Intelli-Hood®

INSTALLATION MANUAL

Melink®

Melink Corporation (513) 965-7300 www.melinkcorp.com

P/N 203-3103
Revision 191107

Intelli-Hood®

Table of Contents

Tools & Materials Required

Tools Required

- Drill and Drill Bits (Cobalt is best for stainless steel) - bit sizes: 1/8” & 1/4”
- Hole Cutter or Punch for Stainless Steel with cutter sizes: 1-1/2” & 1-1/8”
- Adjustable Pliers and Adjustable Wrench
- Screwdrivers - Straight & Phillips, Large and Small
- Wire Cutter and Wire Stripper
- Measuring Tape and Level
- Step Ladder

Materials Required

- Suitable fasteners for mounting the System Controller and Variable Frequency Drive (VFD)
  - hollow cinder block (3/16” toggle bolts)
  - concrete or filled cinder block (lead anchors 1/2” dia. with 1/4” x 1-14” lag screws)
  - drywall (3/16” toggle bolts)
  - plywood (#8 X 1-1/4” wood screws)
  - metal back-plate (#8 X 1-1/4” sheet metal screws)
- Conduit and wire for wiring the System Controller and VFDs

Note: All high voltage wiring to be completed by trained service personnel. (Local code may require a licensed electrician.)

System Controller Models

- There are two models of System Controllers. Installation is identical for both models.

Model	Number of Hood Network Ports	Auxiliary Input Module Capability?	BACnet TCP/IP Capability?
System Controller (SC)	4	Yes	Yes
System Controller Lite (SC-L)	2	No	No

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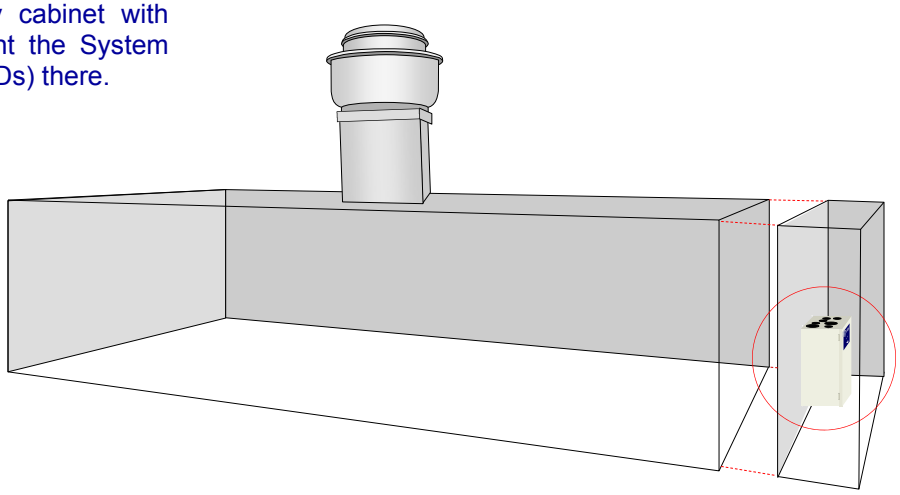
STEP 1

Install System Controller

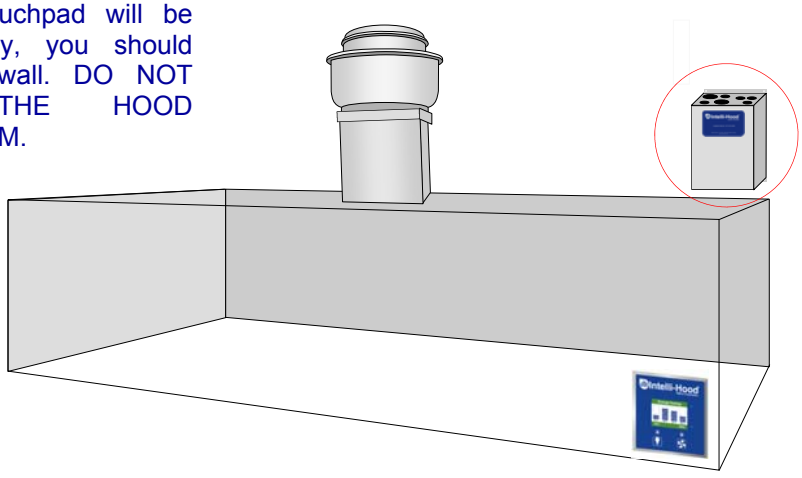
A

Select System Controller Location

For new construction, the hood manufacturer typically provides a utility cabinet in which to mount the System Controller. If the hood has a utility cabinet with extra space, mount the System Controller (and VFDs) there.



For retrofits, the System Controller is typically mounted above the hood. Select a location that is easily accessible and close to where the Touchpad will be mounted. Ideally, you should secure it to a wall. DO NOT PENETRATE THE HOOD EXHAUST PLENUM.



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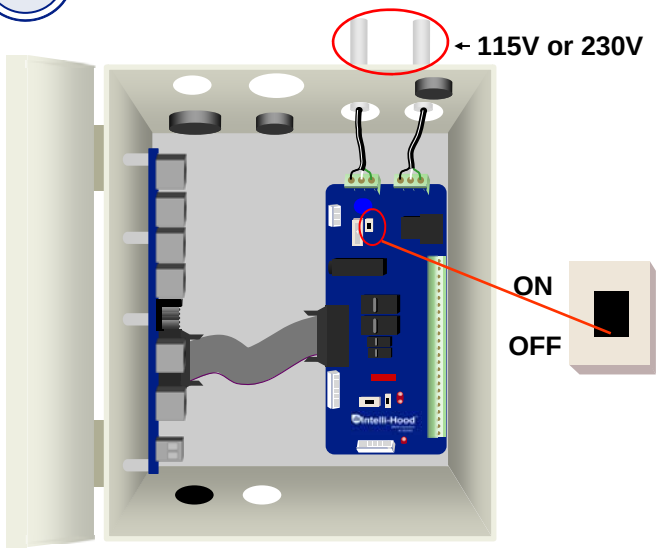
STEP 1

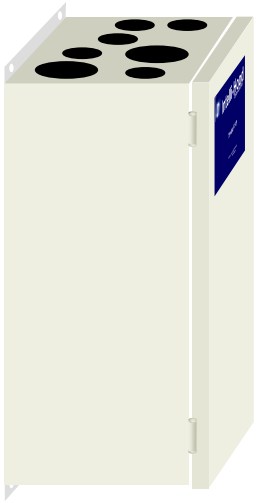
Install System Controller

B Turn Off Power Switch



Turn OFF the System Controller power switch before wiring. Also turn off the breaker feeding this circuit.

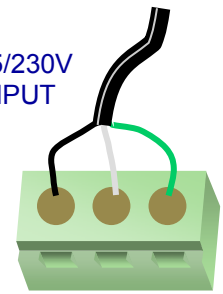
C Wire System Controller



For both New Construction & Retrofits, wire the System Controller using the hood light circuit. The circuit must be 115V to 230V, at 50-60Hz. Maximum input current is 17A.

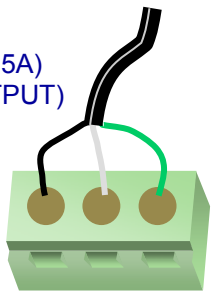
D Wire Connections Inside System Controller

115/230V INPUT



L N G

115/230V (15A) LIGHTS (OUTPUT)



L N G

Wire gauge per NEC; allowable size range is 16AWG to 12AWG.

Retrofits:
It is not required to use these output terminals if there are other provisions in place to control the hood lights. Note that output voltage will be the same as the input voltage.

Tungston Output Rating:
8A @ 120V
5.4A @ 240V

New Construction & Retrofits:
Main Input Power
from Hood Light Circuit
115-230 VAC @ 50/60Hz; 17A Max

New Construction:
Outgoing Power to Hood Lights
Output Voltage Matches Input
15 Amps max

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STEP 2

Install Variable Frequency Drive

A

Verify Variable Frequency Drive Wiring

For new construction, the Intelli-Hood includes a Variable Frequency Drive or VFD for each kitchen exhaust and make-up air fan. This type of starter is for use with 3-phase motors only. It not only turns the fans on and off, but also varies the speed of the motors by varying the output frequency and voltage. Therefore, you do not need a conventional magnetic motor starter with our system. **Caution**: If you have a tempered make-up air unit, then the control circuit for the heating system must be fed by a separate power source and NOT from the VFD! The output of the VFD must be wired to the motor ONLY and NOT to a transformer or any part of a control circuit!

If there is a make-up air unit, then the VFD for this unit must be interlocked with the fire suppression switch. This is typically done by using a shunt-trip breaker to power the System Controller so it loses power upon fire system activation, but it can also be accomplished on a per-drive basis by connecting a Normally Closed (NC) micro-switch contact on the fire suppression system directly to the drive on designated terminals (01 and 11 for Allen-Bradley and 10 and 16 for ABB). **Caution**: With variable frequency drives, there must be a separate conduit run for the output of each VFD (inputs may be run together if desired). If this is not done, there is a strong probability of problems due to line interference and inaccurate motor control.

For retrofits, the only difference between new construction and retrofits is that on retrofits you will already typically have conventional magnetic motor starters installed. In most cases, it is recommended that you install the VFD on the output side of the existing starters. This will enable the cooks/chefs to use the existing hood fan (and light) switch(es) and not have to change their habits. This will also allow you to keep the existing circuit intact between the magnetic starter for the make-up air unit and the fire suppression micro-switch. **Caution**: If there is an adjustable overload on the existing starter, it is strongly recommended that the overload be removed as these devices often prematurely trip when a VFD is on the circuit (even if the drive is on the load side).

All wiring must comply with the National Electric Code (NEC and local code requirements.

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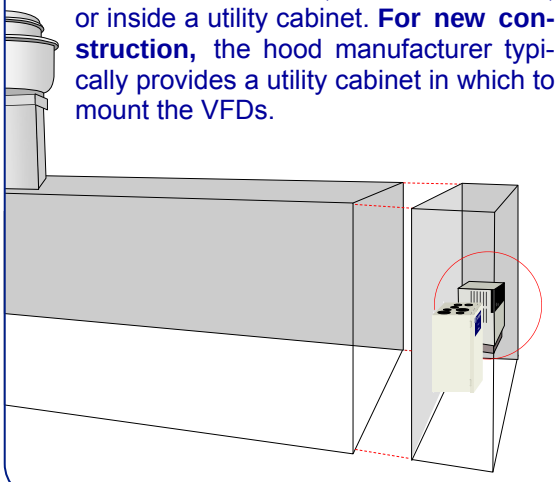
STEP 2

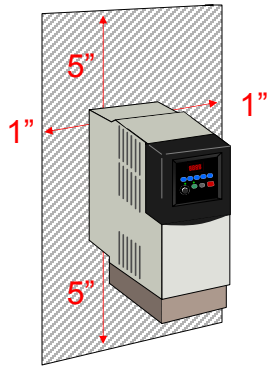
Install Variable Frequency Drive

B Select VFD Location

For retrofits, each VFD is typically mounted on the output side of the existing motor starter, which is often located in an electrical room, above the hoods, or inside a utility cabinet. **For new construction,** the hood manufacturer typically provides a utility cabinet in which to mount the VFDs.

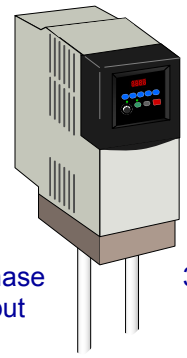


C Check VFD Location



The location must be relatively free of dirt, grease, and water. The ambient temperature must be between +14 degrees F and +122 degrees F. There should be 5” of clearance on the top and bottom and 1” on the sides for adequate ventilation/cooling.

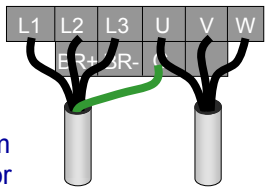
D Mount VFD



Mount each VFD with appropriate fasteners.

Then install separate conduit for the input and output power wiring to prevent electrical interference between the conductors.

E Wire VFD



3-phase input from breaker or magnetic motor starter

3-phase output to fan motor

Remove the VFD top cover and connect the line voltage wiring to the VFD input power terminal block as shown above. Then connect the output power from the terminal block to the respective fan motor on the roof. The ground wire must be a minimum of 14 AWG and as short as possible. The output wiring for each VFD MUST be in a separate conduit run.

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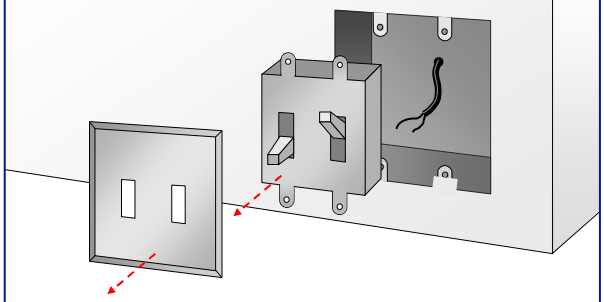
STEP 3

Install Touchpad

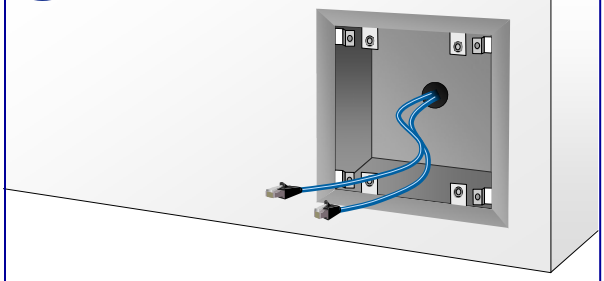
A Remove Existing Switches



Before removing the switch cover plate, turn off the circuit breaker.

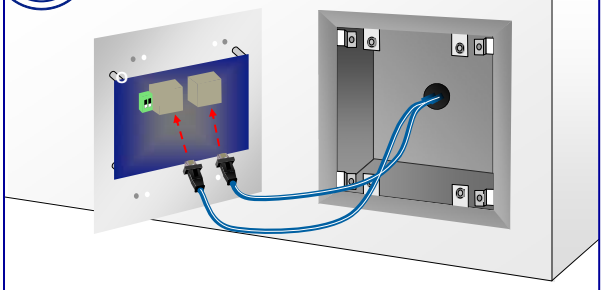
For retrofits, if you want to replace the existing fan and light switch with our Touchpad, remove these switches from the junction box. Then remove the existing wires to make room for the Touchpad Cable.

B Run Touchpad Cable



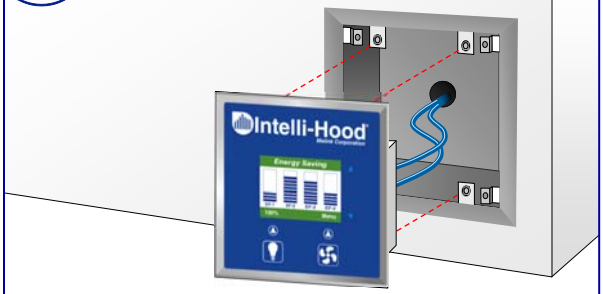
Run the Touchpad Cable inside the existing conduit and leave approximately 5 inches of slack inside the junction box. You will connect the other end of the Cable to the System Controller in Step 9.

C Plug In Cable



Plug the connector into the receptacle on the back of the Touchpad.

D Mount Touchpad



Mount the Touchpad to the junction box and secure the cover plate by snapping it on. Complete by applying silicone caulk to the outside edges to prevent liquid intrusion behind the cover plate.

