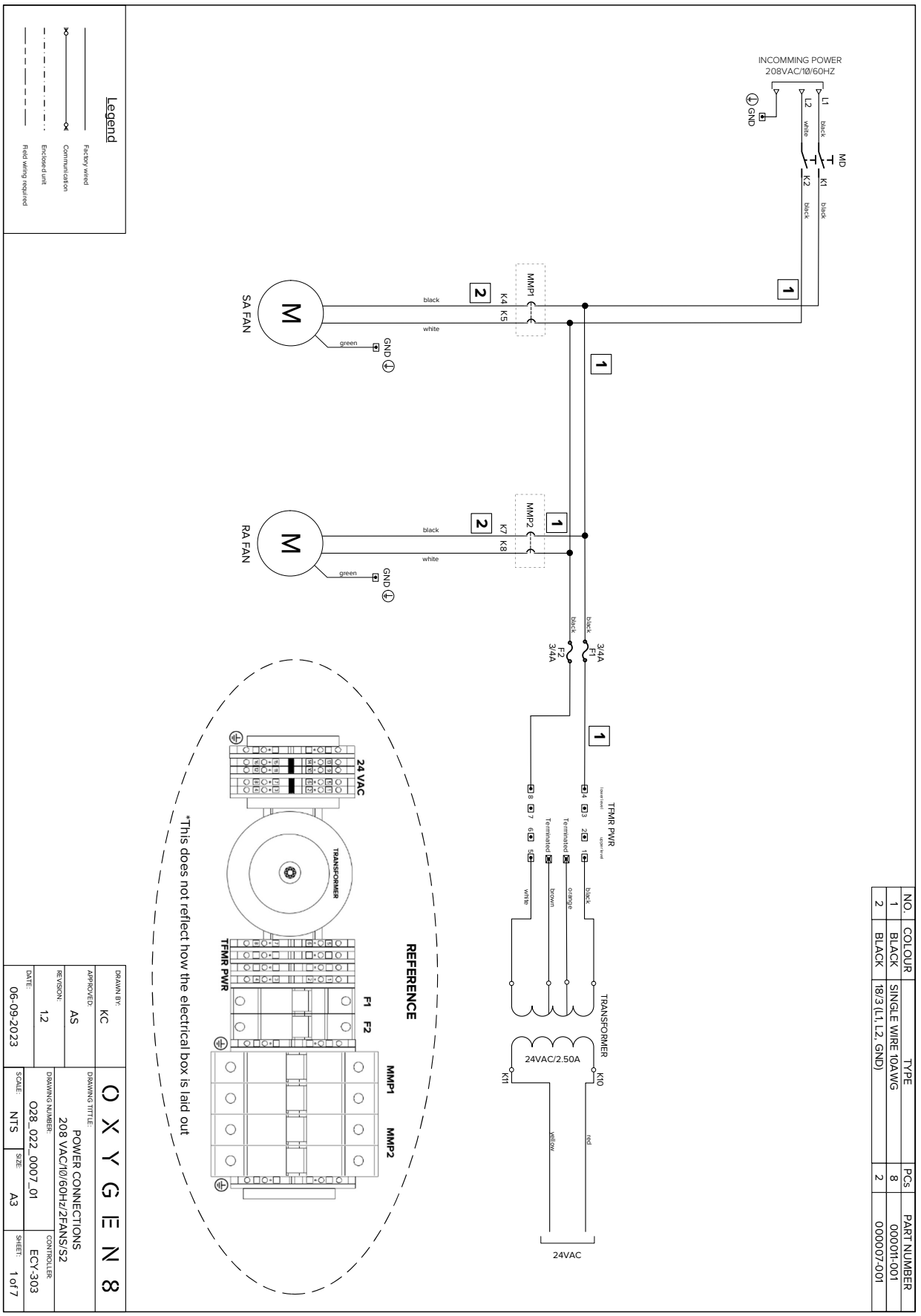
7.3 Nova 208V, Single Phase, S1



NO.	COLOUR	TYPE	PCs	PART NUMBER
1	BLACK	SINGLE WIRE 10AWG	8	000011-001
2	BLACK	18/3 (L1, L2, GND)	2	000007-001

DRAWN BY: KC	OXYGEN8		
APPROVED: AS	DRAWING TITTLE: POWER CONNECTIONS 208 VAC/1Ø/60HZ/2FANS/S1		
REVISION: 1.2	DRAWING NUMBER: O28_022_0007_00	CONTROLLER: ECY-303	
DATE: 06-09-2023	SCALE: NTS	SIZE: A3	SHEET: 1 of 8