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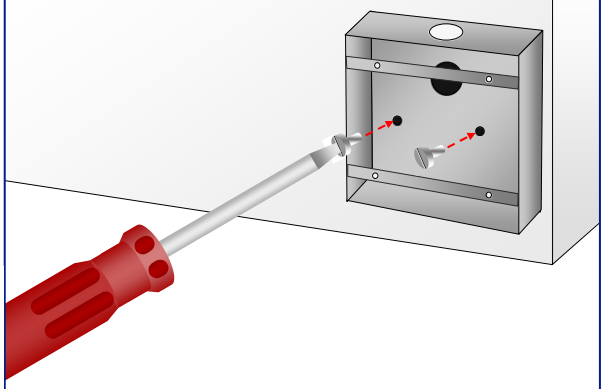
ALTERNATE 3

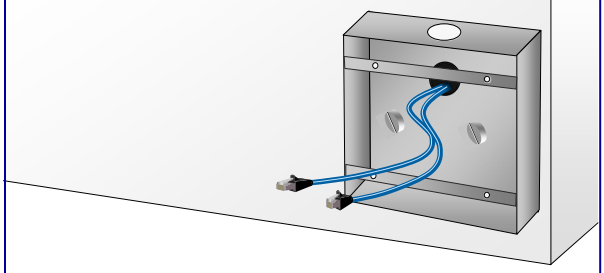
Install Touchpad

A Install Surface Mount Box



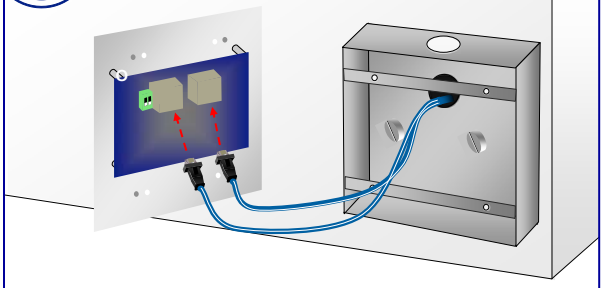
Install the Surface Mount box by attaching screws through the holes provided inside the box. If possible to bring cable in through the wall behind the box, first drill a 1” hole in the wall. If not, install 3/4” conduit stubbed up above the ceiling for the cable run.

B Run Touchpad Cable



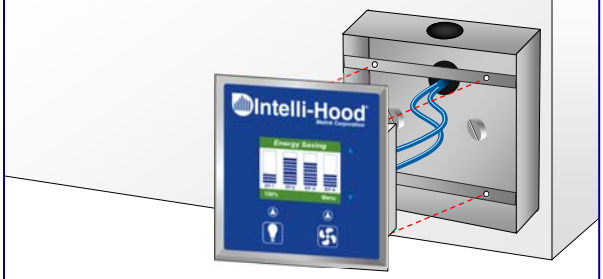
Run the Touchpad Cable inside the 3/4” conduit or through the back of the box and leave approximately 5 inches of slack inside the junction box. You will connect the other end of the Cable to the System Controller in Step 9. If another device will be installed downstream of the Touchpad, run two cables.

C Plug In Cables



Plug the connector(s) into the receptacle on the back of the Touchpad.

D Mount Touchpad



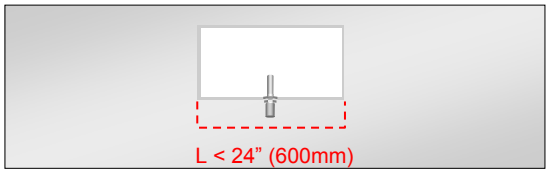
Mount the Touchpad to the junction box and secure the cover plate by snapping it on.

STEP 4

Install Exhaust Temperature Sensor

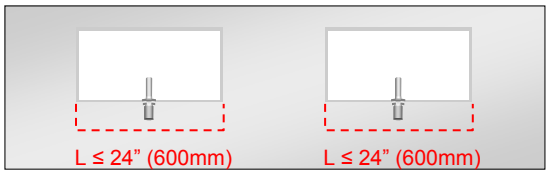
A Determine Number of Sensors

Install one (1) Temperature Sensor per exhaust duct, if the length of the duct is less than 24". In most cases this will mean one Temperature Sensor per hood.



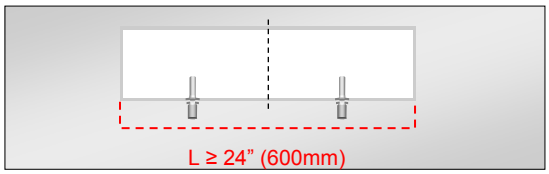
Hood 1 (Top View)

In some cases, this will mean two Temperature Sensors per hood.



Hood 2 (Top View)

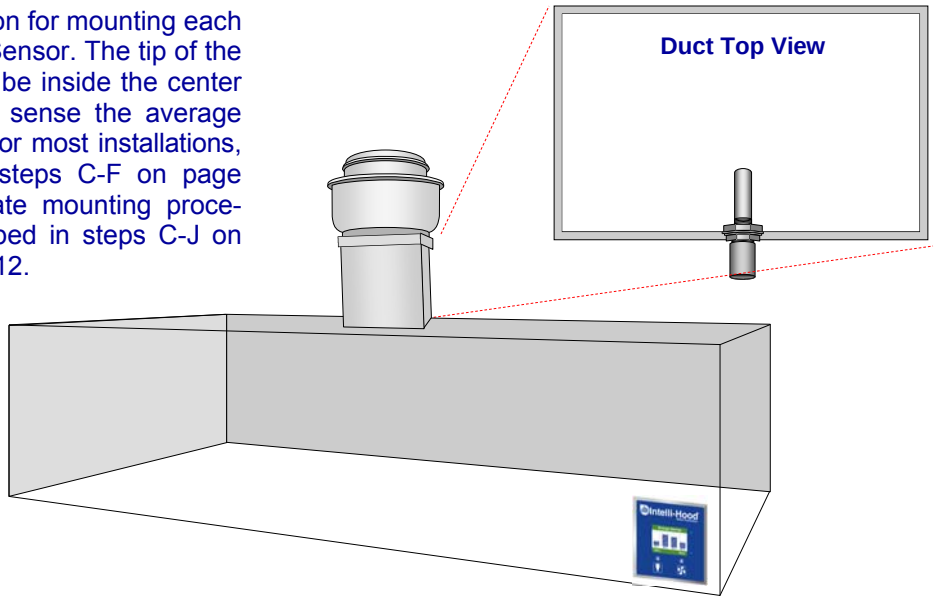
If the length of the duct is more than 24", then install two Temperature Sensors in order to obtain a better average reading.



Hood 3 (Top View)

B Select Location for Mounting Sensor

Select a location for mounting each Temperature Sensor. The tip of the sensor should be inside the center of the duct to sense the average temperature. For most installations, proceed with steps C-F on page 10. An alternate mounting procedure is described in steps C-J on pages 11 and 12.



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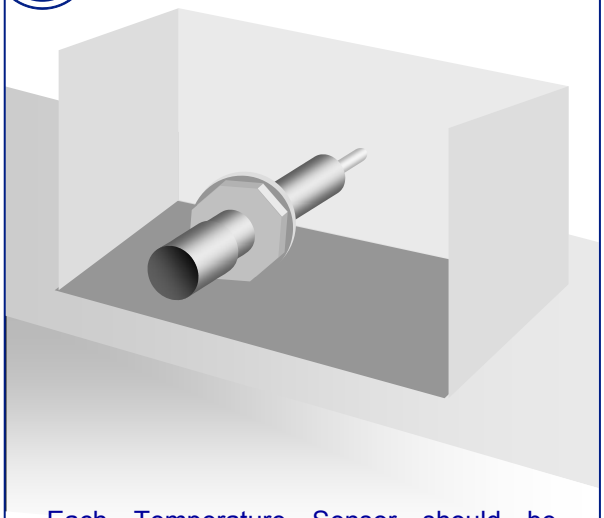
STEP 4

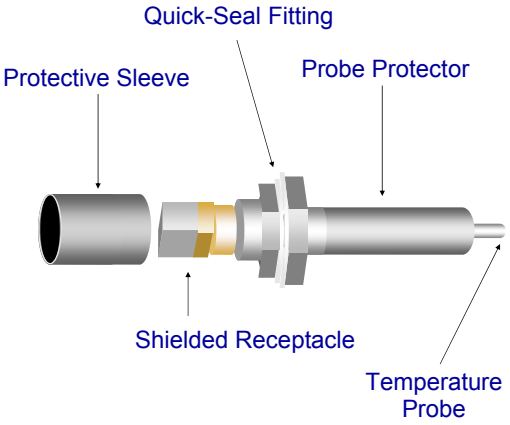
Install Exhaust Temperature Sensor

C Select Location on Duct

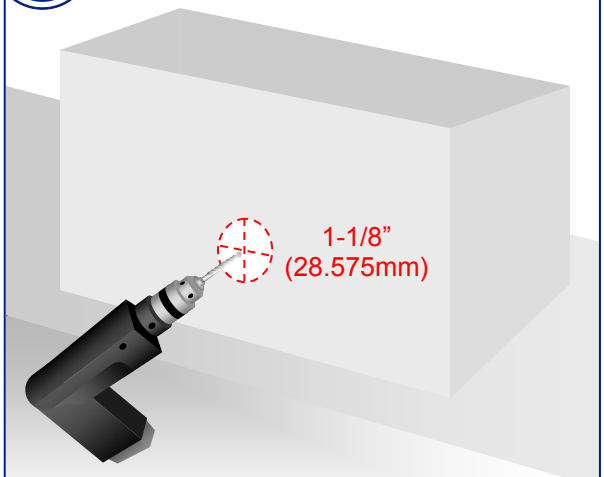


Each Temperature Sensor should be located as closely to the top of the hood as possible for easy access and cleaning.

D Side View of Sensor

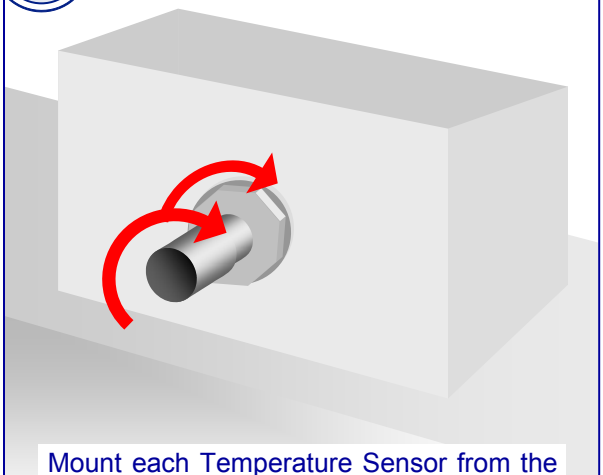


E Drill Hole in Duct



Drill or punch a 1-1/8” (28.575mm) diameter hole at the proper location for each Temperature Sensor.

F Mount Sensor

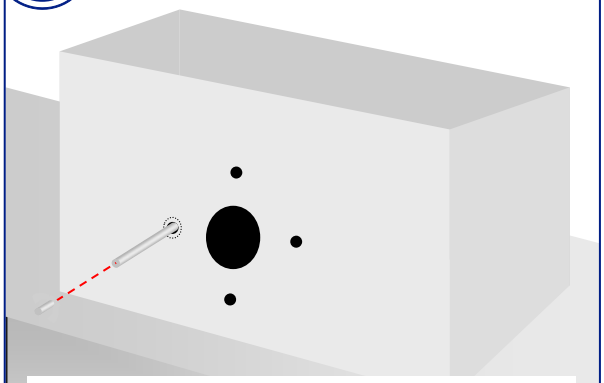


Mount each Temperature Sensor from the inside of the duct. Insert the lock washer and tighten the nut from the outside of the duct, then re-attach protective sleeve and strain relief.

ALTERNATE

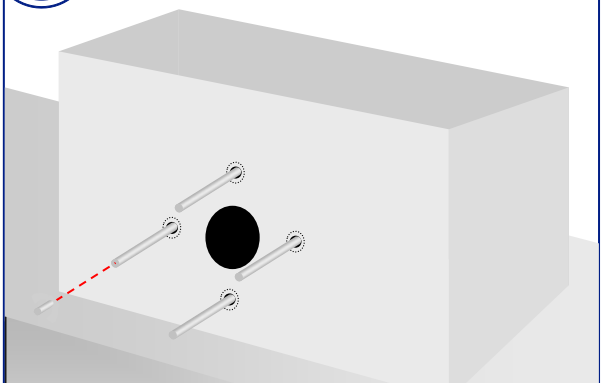
4 Install Exhaust Temperature Sensor

A Insert Studs



By reaching into the 2-1/4” hole, insert the stud into the 3/16” hole from inside the duct so that the threaded end is protruding outward. Tighten the wing nut onto the stud until its self-clenching base is securely wedged into the hole. Repeat this step for the other studs.

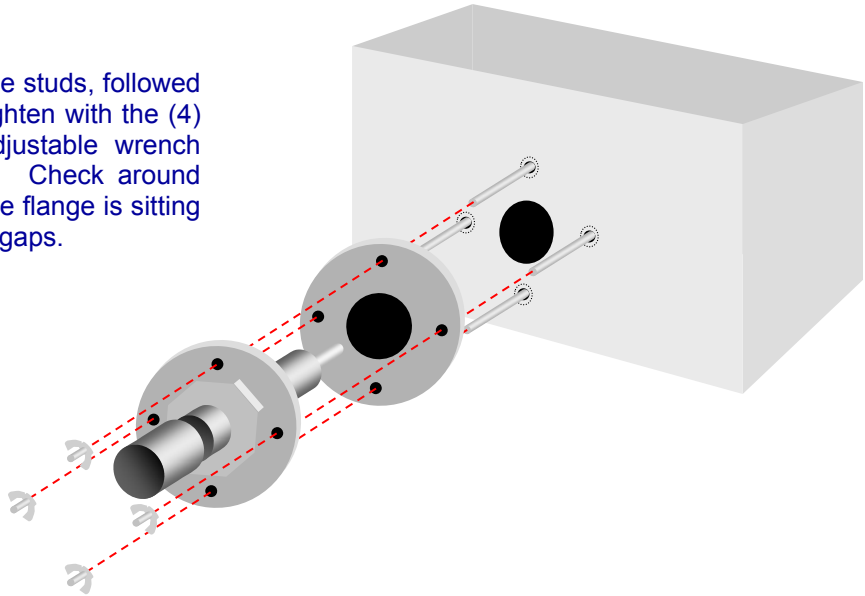
B Tighten Studs



Remove wing nut from each stud. Check to be sure that all the studs are securely wedged into each hold. If any feel loose, re-tighten the wing nut onto the stud using a wrench. Remove all remaining wing nuts.

C Mount Sensor

Place the gasket over the studs, followed by the flange fitting. Tighten with the (4) wing nuts using an adjustable wrench until the unit is secure. Check around the seal to make sure the flange is sitting flush to the duct with no gaps.



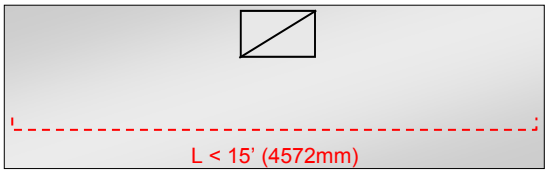
STEP 5

Install Canopy Sensor

A

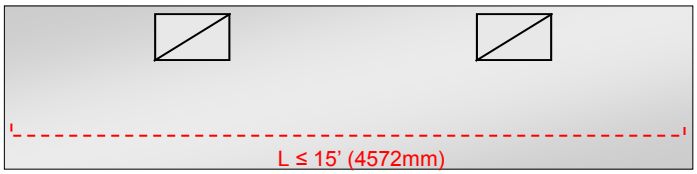
Determine Number of Sensors

Install one (1) Temperature Sensor per hood, if the length of the hood is less than 15'. In most cases this will mean one Temperature Sensor per hood.



Hood 1 (Top View)

In some cases, this will mean two Temperature Sensors per hood.

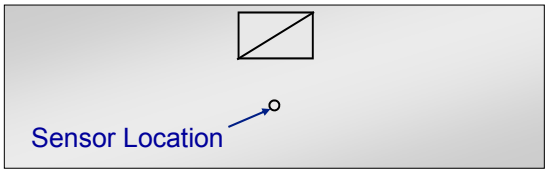


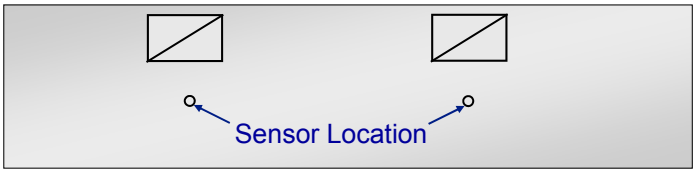
Hood 2 (Top View)

B

Select Location for Mounting Sensor

Select a location for mounting each Temperature Sensor. For hoods <15', the sensor should be close to the center of the canopy. Be careful to avoid installing the sensor next to incandescent light bulbs as they can adversely affect accuracy of the sensor. Proceed with steps C-F on page 14.





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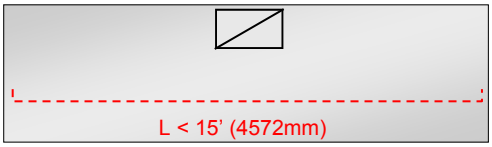
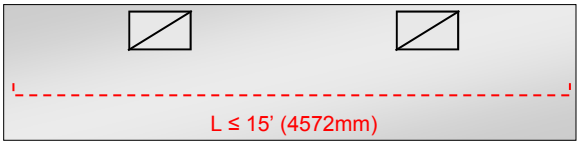
STEP 5

Install Canopy Sensor

C Select Location on Roof of Hood

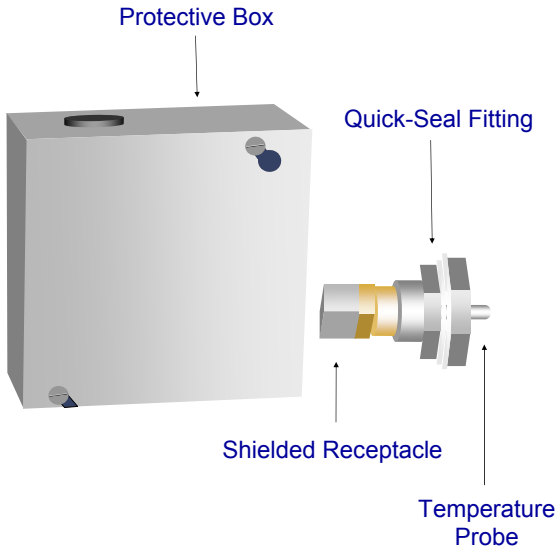


Hood 1 (Top View)

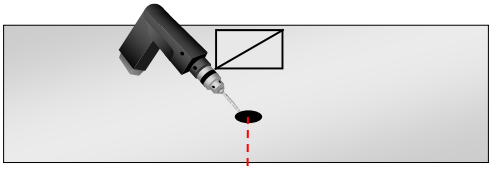


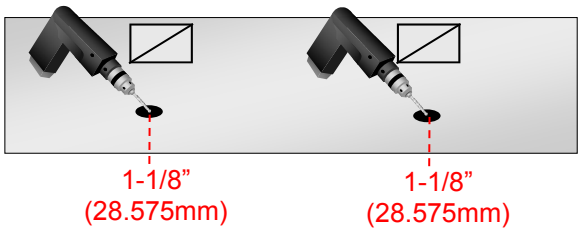
Hood 2 (Top View)

D Side View of Sensor

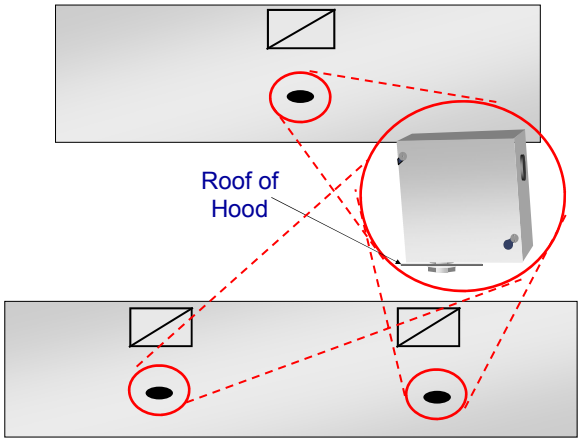


E Drill Hole in Roof of Hood





F Mount Sensor



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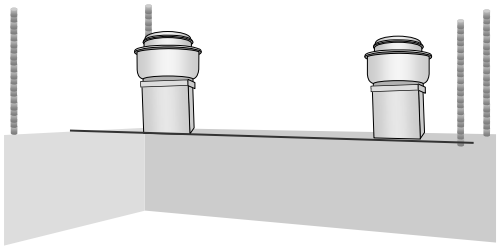
STEP 6

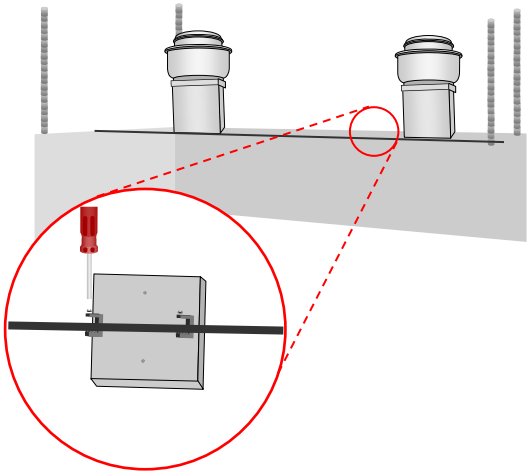
Install Hood Controllers

A Select Hood Controller Location

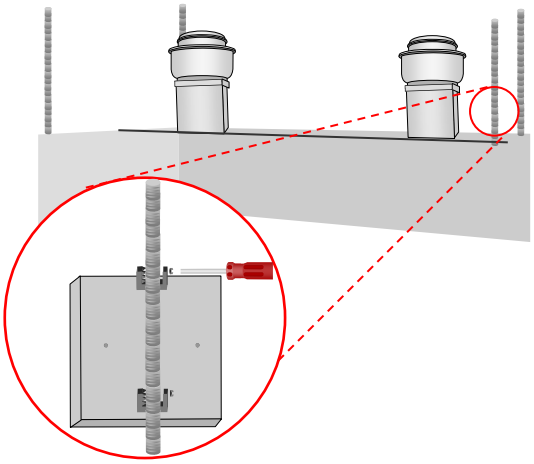


Select a location from the following four options for mounting each Hood Controller. The best way will vary based on conditions at each hood.

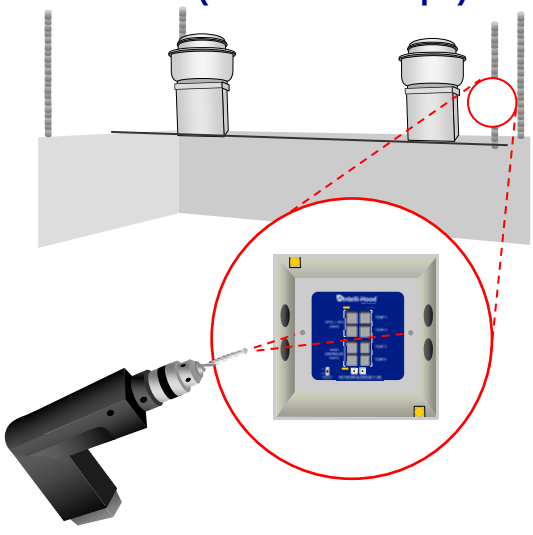
B Option 1: Secure Hood Controller to Standing Seam



C Option 2: Secure Hood Controller to All-Thread



D Option 3: Secure Hood Controller By Bolting to Wall (Remove Clamps)



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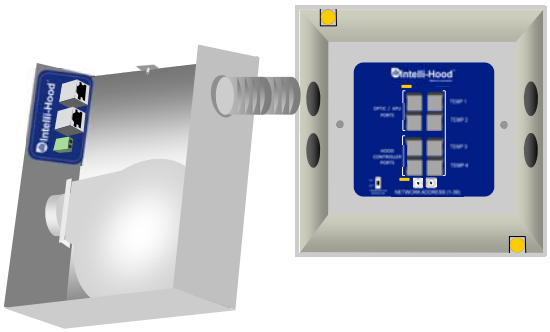
STEP 6

Install Hood Controllers

E Option 4: Secure Hood Controller with Pass-Thru Nipple to APU



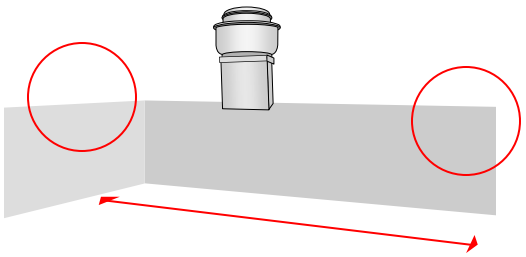
F Re-Attach Lid of Hood Controller

G Re-Attach Lid of Hood Controller

STEP 7

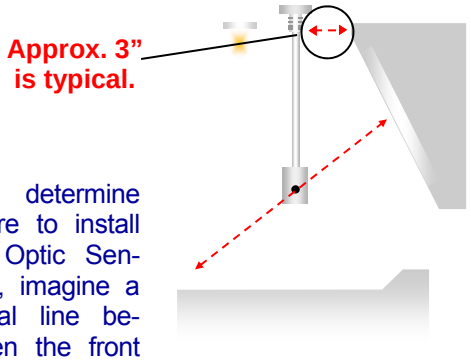
Install Optic Sensors

A Check Hood



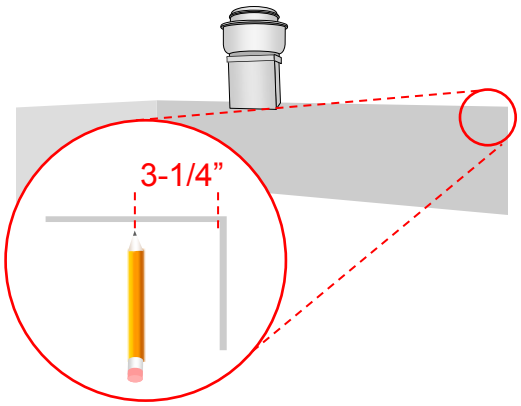
Make sure there are no obstructions at least 10” (254mm) from where you need to penetrate the top of the hood. Also, make sure the location will not cause the Optic Sensor beam to be obstructed by anything, such as fire suppression piping.

B Select Sensor Locations



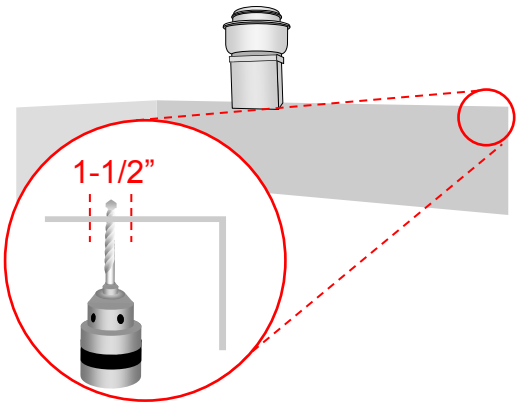
To determine where to install the Optic Sensors, imagine a virtual line between the front of the cooking surface and the middle of the hood filters. The Optic Sensors should be mounted along that virtual line inside the ends of the hood. (This is typically about 3” from where the fitter bank meets the top of the hood.) Also, the Optic Sensors must be mounted directly across from each other.

C Mark Hole Locations



The hole locations need to be centered 3-1/4” (83 mm) from the **inside** ends of the hood. Drill a small pilot hole to mark these exact locations.

D Drill Holes in Hood



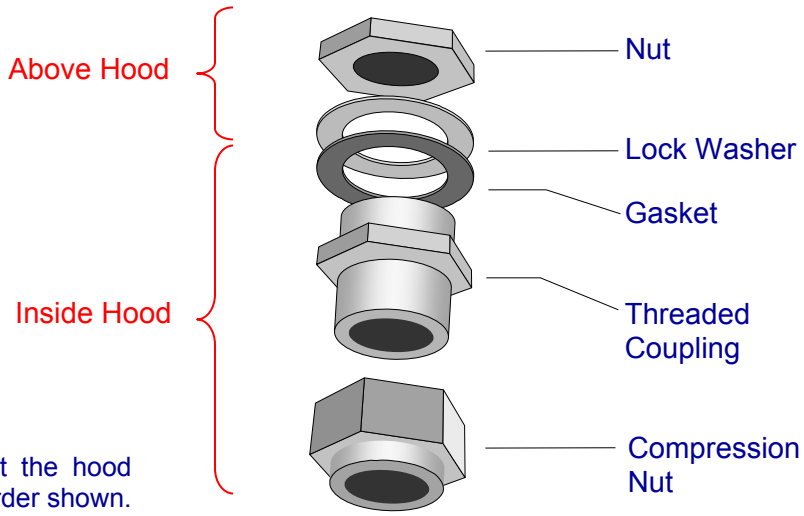
Then drill or punch a 1-1/2” (38mm) hole at these same locations.

STEP 7

Install Optic Sensors

E

Install Fittings

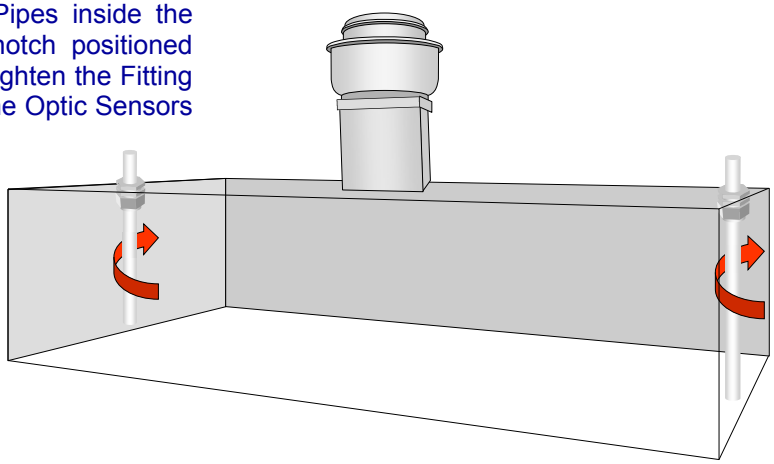


Install the Fittings at the hood penetrations in the order shown. Provided UL Listed fittings must be used.

F

Install Purge Pipes

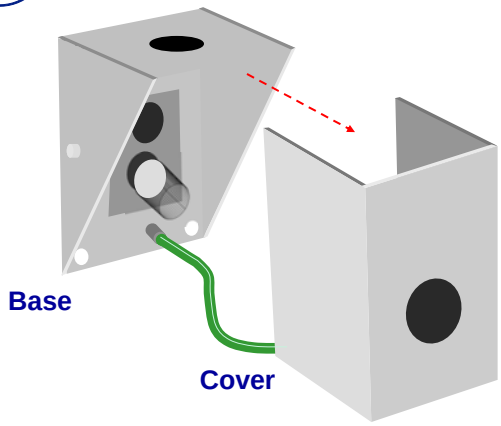
Insert the Purge Pipes inside the Fittings with the notch positioned above the hood. Tighten the Fitting temporarily, until the Optic Sensors are mounted.



STEP 7

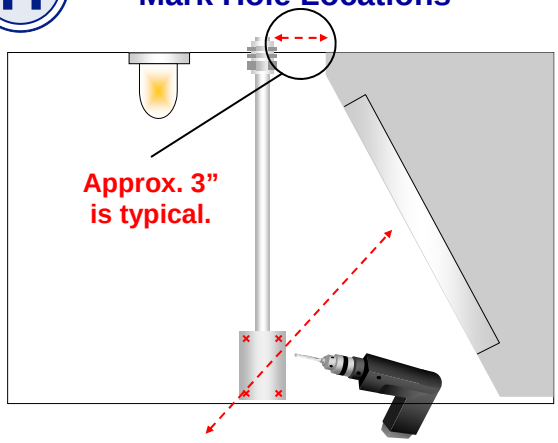
Install Optic Sensors (Optic Enclosures)

G Disengage Optic Sensors



Disengage the cover from the base on each Optic Sensor. One has a circuit board labeled 'Emitter', and the other is labeled 'Receiver'.