7.4 Nova 208V, Single Phase, S2



NO.	COLOUR	TYPE	PCS	PART NUMBER
1	BLACK	SINGLE WIRE 10AWG	8	000011-001
2	BLACK	18/3 (L1, L2, GND)	2	000007-001

DRAWN BY:	KC
APPROVED:	AS
REVISION:	1.2
DATE:	06-09-2023

OXYGEN 8

DRAWING TITTLE:
POWER CONNECTIONS
208 VAC/1Ø/60Hz/2FANS/S2

DRAWING NUMBER: O28_022_0007_01

CONTROLLER: ECY-303

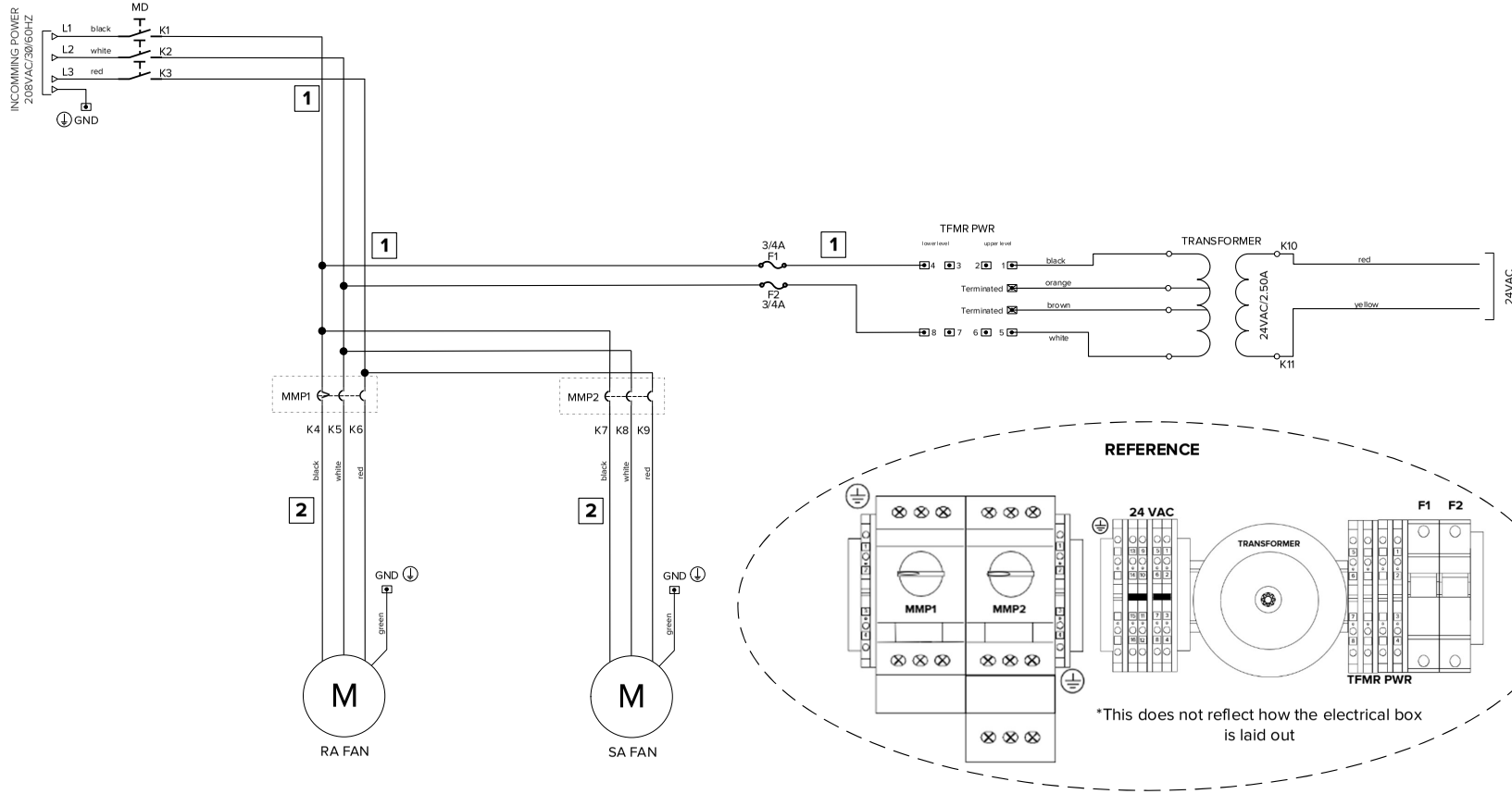
SCALE: NTS

SIZE: A3

SHEET: 1 of 7

7.5 Nova, Three Phase, S1

NO.	COLOUR	TYPE	PCs	PART NUMBER
1	BLACK	SINGLE WIRE 10AWG	7	000011-001
2	BLACK	18/4 (L1, L2,L3,GND)	2	000008-001



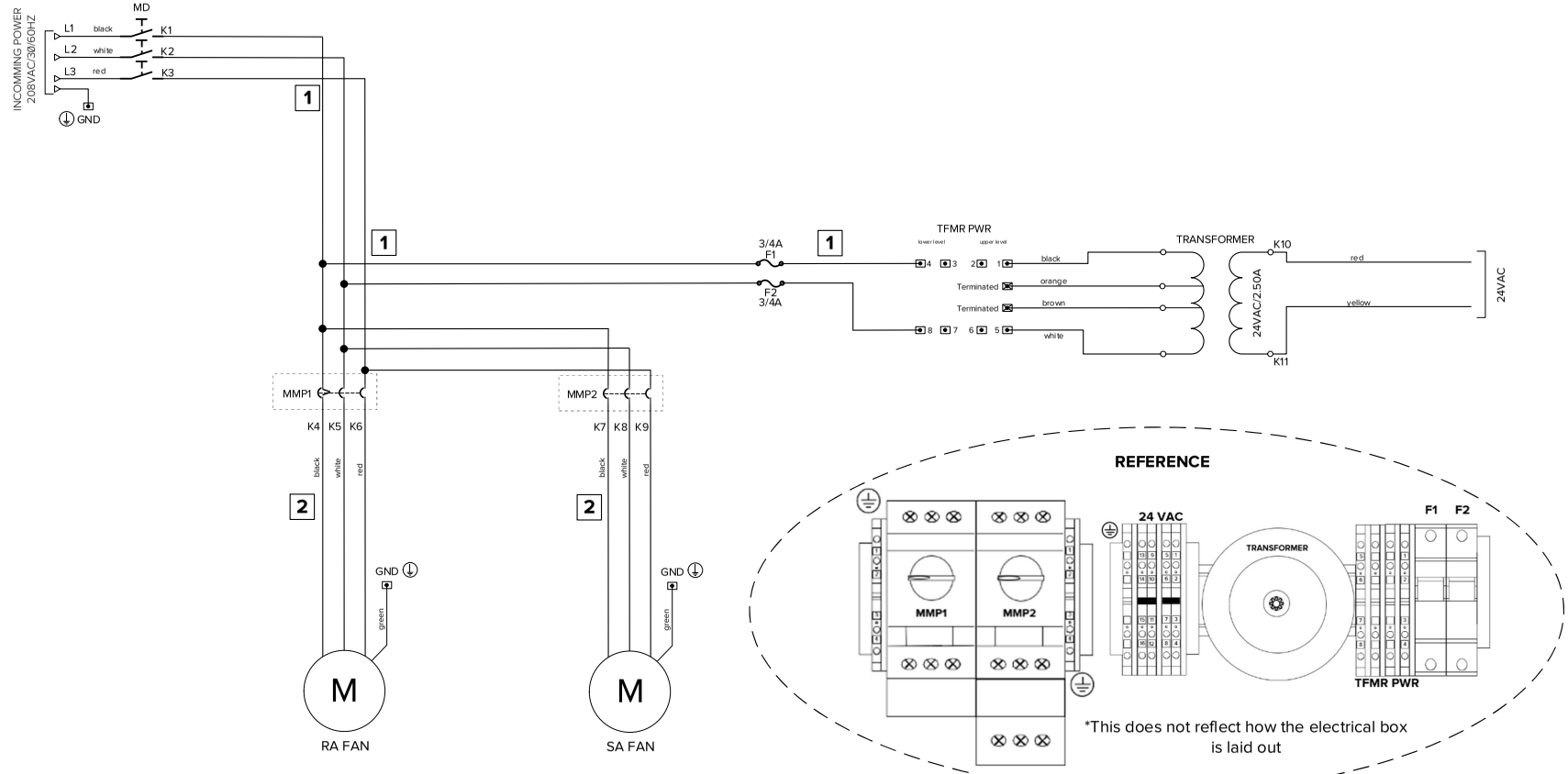
Legend

- Factory wired
- Communication
- Enclosed unit
- Field wiring required

DRAWN BY: KC	OXYGEN8		
APPROVED: AS	DRAWING TITTLE: POWER CONNECTIONS 208 VAC/3Ø/60Hz/2FANS/S1		
REVISION: 1.2	DRAWING NUMBER: O28_022_0007_04		CONTROLLER: ECY-303
DATE: 06-09-2023	SCALE: NTS	SIZE: A3	SHEET: 1 of 8