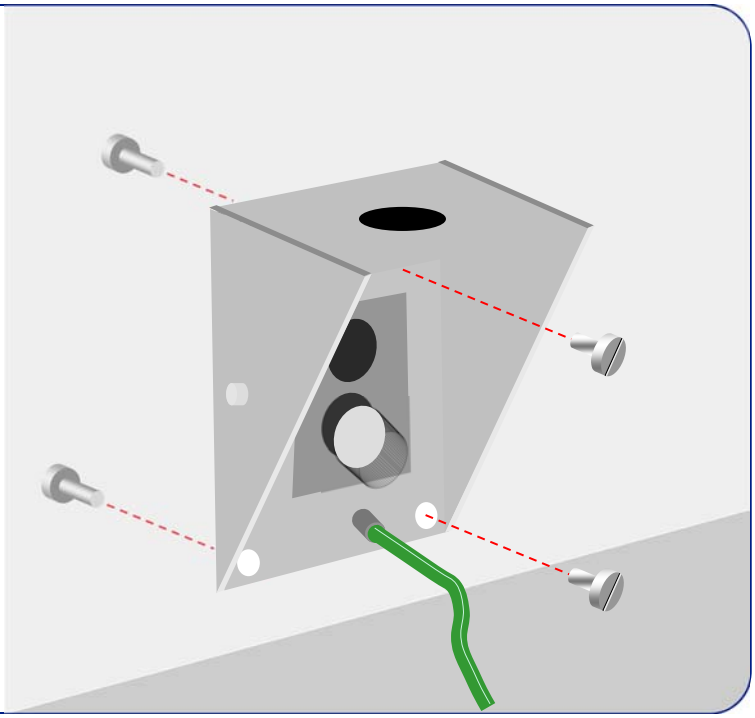
H Mark Hole Locations



Use the base of each Optic Sensor as a template to mark the location for two mounting holes. Be sure to locate the Optic Sensor in the virtual line mentioned in step 5-B. Drill 3/16" holes.

J Mount Optic Sensor Base

Mount the base with two stainless steel screws. The screws can be located inside or outside of the hood, depending upon the location of the hood. If the hood is located against a wall, then self-tapping screws from the inside must be used. If the hood is not located against a wall, then use the machine screws, washers and nuts provided.

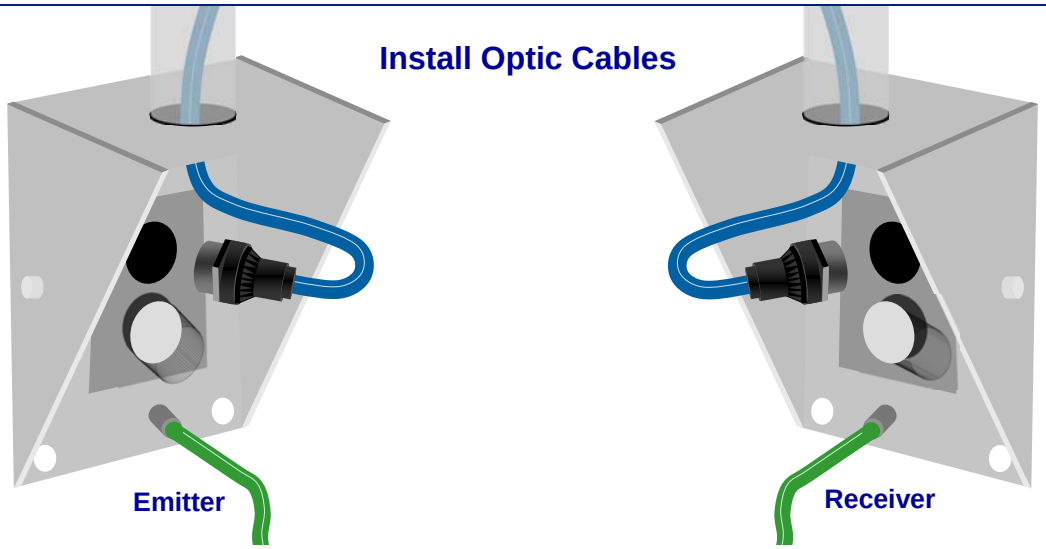


STEP 7

Install Optic Sensors

K

Install Optic Cables

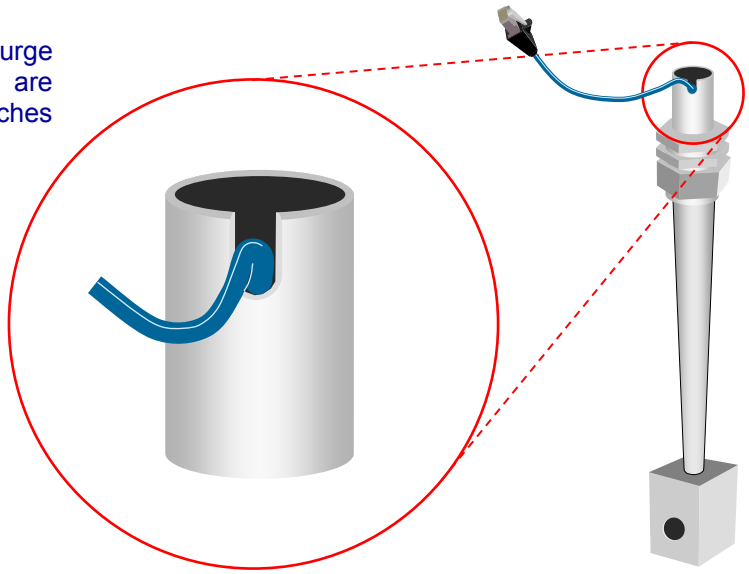


Remove the Optic Cables from the box. Insert the end of one cable with the small anti-snag boot up through the purge pipe from the optic housing with the Emitter Board. Plug in the cable end with the round connector and push any excess slack up the purge pipe. Mount the cover onto the base. Repeat with Receiver Board.

L

Run Cable Up Purge Pipes

Run the cables up each Purge Pipe and verify that they are located inside the notches before installing the APUs.



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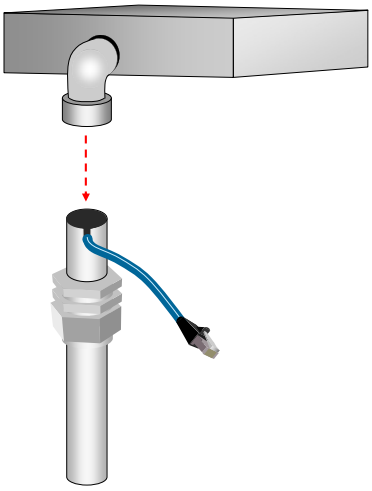
STEP 8

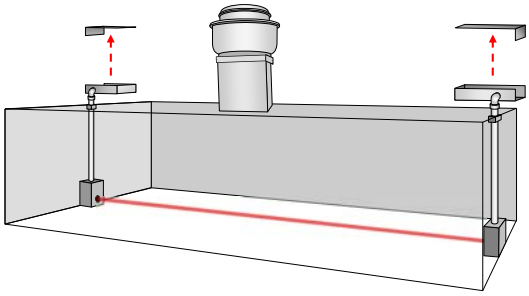
Install Air Purge Units

A Attach APU to Purge Pipe



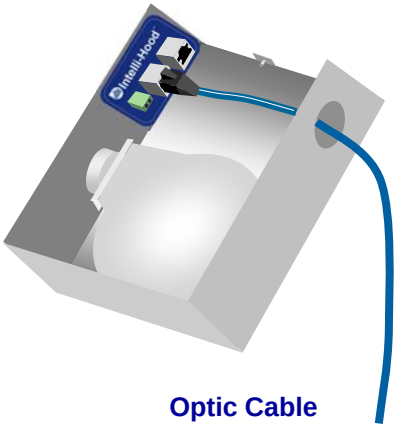
Attach an APU to each Purge Pipe and tighten the compression fitting.

B Remove APU lids



Remove the lids from each APU box to prepare for step 7.

C Plug In Optic Cables



Optic Cable

Plug the Optic Cables into either receptacle on the header board inside each APU.

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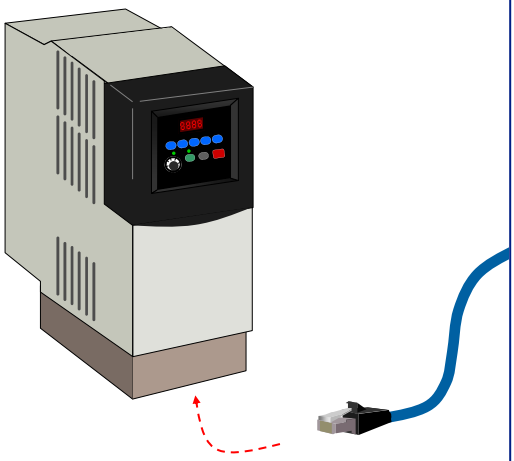
STEP 9

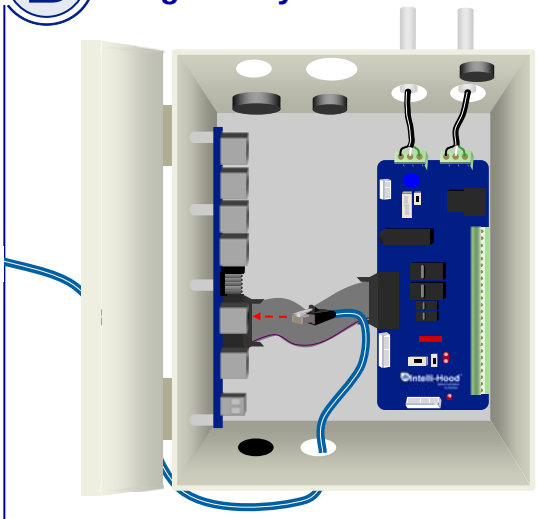
Install Cables (Variable Frequency Drive)

A Plug Cable Into VFD



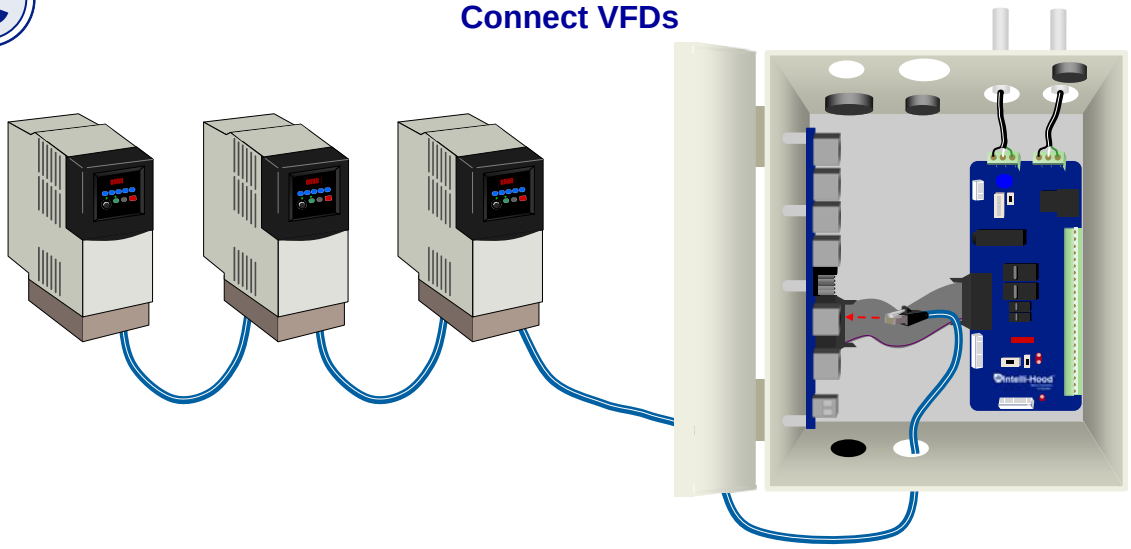
Remove a cable from its package and plug one end into the receptacle on the bottom of one VFD.

B Plug Into System Controller



Then plug the other end of the cable into the receptacle marked 'VFD' on the side of the System Controller.

C Connect VFDs



If you have multiple VFDs, plug the remaining VFDs to one another with additional cables, keeping only one VFD plugged to the System Controller.

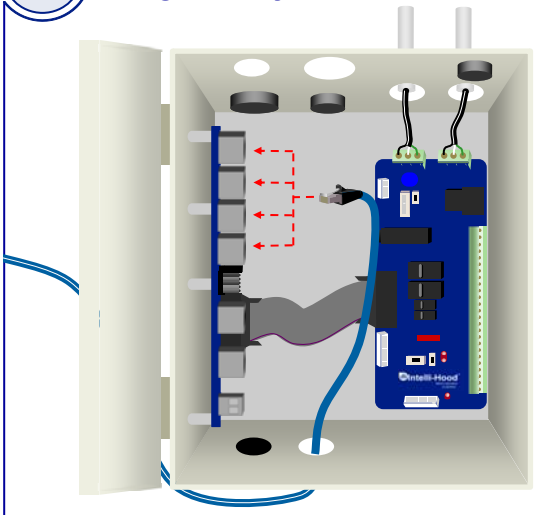
STEP 9

Install Cables (Touchpad)

D Find Touchpad Cable

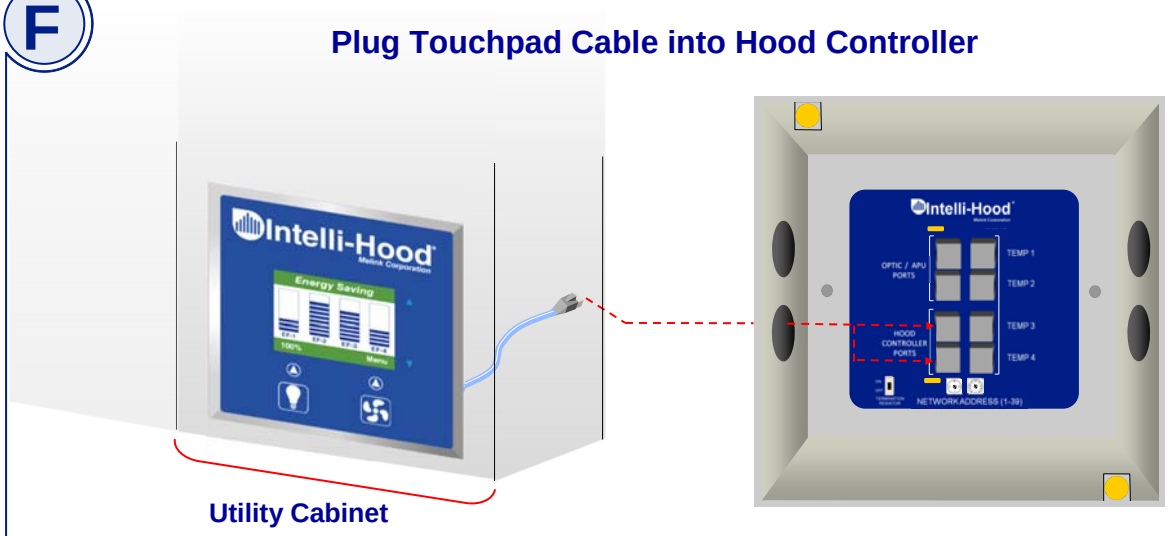
Inside the Utility Cabinet, take the Touchpad Cable already connected on one end ...

E Plug Into System Controller



...and run it to the System Controller on the other side of the cabinet.

F Plug Touchpad Cable into Hood Controller

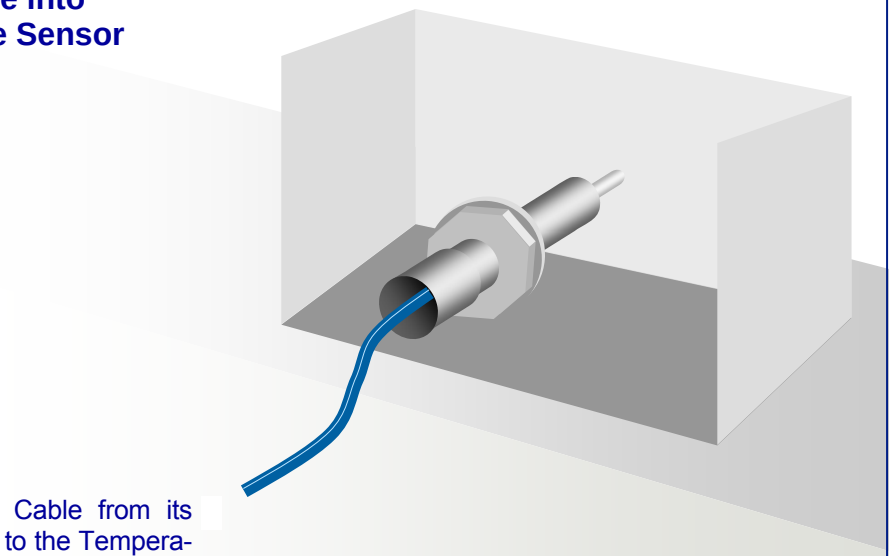


STEP 9

Install Cables (Temperature Sensor)

G

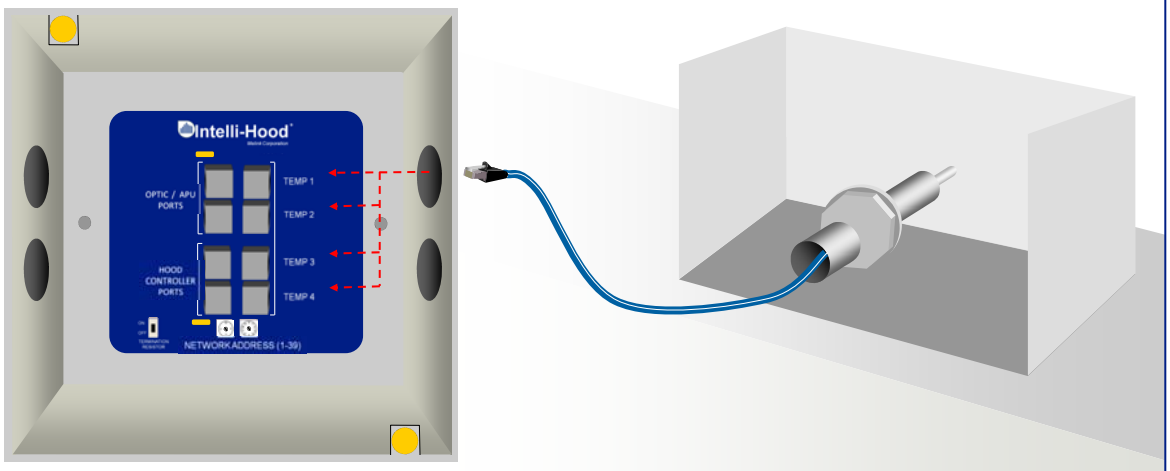
Plug Cable into Temperature Sensor



Remove the Temperature Cable from its package. Connect one end to the Temperature Sensor receptacle.

H

Plug Into Hood Controller



Connect the other end of the cable into a Temp port on the Hood Controller. Make sure to note which port each sensor is plugged into as they will be assigned via programming.

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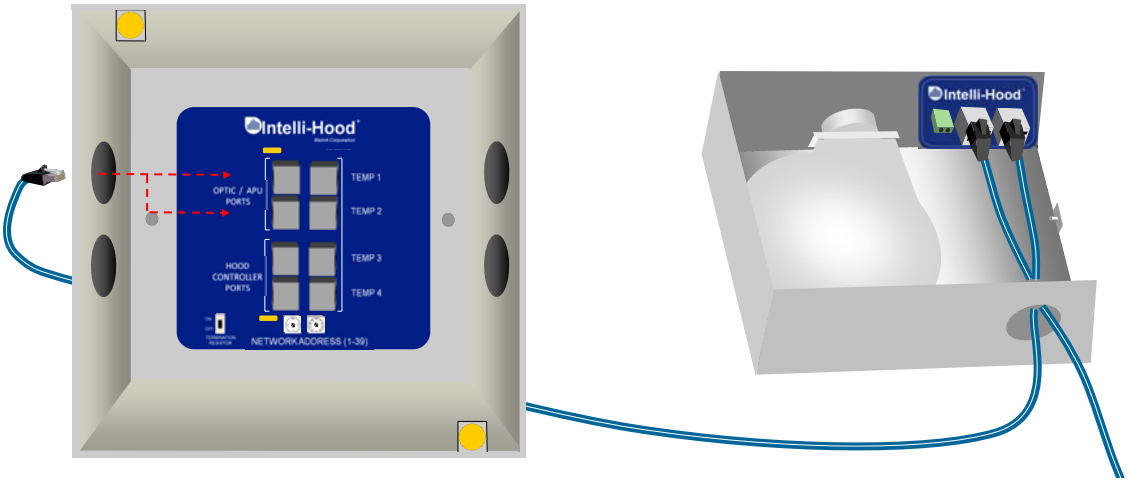
STEP 9

Install Cables (Hood Controller)

J

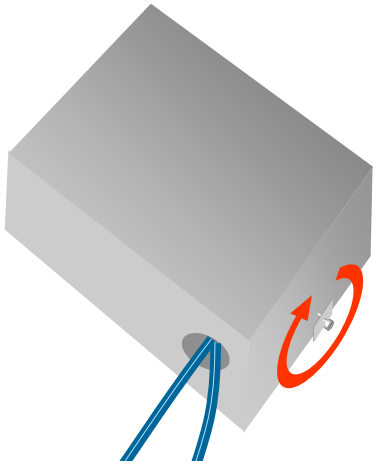
Plug Into Hood Controller



When optics are being used, plug a cable in between each APU box and the Optic /APU Ports on the Hood Controller...

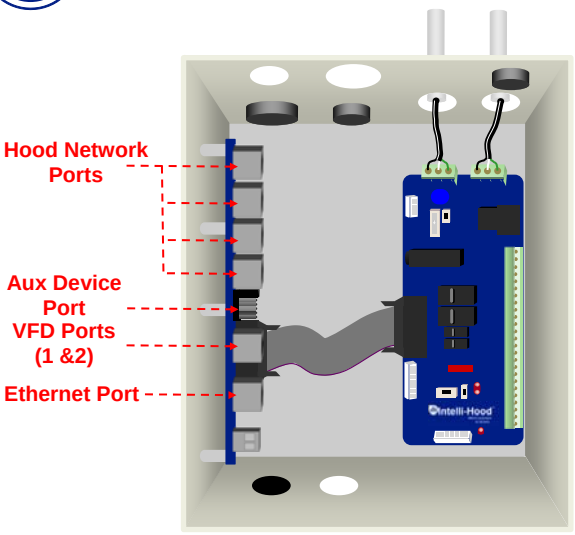
K

Secure APU Lid



...then replace the lid on the APU and tighten the thumbscrew. Repeat steps A-D for remaining hoods.

L

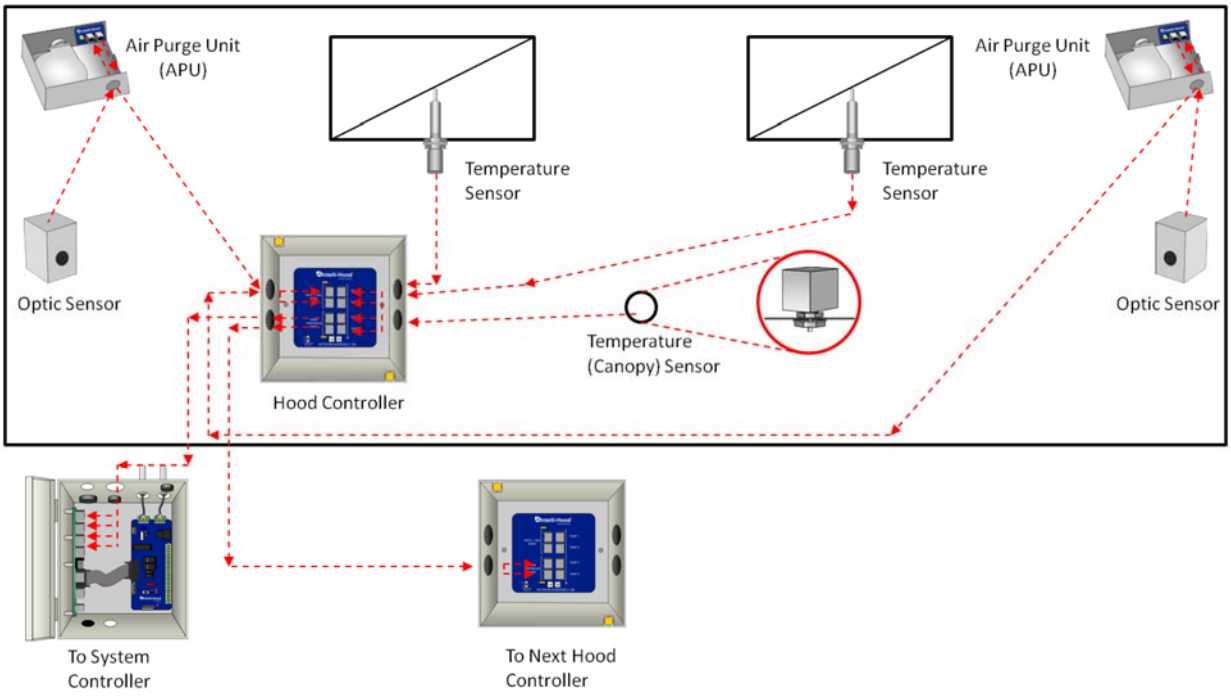


STEP 9

Install Cables (Hood Controller)

M

Possible Hood Layout



For each Hood Controller, the following sensors may be connected:

- One set of Optic Sensors
- Four Temperature Sensors (Programmable options for each sensor include Exhaust Duct, Hood Canopy, Supply Air, or Kitchen Space.)

The Hood Network has different types of devices. Refer to the Submittal and Technical Overview Document for general information regarding each of these devices. A System Controller can have several devices of each type connected to it. The possible quantities of each device are listed below.

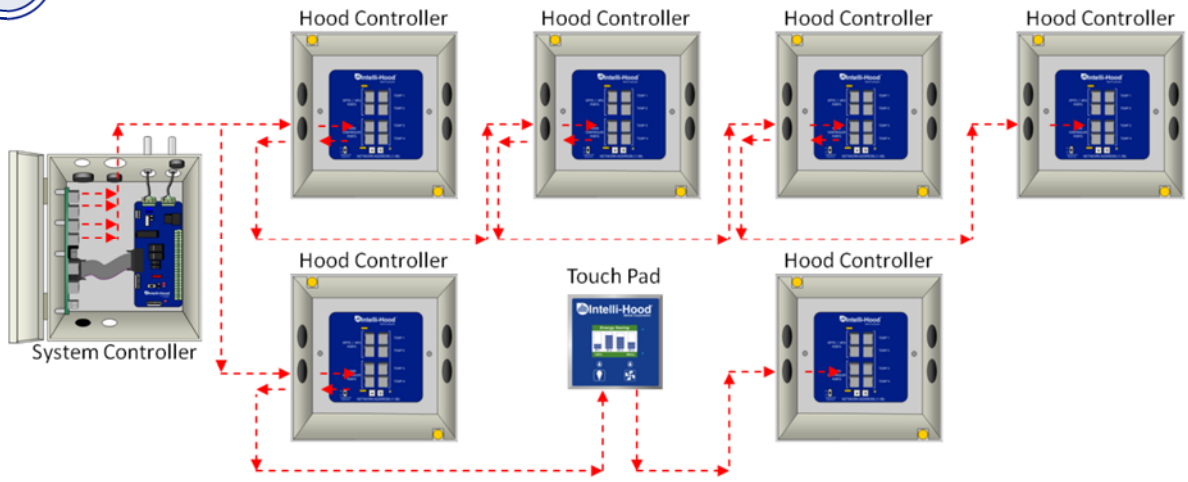
Device	Max Unassisted Single Port Capacity	Max Unassisted System Controller (SC) Capacity	Max Unassisted System Controller Lite (SC-L) Capacity
Hood Controller (HC)	2	8	4
Touchpad (TP)	2	8	4

STEP 9

Install Cables (Hood Controller)

N

Connect Hood Controllers



The System Controller has a limited amount of power output capacity with the included power supply. Up to (8) Hood Controllers with Optics* may be connected across the four Hood Network ports. Also, each Hood Network Port is power/current-limited. Cable length must be taken into account when connecting the Hood Controller Network strings. The following table indicates the allowable load based on maximum cable distance to the respective Hood Network Port.

* NOTE: Lite Model System Controllers have (2) Hood Network Ports and a maximum capacity of (4) Hood Controllers

Max Number of Hood Controllers with Optics in Hood Network String	Allowable total cable distance from the System Controller to the last Hood Network device
1	450 feet
2	200 feet

Recommended Wiring Practices

- Order Hood Controllers so that the lowest Hood Controller addresses are connected to Hood Network Port 1, then Port 2, etc.
- The Touchpad should be the first device in the string from the System Controller.
- When possible, isolate the Touchpad on its own port (simplifies Troubleshooting).
- Last device in each Hood Network String should have the termination resistor switched to ON.
- All wiring is restricted to same room.

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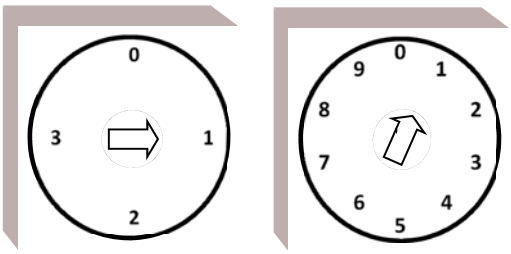
STEP 10

Setting Addresses

A Hood Controllers



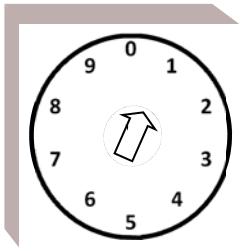
10s Position 1s Position

Set the Hood Controller address by setting the 10s and 1s address switches respectively. Each Hood Controller must have a unique address.

B Touchpad

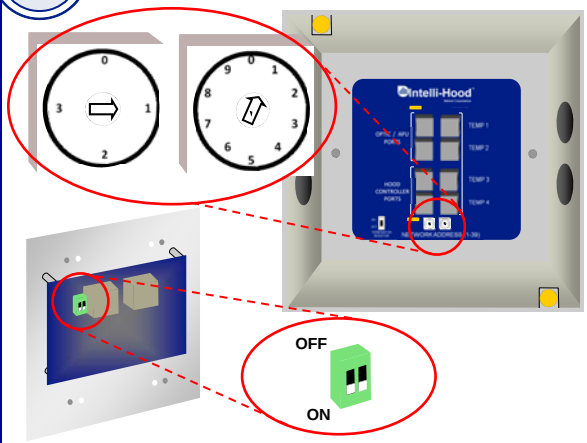
Set the Touchpad address through the Configuration Menu. See Operations manual for details. Each Touchpad must have a unique address.

C Aux Touchpad, Aux Lighting Controller, Aux Power Supply



Set the address for the Aux Touchpad, Lighting Controller, and Power Supply by setting their respective rotary switches. Each device must have an address unique to its type. For example, an Aux Touchpad and Aux Lighting Controller can both be address 1, but two Aux Touchpads cannot be address 1.

D Termination Resistor

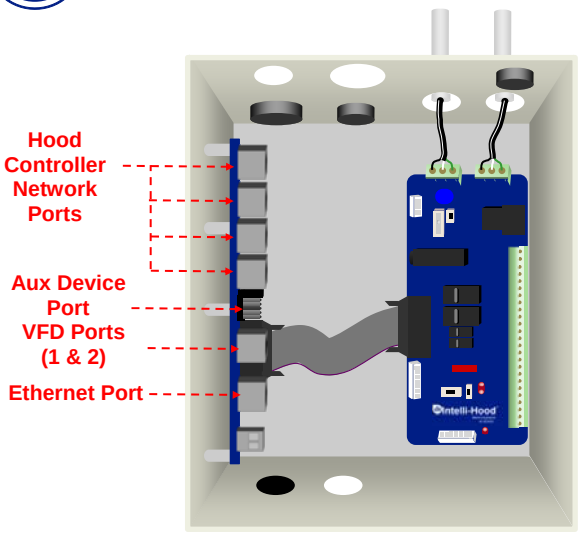


Set the Termination resistor to ON for the last device plugged into each Hood Network String. WARNING: DO NOT TURN ON ALL TERMINATION RESISTORS IN THE STRING OR THE COMMUNICATIONS WILL NOT WORK PROPERLY.