7.6 Nova, Three Phase, S2

NO.	COLOUR	TYPE	PCs	PART NUMBER
1	BLACK	SINGLE WIRE 10AWG	7	000011-001
2	BLACK	18/4 (L1, L2,L3,GND)	2	000008-001

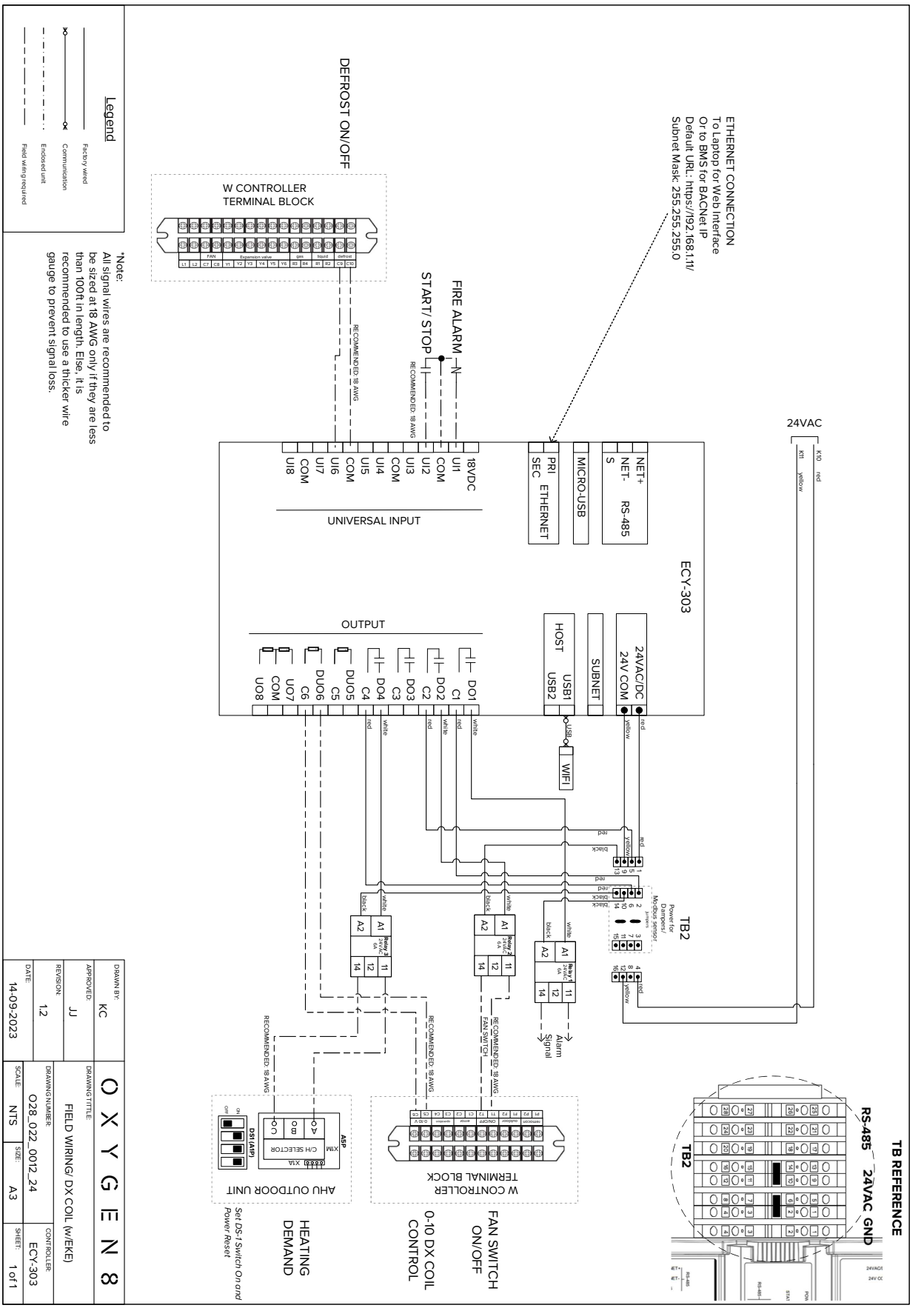


Legend

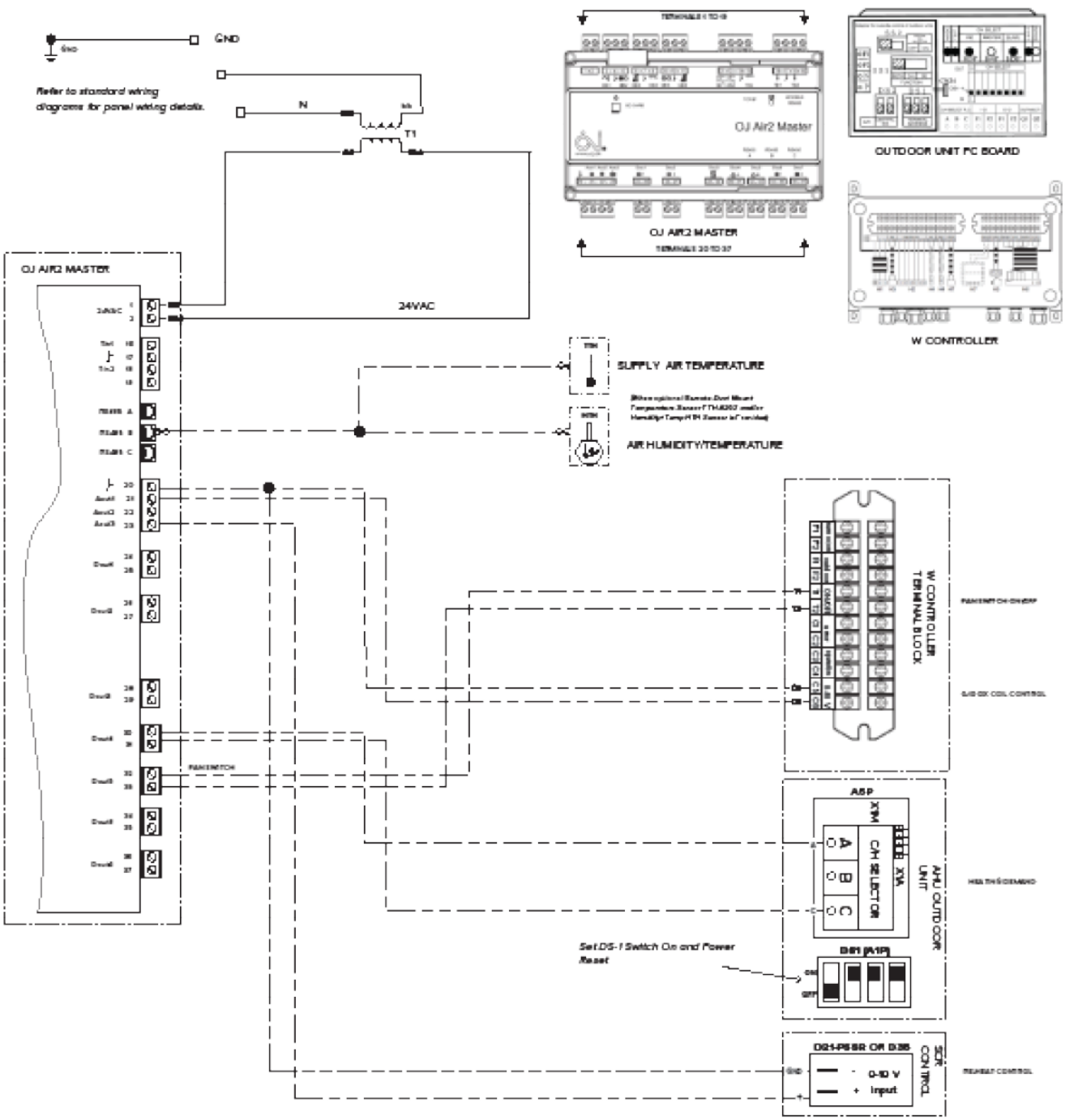
- Factory wired
- Communication
- Enclosed unit
- Field wiring required