STEP 11

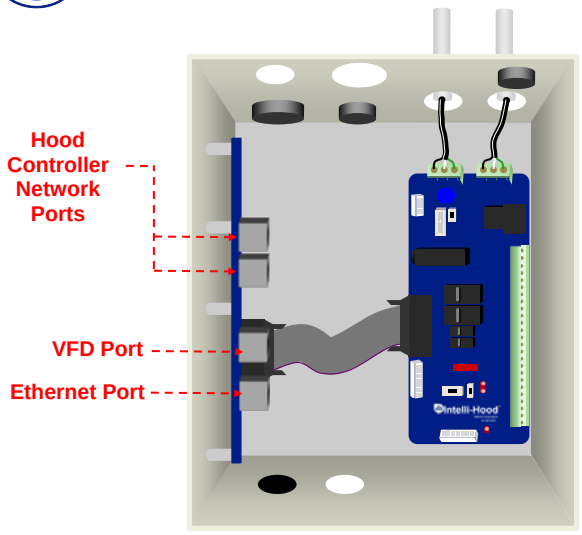
Field Wiring

A System Controller (Model SC)



The Model SC has (4) Hood Controller Network Ports, (1) Aux Device Port, (2) VFD Ports, and (1) Ethernet Port

B System Controller Lite (Model SC-L)



The Model SC-L has (2) Hood Controller Network Ports, (1) VFD Port, and (1) Ethernet Port

OPTION 1

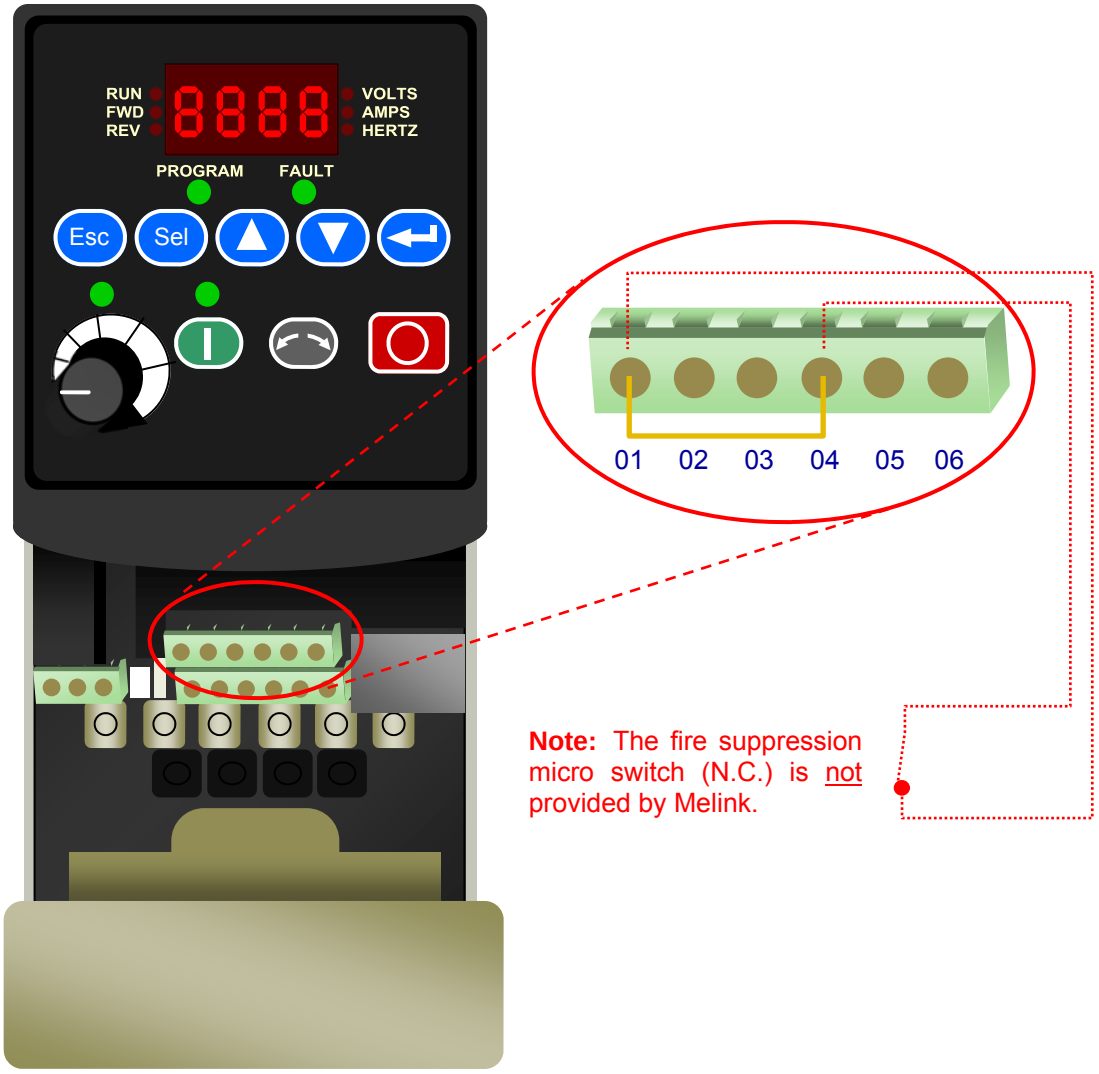
Fire Suppression Switch

A

Connect Fire Suppression Switch to VFD

If you installed an Electronic Motor Starter for a make-up air or supply fan, then you will need to make sure it is interlocked with the fire suppression system. The purpose is to make sure that this fan shuts down in the event of a fire. This is accomplished by running the VFD on/off control signal to the fire suppression micro-switch. If/when this normally closed (N.C.) switch opens, the VFD shuts down power to the fan.

Connect your Ansul micro-switch to terminals 01 and 04 of the VFD.



Note: The fire suppression micro switch (N.C.) is not provided by Melink.

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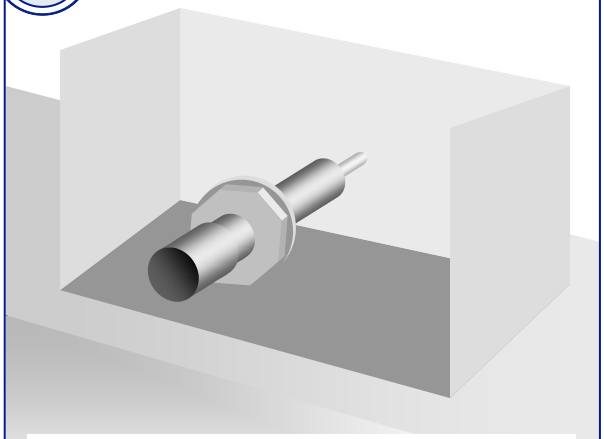
OPTION 2

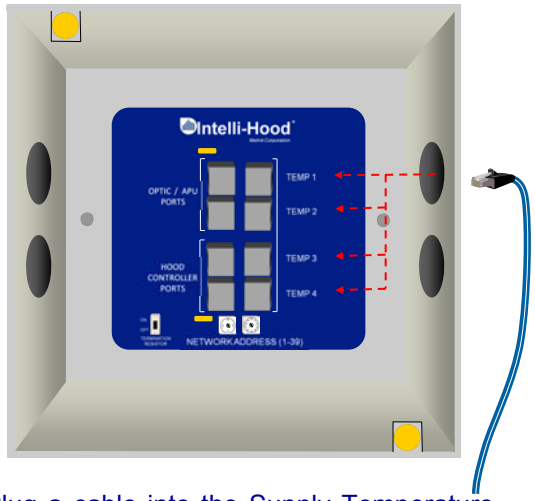
Install Supply Temperature Sensor

A Install Temperature Sensor



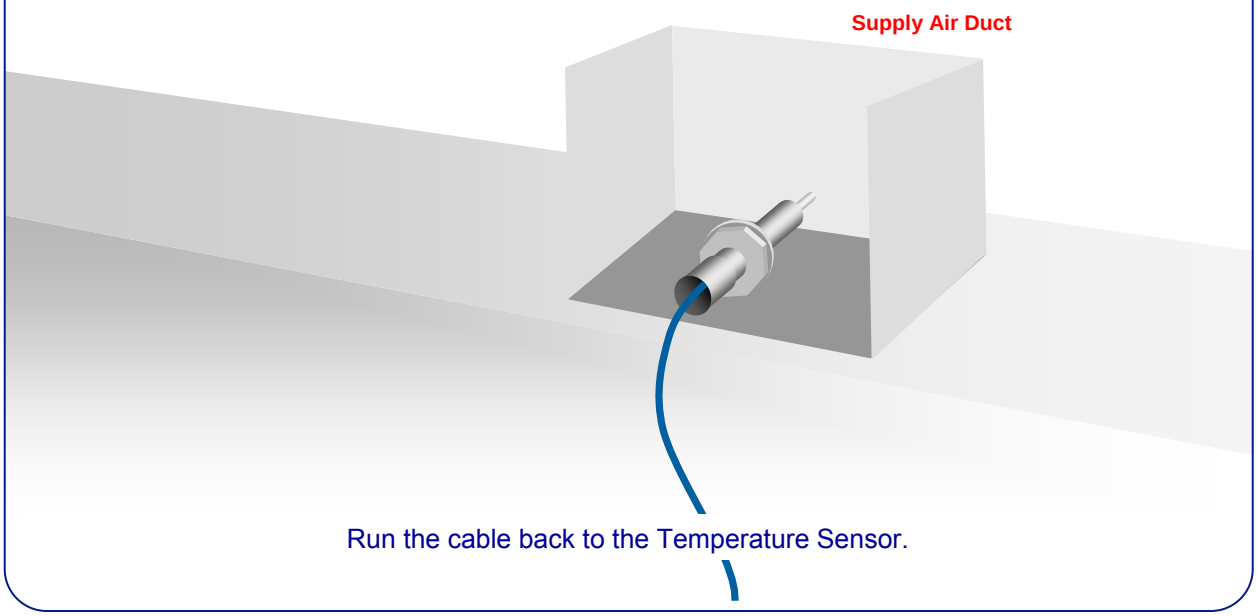
Install the Supply Temperature Sensor in the make-up air duct using one of the two mounting procedures shown in Step 4. **Note:** You only need to install one Supply Temperature Sensor in any given store.

B Plug Cable Into the Hood Controller



Plug a cable into the Supply Temperature receptacle of the Hood Controller.

C Plug Cable Into Temperature Sensor



Run the cable back to the Temperature Sensor.

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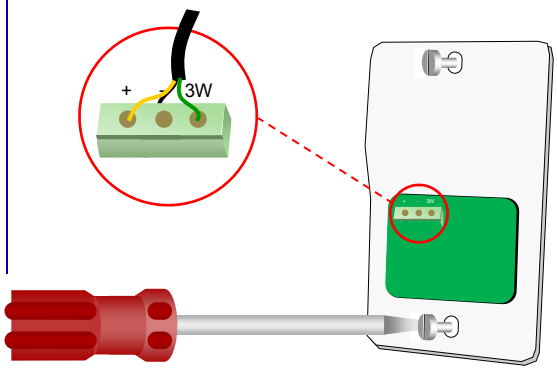
OPTION 3

Install Kitchen Temperature Sensor

A Select Suitable Location

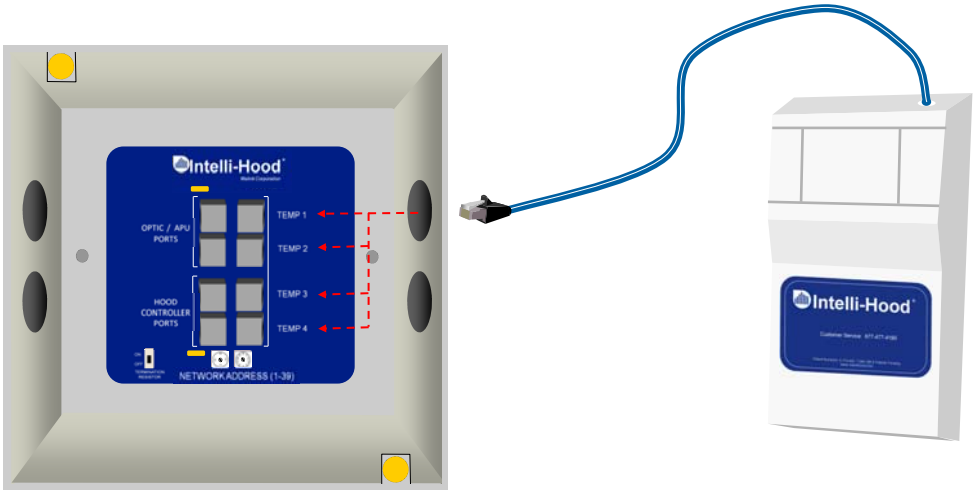
The Kitchen Temperature Sensor must be located away from any hot or cold spots. (such as above a kitchen appliance or underneath a ceiling diffuser). Choose a location that best represents the average temperature of the kitchen.

B Attach Base to Wall



Detach the base from the cover and secure it to the selected location on the wall. Connect one end of the cable to the terminal block on the base as shown.

C Connect Cable to Hood Controller



Connect the other end of the cable to one of the temperature ports inside the Hood Controller.

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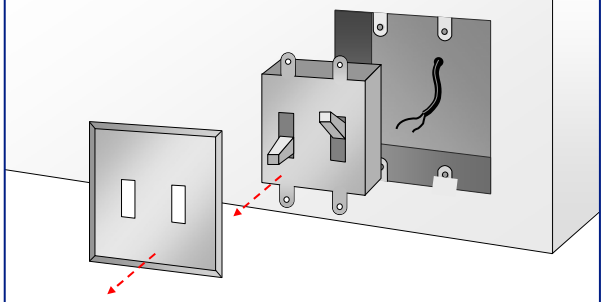
OPTION 4

Install Aux Touchpad

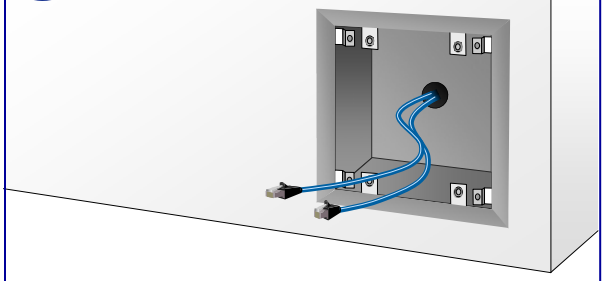
A Remove Existing Switches



Before removing the switch cover plate, turn off the circuit breaker.

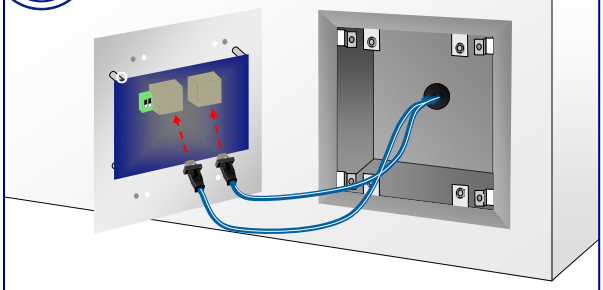
For retrofits, if you want to replace the existing fan and light switch with our Touchpad, remove these switches from the junction box. Then remove the existing wires to make room for the Touchpad Cable.