DRAWN BY: KC	OXYGEN8
APPROVED: AS	DRAWING TITTLE: POWER CONNECTIONS 208 VAC/3Ø/60Hz/2FANS/S2
REVISION: 1.2	DRAWING NUMBER: O28_022_0007_05 / CONTROLLER: ECY-303
DATE: 06-09-2023	SCALE: NTS / SIZE: A3 / SHEET: 1 of 7

7.7 Field Wiring, DX Coil, EKE



Wiring Diagram



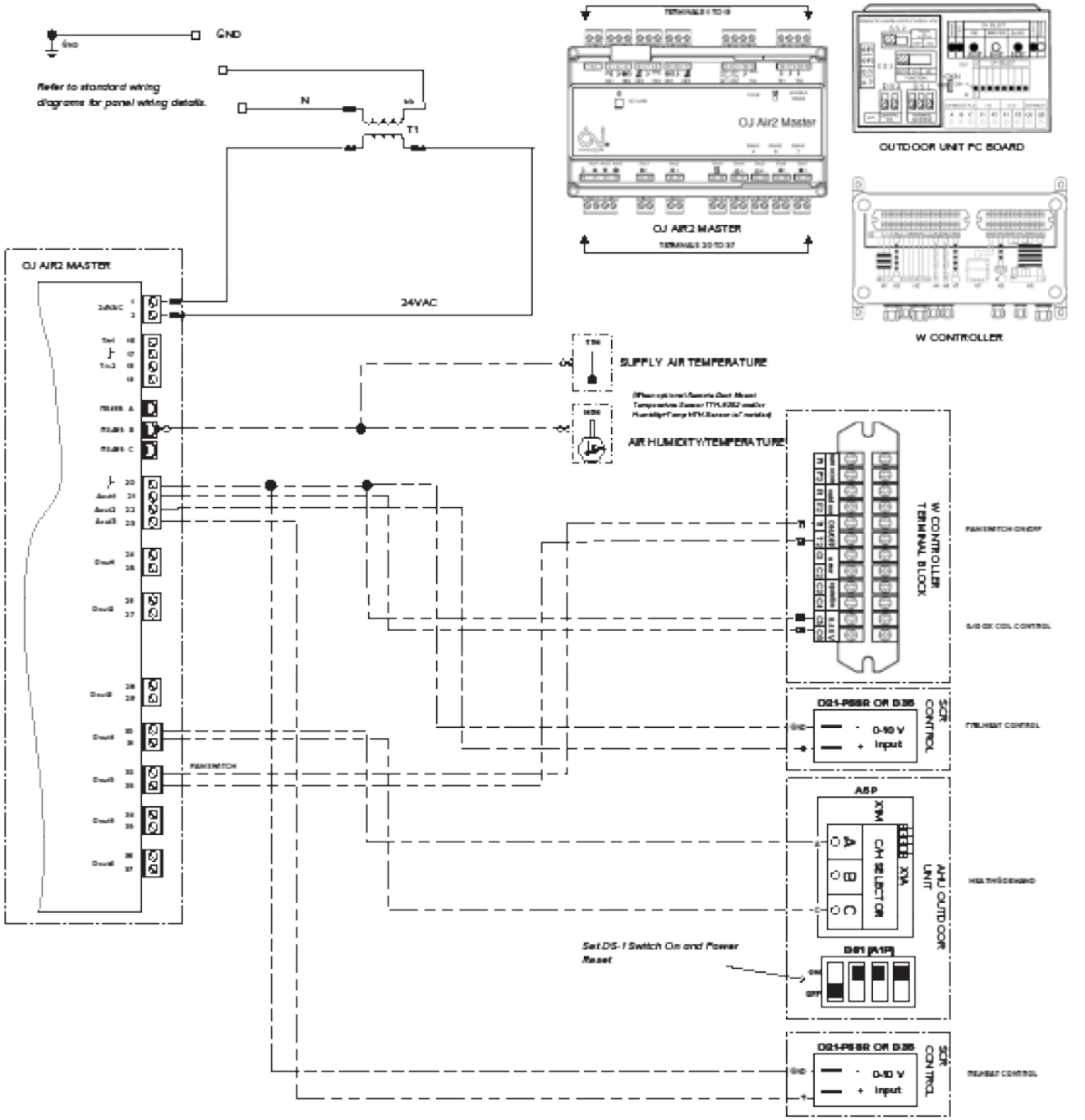
Controller Details

Legend

- Factory wired
- Communication/ RJ12
- Enclosed unit
- Field wiring required

DRAWN BY: IP	OXYGEN8		
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING/ DX COIL/ ELEC. RE-HEAT (w/EKE)		
REVISION: 1.0	DRAWING NUMBER: 028-05-0011-01		CONTROLLER: OJ
DATE: 2021-04-08	SCALE: NTS	SIZE: 8" x 11.5"	SHEET: 1 of 1

Wiring Diagram



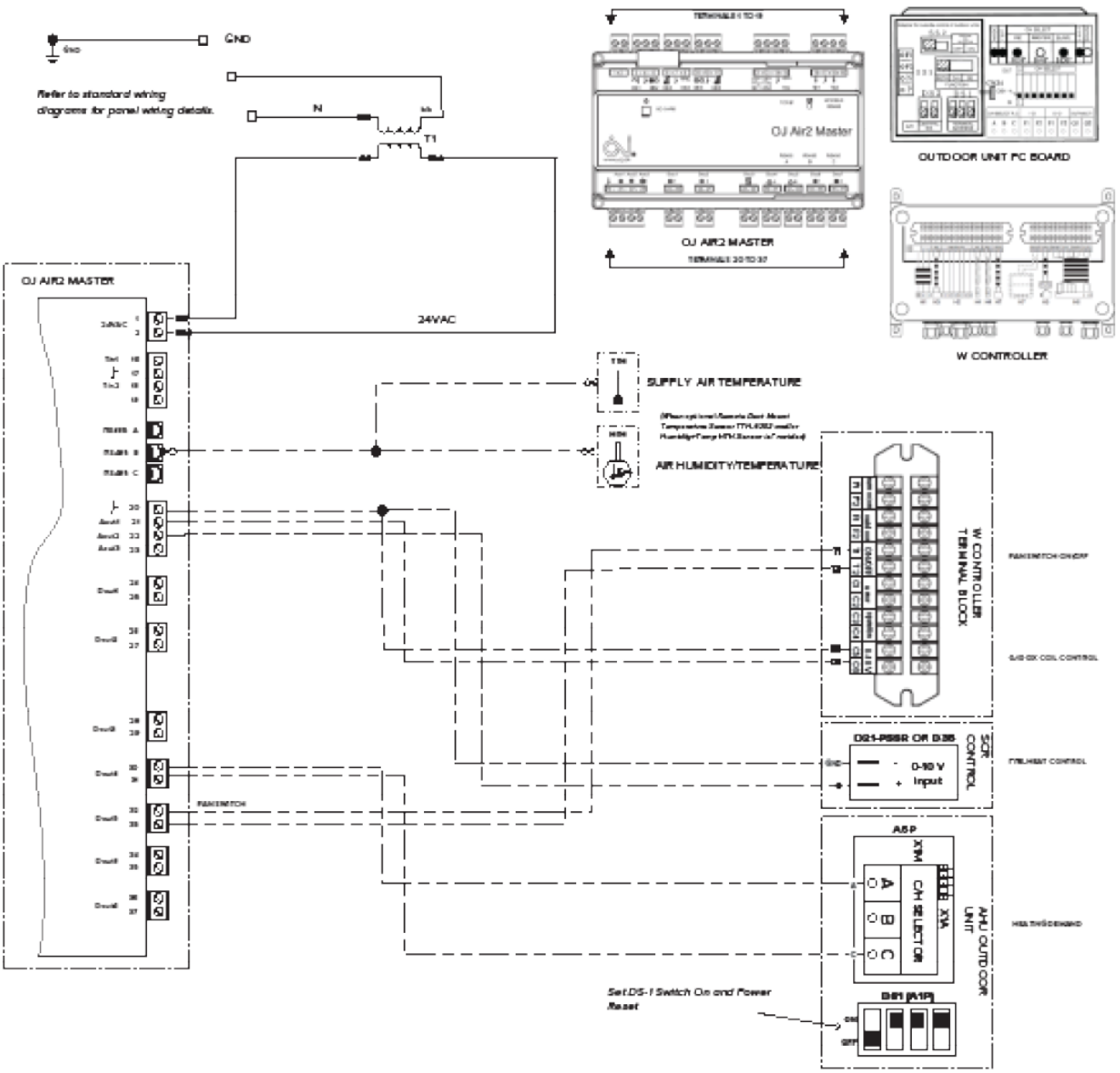
Controller Details

Legend

- Factory wired
- Communication/ FUI2
- Enclosed unit
- Field wiring required

DRAWN BY: IP	OXYGEN8		
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING/ELEC. PRE-HEAT/ DX COIL/ELEC. RE-HEAT (w/EKE)		
REVISION: 1.0	DRAWING NUMBER: 028-05-0011-02		CONTROLLER: OJ
DATE: 2021-04-08	SCALE: NTS	SIZE: 8" x 11.5"	SHEET: 1 of 1