B Run Touchpad Cable



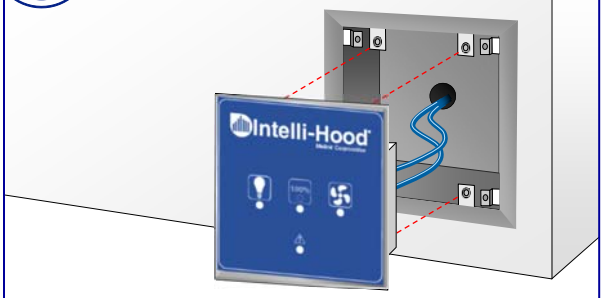
Run the Touchpad Cable inside the existing conduit and leave approximately 5 inches of slack inside the junction box. You will connect the other end of the Cable to the System Controller in Step 9.

C Plug In Cable



Plug the connector into the receptacle on the back of the Touchpad.

D Mount Touchpad



Mount the Touchpad to the junction box and secure the cover plate by snapping it on. Complete by applying silicone caulk to the outside edges to prevent liquid intrusion behind the cover plate.

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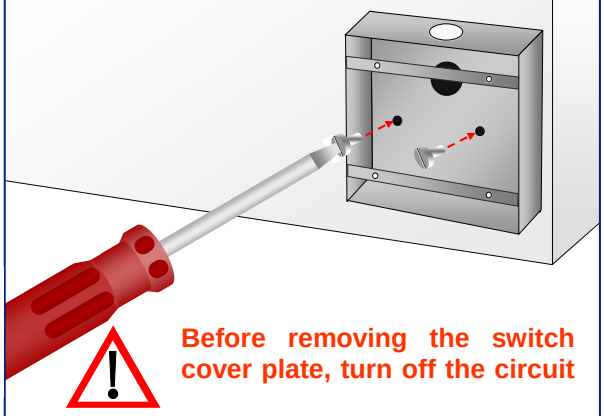
ALTERNATE

4 Install Aux Touchpad

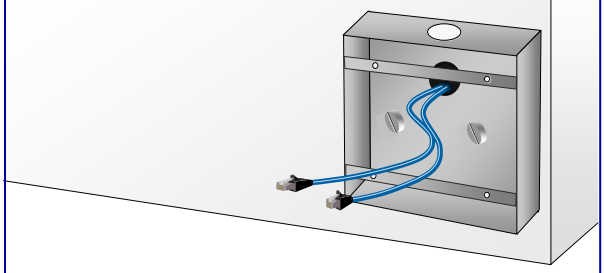
A Install Surface Mount Box



Before removing the switch cover plate, turn off the circuit

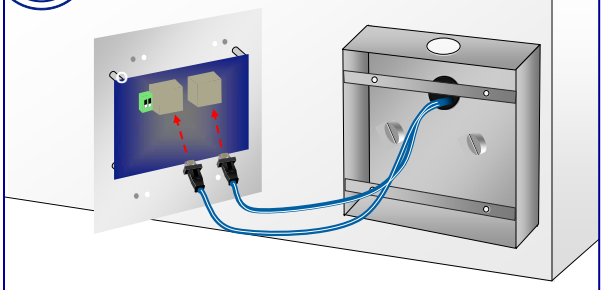
For retrofits, if you want to replace the existing fan and light switch with our Touchpad, remove these switches from the junction box. Then remove the existing wires to make room for the Touchpad Cable.

B Run Touchpad Cable



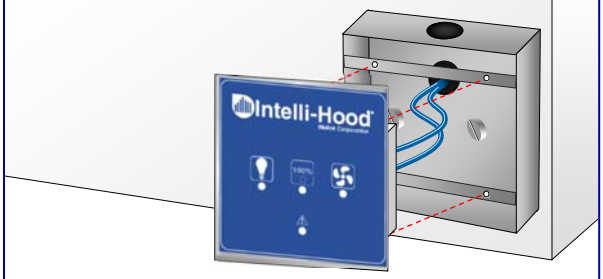
Run the Touchpad Cable inside the existing conduit and leave approximately 5 inches of slack inside the junction box. You will connect the other end of the Cable to the System Controller in Step 9.

C Plug In Cables



Plug the connector into the receptacle on the back of the Touchpad.

D Mount Touchpad



Mount the Touchpad to the junction box and secure the cover plate by snapping it on.

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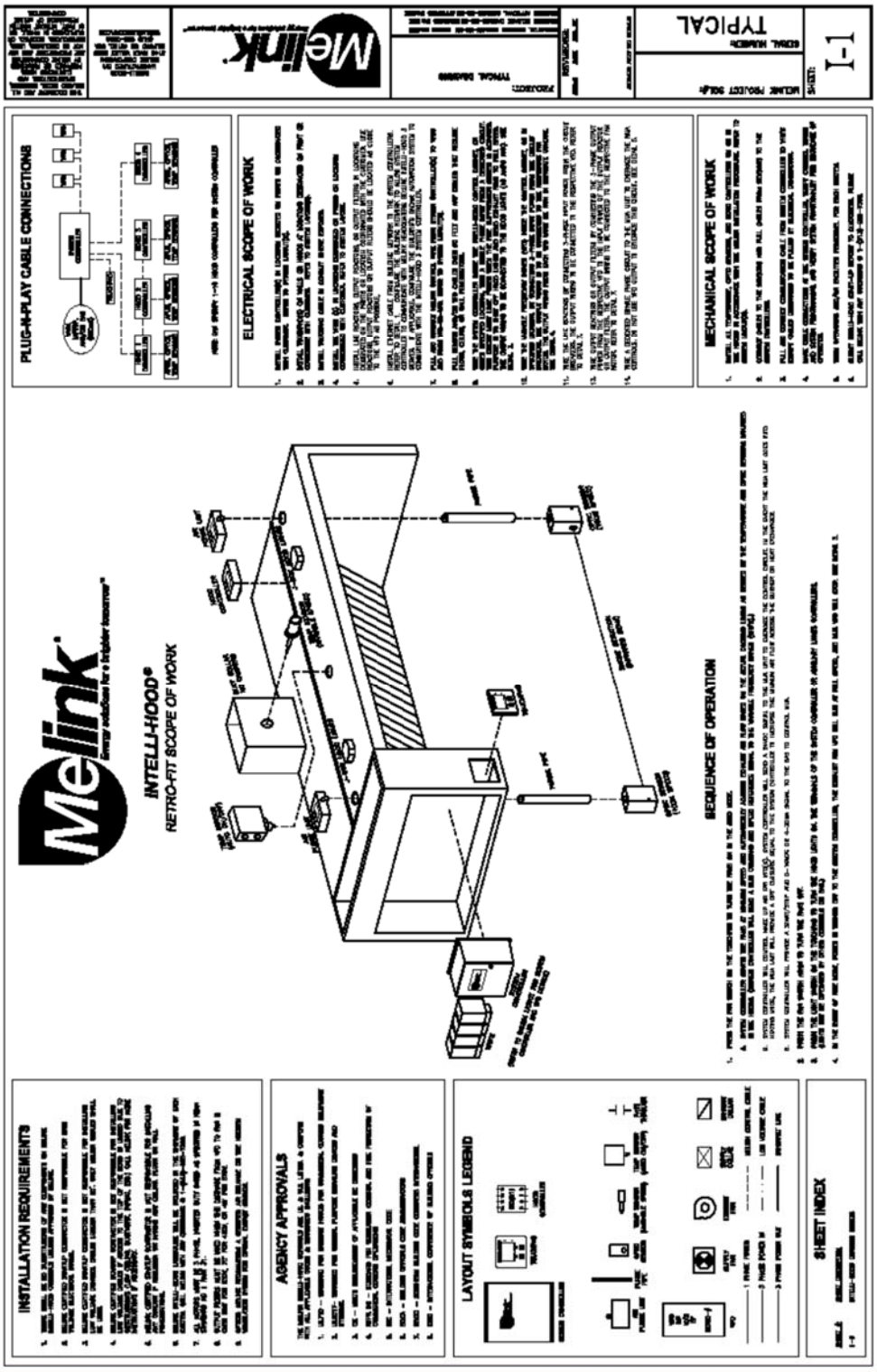
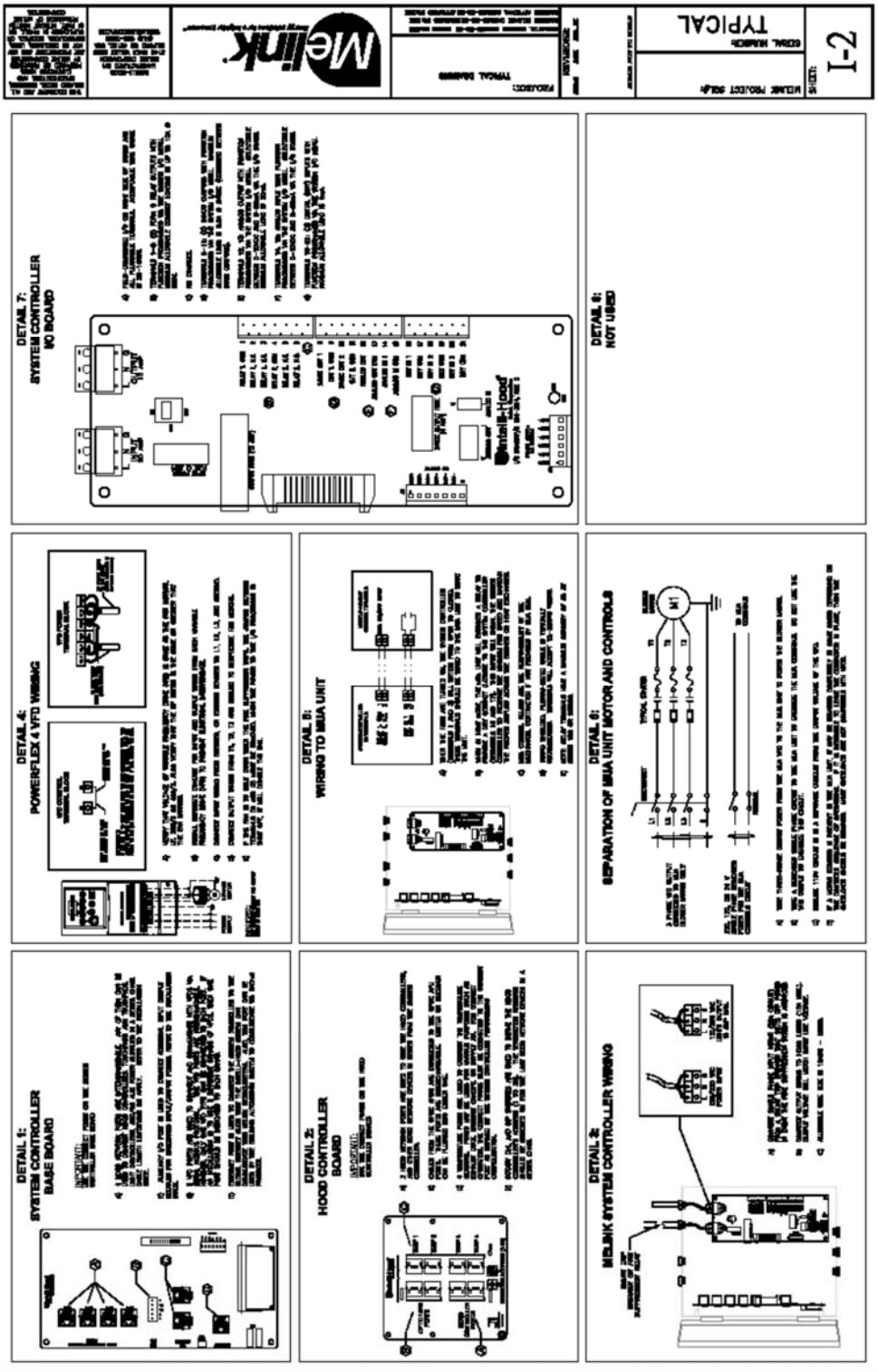
APPENDIX A