Wiring Diagram

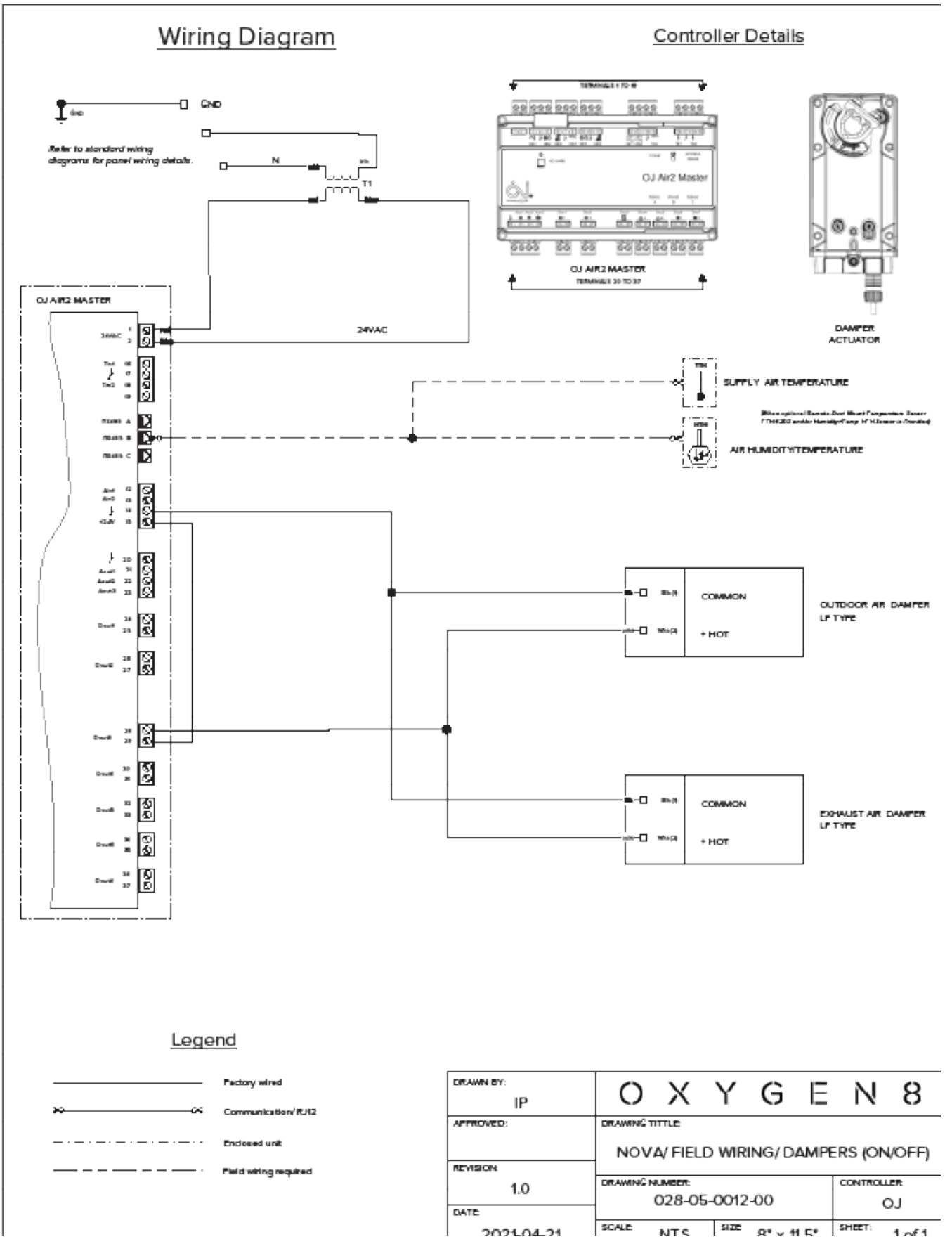


Controller Details

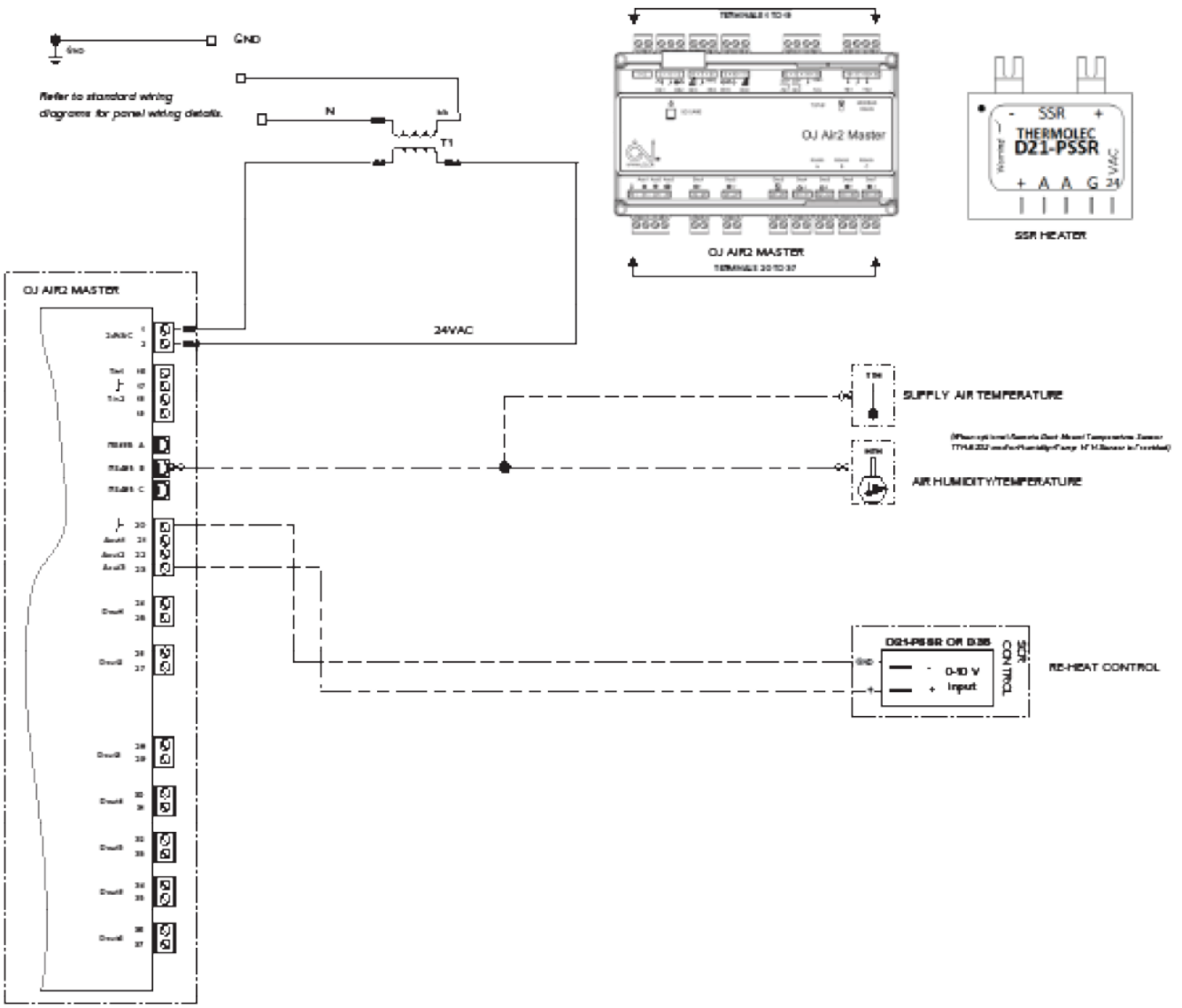
Legend

- Factory wired
- Communication/ RJ12
- Enclosed unit
- Field wiring required

DRAWN BY: IP	OXYGEN8	
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING/ELEC. PRE-HEAT/ DX COIL (w/EKE)	
REVISION: 1.0	DRAWING NUMBER: 028-05-0011-03	CONTROLLER: OJ
DATE: 2021.04.09	SCALE: NTS SIZE: 8" x 11 FT	SHEET: 1 of 1


Wiring Diagram
Controller Details
GND
Refer to standard wiring diagrams for panel wiring details.
N
T1
24VAC
OJ AIR2 MASTER
OJ Air2 Master
OJ AIR2 MASTER
DAMPER ACTUATOR
SUPPLY AIR TEMPERATURE
AIR HUMIDITY/TEMPERATURE
COMMON
+ HOT
OUTDOOR AIR DAMPER LF TYPE
COMMON
+ HOT
EXHAUST AIR DAMPER LF TYPE
Legend
Factory wired
Communication/ RJ12
Enclosed unit
Field wiring required
DRAWN BY: IP
APPROVED:
REVISION: 1.0
DATE: 2021-04-21
OXYGEN 8
DRAWING TITTLE: NOVA/ FIELD WIRING/ DAMPERS (ON/OFF)
DRAWING NUMBER: 028-05-0012-00
CONTROLLER: OJ
SCALE: NTS
SIZE: 8" x 11.5"
SHEET: 1 of 1

Wiring Diagram



Controller Details

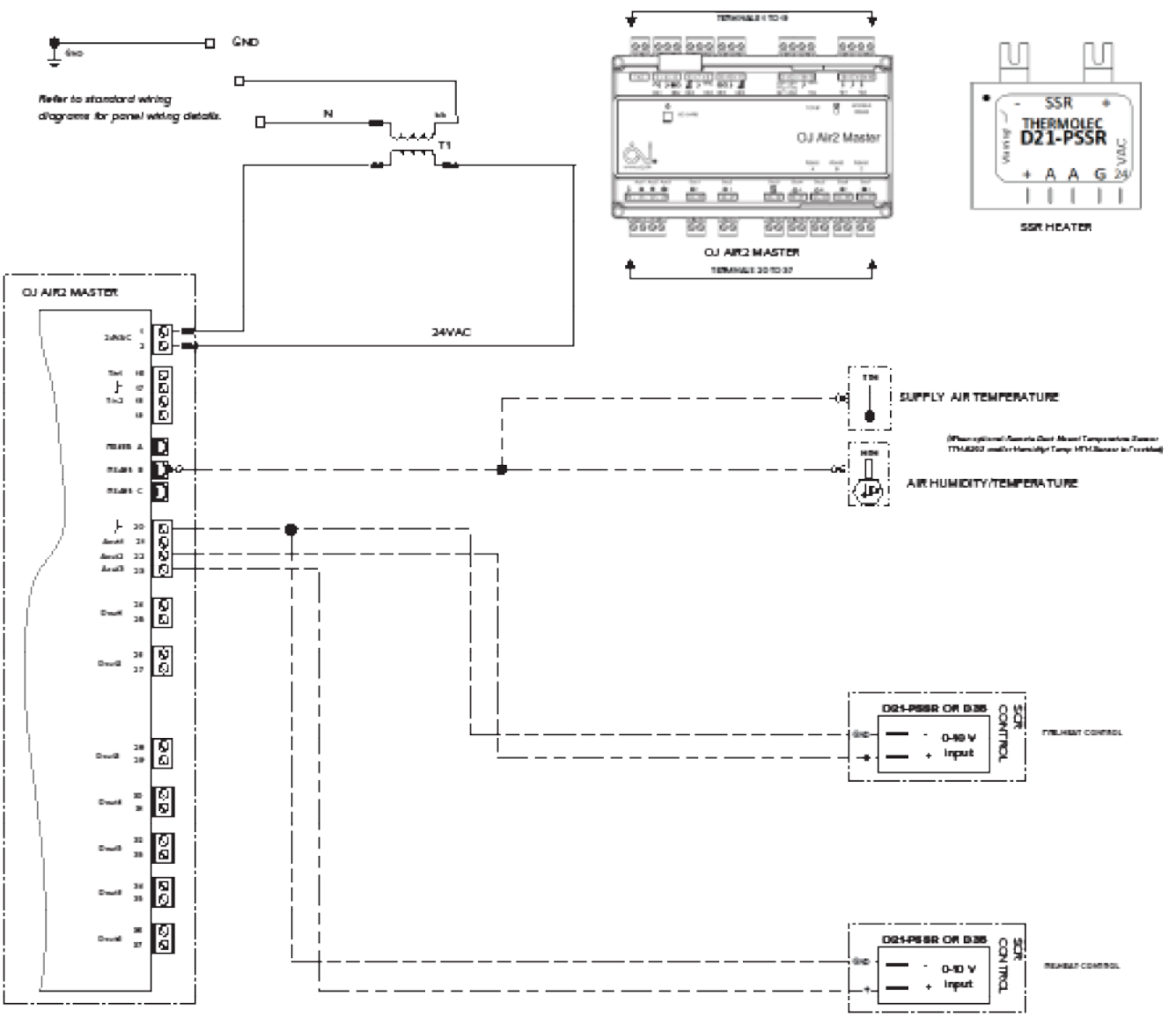
NOTE: *Refer to standard wiring diagrams for default controls wiring.*

Legend

- Factory wired
- Communication/ RJ12
- Enclosed unit
- Field wiring required

DRAWN BY: IP	OXYGEN 8		
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING /ELECTRIC RE-HEAT		
REVISION: 1.0	DRAWING NUMBER: 028-05-0012-01		CONTROLLER: OJ
DATE: 2021-04-20	SCALE: NTS	SIZE: 8" x 11.5"	SHEET: 1 of 1

Wiring Diagram



Controller Details

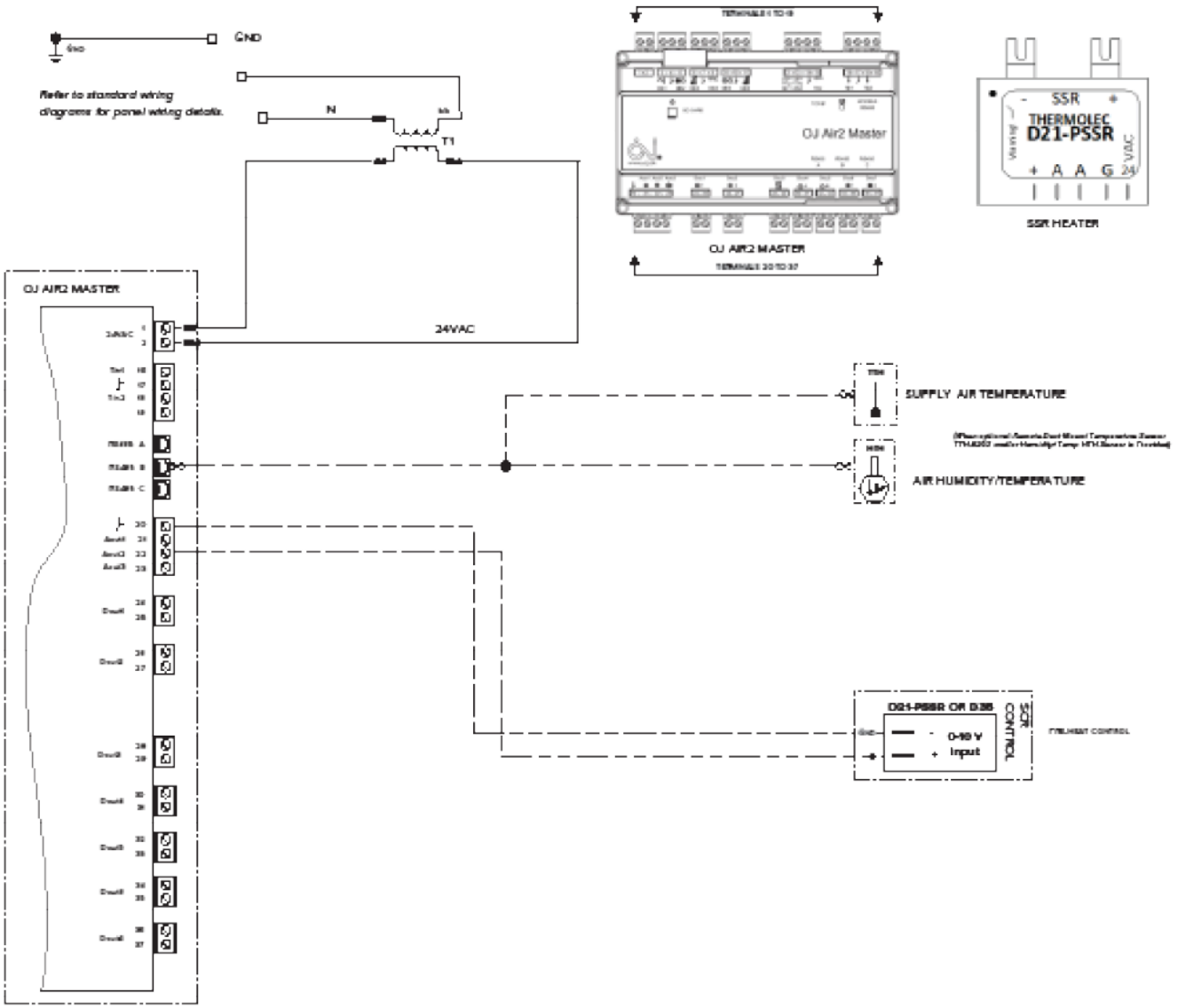
NOTE: *Refer to standard wiring diagrams for default controls wiring.*

Legend

- Factory wired
- Communication/ RJ12
- Enclosed unit
- Field wiring required

DRAWN BY: IP	OXYGEN8	
APPROVED:	DRAWING TITTLE: NOVA/ FIELD/ ELECTRIC PRE-HEAT/ ELECTRIC RE-HEAT	
REVISION: 1.0	DRAWING NUMBER: 028-05-0012-02	CONTROLLER: OJ
DATE:	SCALE:	SIZE: SHEET:

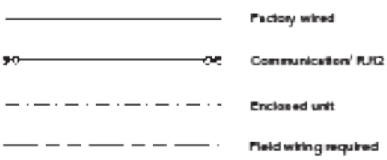
Wiring Diagram



Controller Details

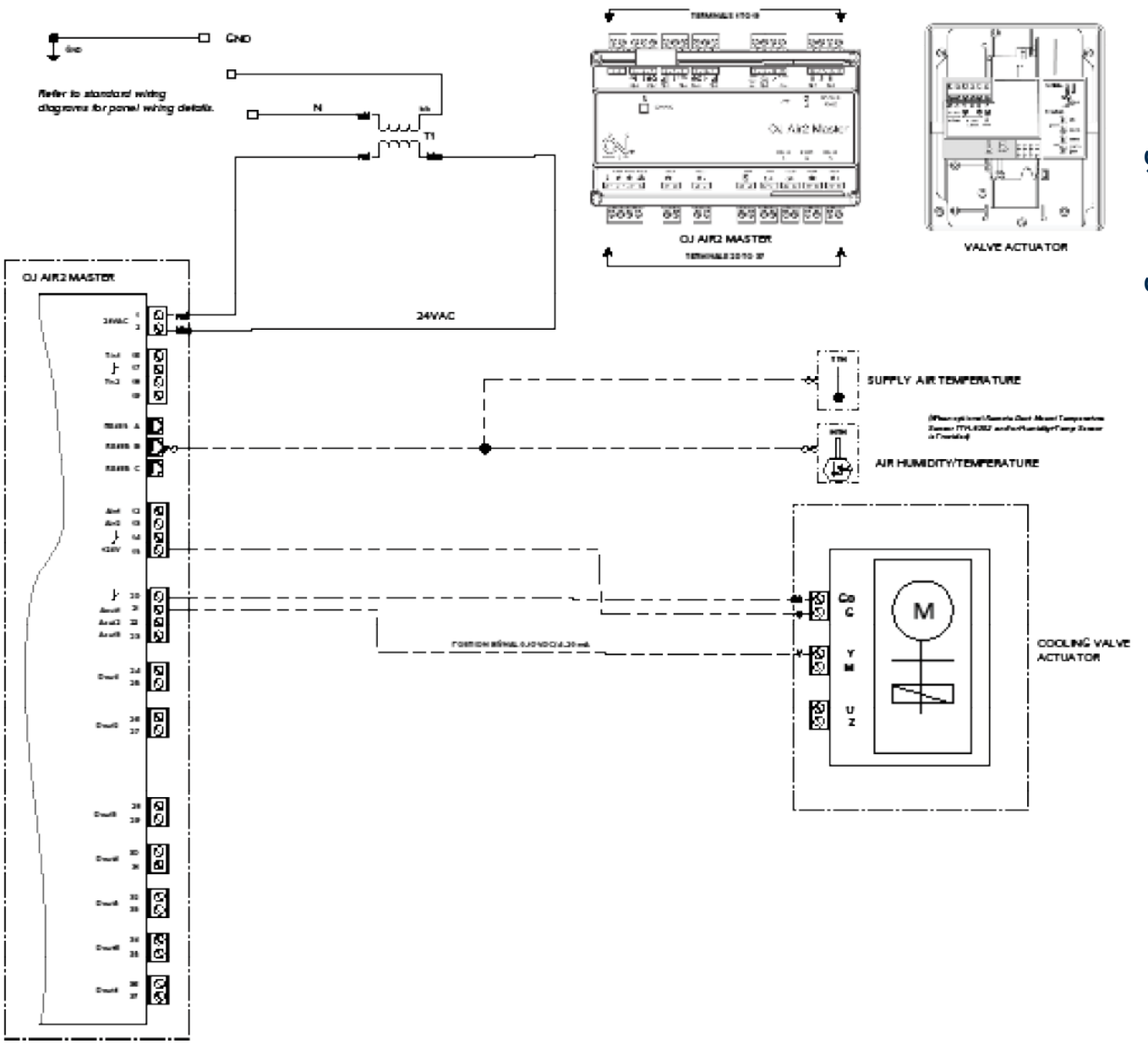
NOTE: *Refer to standard wiring diagrams for default controls wiring.*

Legend



DRAWN BY: IP	OXYGEN 8		
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING/ELECTRIC PRE-HEAT		
REVISION: 1.0	DRAWING NUMBER: 028-05-0012-03		CONTROLLER: OJ
DATE: 2021-04-20	SCALE: NTS	SIZE: 8" x 11.5"	SHEET: 1 of 1

Wiring Diagram



Controller Details

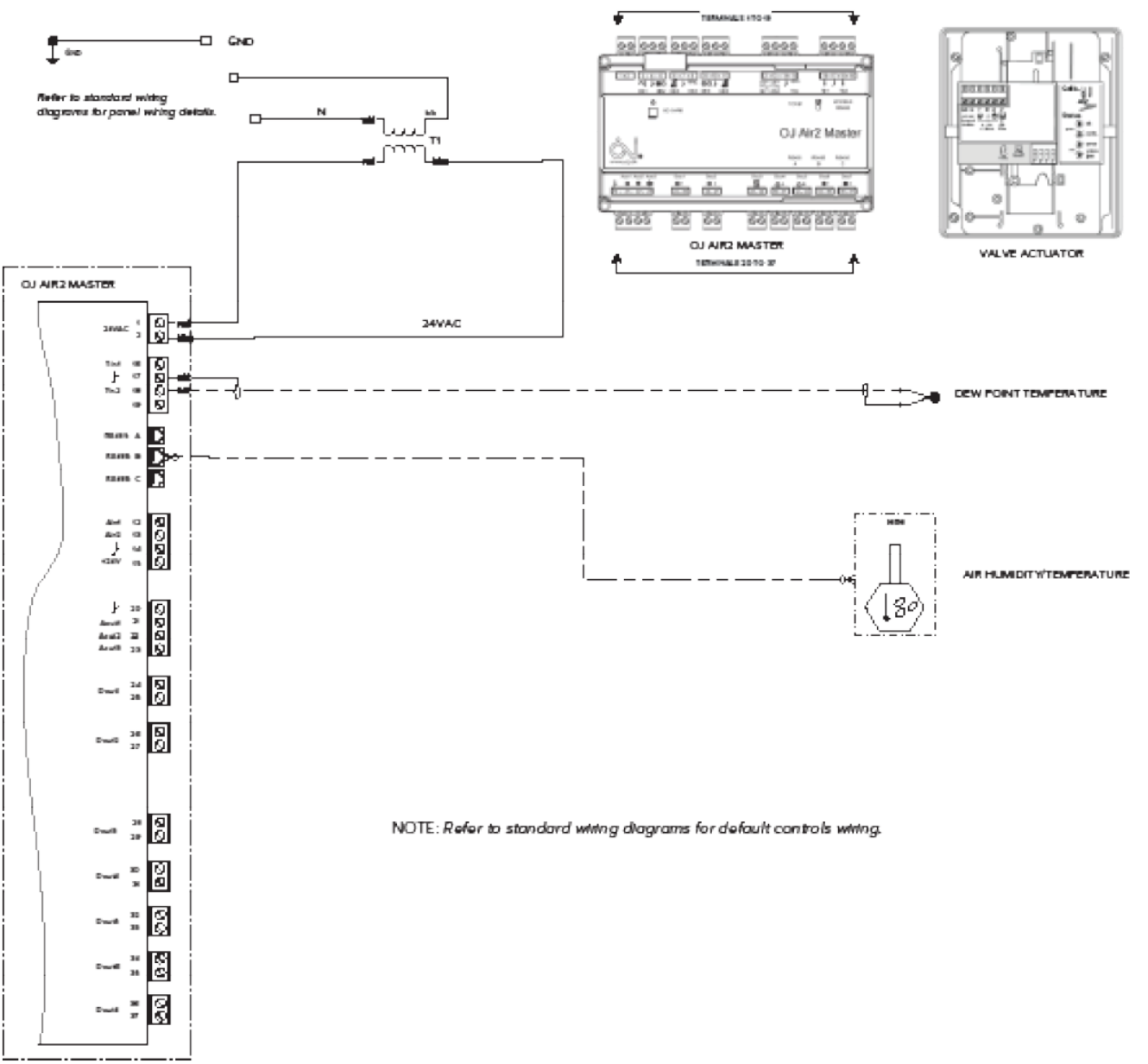
NOTE: *Refer to standard wiring diagrams for default controls wiring.*

Legend

- Factory wired
- Communication/ RJ12
- Enclosed unit
- Field wiring required

DRAWN BY: IP	OXYGEN8
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING/HYDRONIC COOLING WATER COIL
REVISION: 1.0	DRAWING NUMBER: 028-05-0012-04 / CONTROLLER: OJ
DATE: 2021.04.20	SCALE: NTS / SIZE: 21 x 41.5 / SHEET: 4 of 4

Wiring Diagram



NOTE: *Refer to standard wiring diagrams for default controls wiring.*

Controller Details

VALVE ACTUATOR

Legend

Factory wired

Communication/ RJ12

Enclosed unit

Field wiring required

DRAWN BY: IP	OXYGEN8
APPROVED:	DRAWING TITTLE: NOVA/ FIELD WIRING/HUMIDITY CONTROL
REVISION: 1.0	DRAWING NUMBER: 028-05-0012-05 / CONTROLLER: OJ
DATE: 2021.04.22	SCALE: NTS / SIZE: 8" x 11.5" / SHEET: 1 of 1