Typical Drawing



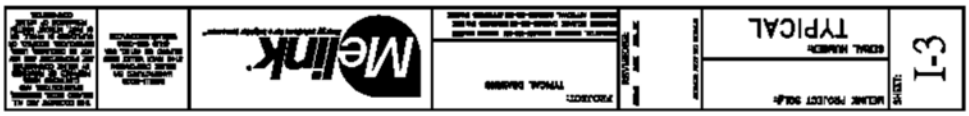
APPENDIX A

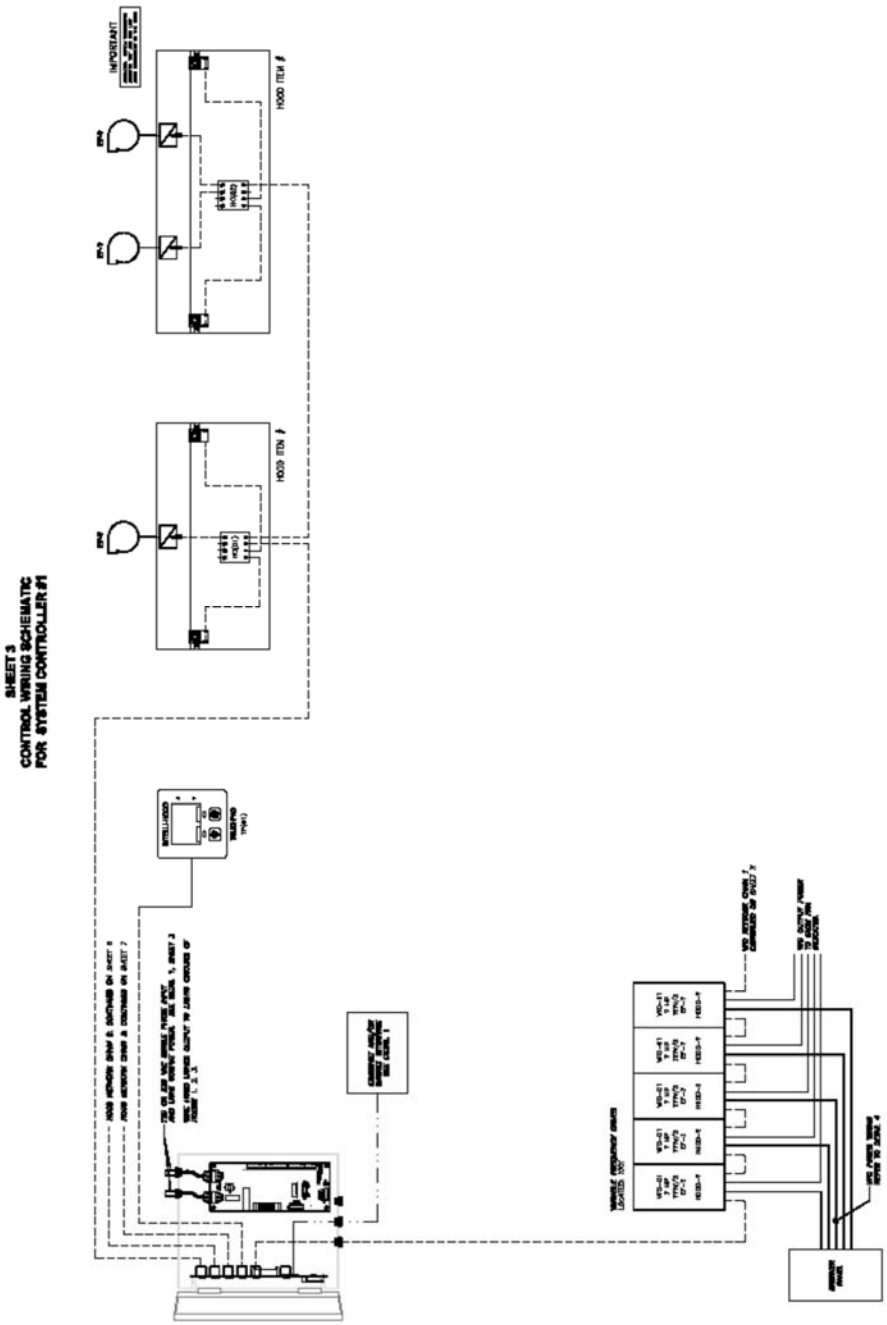
Typical Drawing



APPENDIX A

Typical Drawing





APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Hood Controller Parameters				
HCxx-01	Hood Controller Address	Incrementing Value	0 To 39	1
HCxx-02	Name	Text Field Input	Up to 20 Characters	'HC-x' Where 'x' is the address
HCxx-03	Optic Sensor	Single Select List	Yes or No	Yes
HCxx-04	Temp Channel 1	Single Select List	No, Hood, On/Off, Supply, Space, Auto Span	Hood
HCxx-05	Temp Channel 1 Span Max. (°F)	Single Select List	50F To 200F (Increments Of 5F)	90
HCxx-06	Temp Channel 2	Single Select List	No, Hood, On/Off, Supply, Space, Auto Span	No
HCxx-07	Temp Channel 2 Span Max. (°F)	Single Select List	50F To 200F (Increments Of 5F), Match Channel 1	Match Channel 1
HCxx-08	Temp Channel 3	Single Select List	No, Hood, On/Off, Supply, Space, Auto Span	No
HCxx-09	Temp Channel 3 Span Max. (°F)	Single Select List	50F To 200F (Increments Of 5F), Match Channel 1	Match Channel 1
HCxx-10	Temp Channel 4	Single Select List	No, Hood, On/Off, Supply, Space, Auto Span	No
HCxx-11	Temp Channel 4 Span Max. (°F)	Single Select List	50F To 200F (Increments Of 5F), Match Channel 1	Match Channel 1
HCxx-12	Temp Actual Channel 1	Enter Offset	User Inputs Actual Temperature 0 To 500F	Measured Temp
HCxx-13	Temp Actual Channel 2	Enter Offset	User Inputs Actual Temperature 0 To 500F	Measured Temp
HCxx-14	Temp Actual Channel 3	Enter Offset	User Inputs Actual Temperature 0 To 500F	Measured Temp
HCxx-15	Temp Actual Channel 4	Enter Offset	User Inputs Actual Temperature 0 To 500F	Measured Temp
HCxx-16	Temp Channel 1 Span Min. (°F)	Single Select List	50F to 90F (Increments of 1F)	75
HCxx-17	Temp Channel 2 Span Min. (°F)	Single Select List	50F to 90F (Increments of 1F), Match Channel 1	Match Channel 1
HCxx-18	Temp Channel 3 Span Min. (°F)	Single Select List	50F to 90F (Increments of 1F), Match Channel 1	Match Channel 1
HCxx-19	Temp Channel 4 Span Min. (°F)	Single Select List	50F to 90F (Increments of 1F), Match Channel 1	Match Channel 1
HCxx-20	Optic Smoke Density	Single Select List	Low, Medium, or High	Medium
HCxx-21	BACnet Device Instance ID	Integer Value	0 to 4194302	0
HCxx-22	Active on BACnet	Single Select List	Yes or No	No

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Exhaust Hood Parameters				
EHxx-01	Primary Exhaust ID	Single Select List	1 to 39	1
EHxx-02	Name	Text Field Input	Up To 20 Characters	'Hood xx' where 'xx' is an incrementing number from 1
EHxx-03	Minimum Speed	Single Select List	30% To 100%, Increments Of 5%	30%
EHxx-04	Maximum Speed	Single Select List	30% To 100%, Increments Of 5%	100%
EHxx-05	Temperature Sensor Node(s)	Multi-Select List	01-1 to 39-4	None
EHxx-06	Optic Sensor Node(s)	Multi-Select List	1 to 39; Sensors listed in format of "Address".	None
EHxx-07	Auto On Hood Temperature	Single Select List	Not Used, Auto On 70F - 120F	Not Used
EHxx-08	Auto On Space Differential	Single Select List	Not Used, Room Difference +1F - +40F	Not Used
EHxx-09	Auto Off Hood Temp	Single Select List	Not Used, Auto Off 65F - 100F	Not Used
EHxx-10	Auto Off Space Differential	Single Select List	Not Used, Room Difference +1F - +20F	Not Used
EHxx-11	Auto On/Off Grouping	Single Select List	Yes Or No	Yes
EHxx-12	Temperature Alarm Auto On	Single Select List	Not Used, System, 100F, 125F, 150F, 200F, 250F, 300F	200F
EHxx-13	Short Cycle Ratio	Single Select List	Not Used, 20%, 30%, 40%, 50%, 60%, 70%, 80%	Not Used
EHxx-14	Exhaust Volume	Integer Input	0 to 100,000	1000
EHxx-15	Hood Group	Single Select List	1-10	1
EHxx-16	Optic Hang time	Single Select List	System, 5, 10, 15, 30, 45, 60, 120, 180, 300	System

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Exhaust Fan Parameters				
EFxx-01	Primary Exhaust Address	Single Select List	1 to 39	1
EFxx-02	Name	Text Field Input	Up To 5 Characters	'EF-xx' where 'xx' is the Primary Exhaust Address
EFxx-03	Output Type	Single Select List	System Output Allen Bradley Powerflex 4/40 Allen Bradley Powerflex 400 ABB ACH550 Trane TR200 Allen Bradley Powerflex 52x LSIS SV-iS7 Siemens G120P Schneider Altivair 212 Yaskawa Z100	ABB ACH550
EFxx-04	BACnet Device Instance ID	Integer Value	0 to 4194302	0
EFxx-05	Display Status	Single Select List	Yes or No	Yes
EFxx-06	Active on BACnet	Single Select List	Yes or No	Yes
Aux Airflow Parameters				
AAxx-01	Aux Airflow Address	Single Select List	40 to 128	41
AAxx-02	Name	Text Field Input	Up To 5 Characters	'AA-xx' where 'xx' is the address
AAxx-03	Algorithm	Single Select List	Average, Highest, Lowest	Average
AAxx-04	Related Airflows	Multi-Select List	List All Exhaust and Aux Airflows	None
AAxx-05	Output Type	Single Select List	System Output Allen Bradley Powerflex 4/40 Allen Bradley Powerflex 400 ABB ACH550 Trane TR200 Allen Bradley Powerflex 52x LSIS SV-iS7 Siemens G120P Schneider Altivair 212 Yaskawa Z100	ABB ACH550
AAxx-06	Design Airflow	Integer Input	0 to 100,000	1000
AAxx-07	BACnet Device Instance ID	Integer Value	0 to 4194302	0
AAxx-08	Display Status	Single Select List	Yes or No	Yes
AAxx-09	Active on BACnet	Single Select List	Yes or No	Yes

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
System Parameters				
SY-01	Address	Integer Value	1	1
SY-02	Name	Text Field Input	Up To 20 Characters	System Controller
SY-03	Relay 1 Output	Single Select List	None Exhaust Temp Alarm Smoke Fan On MUA Damper Temperature Fault Optic Fault VFD Fault System Fault 24/7	MUA Damper
SY-04	Groups Affecting Relay 1 Output	Multi-Select List	1 to 10	1
SY-05	Relay 2 Output	Single Select List	Same as SY-03	MUA Damper
SY-06	Groups Affecting Relay 2 Output	Multi-Select List	1 to 10	1
SY-07	24VDC Output 1	Single Select List	Same as SY-03	MUA Damper
SY-08	Groups Affecting 24VDC Output 1	Multi-Select List	1 to 10	1
SY-09	24VDC Output 2	Single Select List	Same as SY-03	MUA Damper
SY-10	Groups Affecting 24VDC Output 2	Multi-Select List	1 to 10	1
SY-11	Digital Input 1	Single Select List	None Remote On/Off Remote Enable/Disable 50% Min Speed 60% Min Speed 70% Min Speed 80% Min Speed 90% Min Speed 100% Min Speed External Fault Input Lights On/Off External Alert	70% Min Speed
SY-12	Groups Affected by Digital Input 1	Multi-Select List	1 to 10	1
SY-13	Digital Input 2	Single Select List	Same as SY-11	Remote On/Off
SY-14	Groups Affected by Digital Input 2	Multi-Select List	1 to 10	1
SY-15	Digital Input 3	Single Select List	Same as SY-11	None
SY-16	Groups Affected by Digital Input 3	Multi-Select List	1 to 10	1

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
		System Parameters (cont.)		
SY-17	Analog Output Algorithm	Single Select List	None, Average, Highest, Lowest	Average
SY-18	Analog Output Source	Multi-Select List	List all Aux Airflows	None
SY-19	Analog Input Function	Single Select List	N/A	None
SY-20	Bypass Timer	Single Select List	30 sec, 1 min, 5 min, 10 min, 20 min, 30 min, 1 hr, 2 hr, 4 hr	10 min
SY-21	Optic Hang Time	Single Select List	5 sec, 10 sec, 15 sec, 30 sec, 60 sec, 90 sec, 120 sec, 180 sec, 240 sec, 300 sec	15 sec
SY-22	Fan Speed Reporting Method	Single Select List	VFD Feedback, Command Speed	VFD Feedback
SY-23	Temperature Alarm Auto On	Single Select List	Not Used, 100F, 125F, 150F, 200F, 250F, 300F	200F
SY-24	Temperature Alarm Auto Off	Single Select List	Not Used, On-10F, On-20F, On-30F	Not Used
SY-25	Temperature Alarm Tone	Single Select List	Yes or No	No
SY-26	Temperature Alarm Hoods to Activate	Single Select List	All Hoods, Hood Group, Hood Only, None	All Hoods
SY-27	Data Log Sample Rate	Single Select List	10s, 30s, 1min, 2min, 3min, 5min, 10min, 30min	5 minutes
SY-28	Auto On, Manual Off, Delay Time	Single Select List	10s, 30s, 1min, 2min, 3min, 5min, 10min, 30min	2 minutes
SY-29	Unit Display	Single Select List	12H/F, 24H/F, 12H/C, 24H/C	12H/F
SY-30	Analog Output Min	Integer Value	0 to 100	0
SY-31	Analog Output Max	Integer Value	0 to 100	100
SY-32	VFD Baud Rate	Single Select List	9600 Baud, 19200 Baud, 38400 Baud, 57600 Baud, 115200 Baud	9600 Baud
SY-33	VFD Serial Mode	Single Select List	8-N-1, 8-E-1, 8-O-1	8-E-1
SY-34	Time Zone	Single Select List	Relevant Time Zones	New York, US (UTC -5, DST)
SY-35	Display Language	Single Select List	English, Francais, Espanol, Deutsche	English
SY-36	Use DHCP	Single Select List	Yes or No	Yes
SY-37	Static IP	IP Address	Valid IP Address	192.168.200.101
SY-38	Netmask	IP Address	Valid IP Address	255.255.255.0
SY-39	Gateway	IP Address	Valid IP Address	0.0.0.0
SY-40	DNS Server 1	IP Address	Valid IP Address	0.0.0.0
SY-41	DNS Server 2	IP Address	Valid IP Address	0.0.0.0
SY-42	BACnet Device Instance ID	Integer Value	0 to 4194302	654000
SY-43	BACnet Auto Number	Single Select List	Yes or No	Yes
SY-44	BACnet Port	Integer Value	47808 to 65535	47808
SY-45	BACnet DNET	Integer Value	1 to 65534	654
SY-46	BACnet Watchdog	Integer Value	0 to 600 (seconds)	300

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Touchpad Parameters				
TPx-01	Touchpad Hood Network Address	Single Select List	1-10	1
TPx-02	Name	Text Field Input	Up To 20 Characters	TP-01
TPx-03	Light Controller Addresses	Multi-Select List	System Controller, LC-01 to LC-10	System Controller
TPx-04	Bypass Softkey Visible	Single Select List	Yes Or No	Yes
TPx-05	Associated Groups On/Off	Multi-Select List	1 to 10	1
TPx-06	Hood Groups Displayed	Multi-Select List	1 to 10	1
Aux Touchpad Parameters				
ATx-01	Aux Touchpad Address	Single Select List	0-9	1
ATx-02	Name	Text Field Input	Up To 20 Characters	AT-1
ATx-03	Light Controller Addresses	Multi-Select List	System Controller, LC-01 to LC-10	System Controller
ATx-04	Bypass Button Active	Single Select List	Yes Or No	Yes
ATx-05	Associated Groups On/Off	Multi-Select List	1 to 10	1
Scheduling Parameters				
SDxx-01	Schedule ID	Single Select List	1 to 10	1
SDxx-02	Schedule Name	Text Field Input	Up to 20 Characters	'Schedule x' where 'x' is the ID number
SDxx-03	Groups	Multi-Select List	1 to 10	All Selected
SDxx-04	Action Start	Single Select List	None, Fans On, Fans Off, Preset Minimum, Calculated Minimum	None
SDxx-05	Action End	Single Select List	None, Fans On, Fans Off, Preset Minimum, Calculated Minimum	None
SDxx-06	Month Start	Single Select List	January through December	January
SDxx-07	Day Start	Integer Value	1 to 31	1
SDxx-08	Month End	Single Select List	January through December	December
SDxx-09	Day End	Integer Value	1 to 31	31
SDxx-10	Days of Week	Multi-Select List	Sun to Sat	All Selected
SDxx-11	Time Start	Hour:Minutes	00:00 to 23:59	08:00
SDxx-12	Time End	Hour:Minutes	00:00 to 23:59	22:00
SDxx-13	Preset Speed	Integer Value	0 to 100	100

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
	Analog Output Module Parameters			
AOMx-01	Address	Single Select List	1 to 254	101
AOMx-02	Name	Text Field Input	Up to 20 Characters	'AOM-x' where 'x' is the address
AOMx-03	Analog Output 0 Algorithm	Single Select List	None, Average, Highest, Lowest	Average
AOMx-04	Analog Output 0 Related Airflows	Multi-Select List	List All Exhaust and Aux Airflows	None
AOMx-05	Analog Output 0 Min	Integer Value	0 to 100	0
AOMx-06	Analog Output 0 Max	Integer Value	0 to 100	100
AOMx-07	Analog Output 0 Type	Single Select List	0-10VDC, 0-20mA	0-10VDC
AOMx-08	Analog Output 1 Algorithm	Single Select List	None, Average, Highest, Lowest	Average
AOMx-09	Analog Output 1 Related Airflows	Multi-Select List	List All Exhaust and Aux Airflows	None
AOMx-10	Analog Output 1 Min	Integer Value	0 to 100	0
AOMx-11	Analog Output 1 Max	Integer Value	0 to 100	100
AOMx-12	Analog Output 1 Type	Single Select List	0-10VDC, 0-20mA	0-10VDC
AOMx-13	Analog Output 2 Algorithm	Single Select List	None, Average, Highest, Lowest	Average
AOMx-14	Analog Output 2 Related Airflows	Multi-Select List	List All Exhaust and Aux Airflows	None
AOMx-15	Analog Output 2 Min	Integer Value	0 to 100	0
AOMx-16	Analog Output 2 Max	Integer Value	0 to 100	100
AOMx-17	Analog Output 2 Type	Single Select List	0-10VDC, 0-20mA	0-10VDC
AOMx-18	Analog Output 3 Algorithm	Single Select List	None, Average, Highest, Lowest	Average
AOMx-19	Analog Output 3 Related Airflows	Multi-Select List	List All Exhaust and Aux Airflows	None
AOMx-20	Analog Output 3 Min	Integer Value	0 to 100	0
AOMx-21	Analog Output 3 Max	Integer Value	0 to 100	100
AOMx-22	Analog Output 3 Type	Single Select List	0-10VDC, 0-20mA	0-10VDC
AOMx-23	Digital Input 0	Single Select List	Same as SY-11	None
AOMx-24	Groups Affected by Digital Input 0	Multi-Select List	1 to 10	1
AOMx-25	Digital Input 1	Single Select List	Same as SY-11	None
AOMx-26	Groups Affected by Digital Input 1	Multi-Select List	1 to 10	1
AOMx-27	Digital Input 2	Single Select List	Same as SY-11	None
AOMx-28	Groups Affected by Digital Input 2	Multi-Select List	1 to 10	1
AOMx-29	Digital Input 3	Single Select List	Same as SY-11	None
AOMx-30	Groups Affected by Digital Input 3	Multi-Select List	1 to 10	1

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Digital Input Module Parameters				
DIMx-01	Address	Single Select List	1 to 254	111
DIMx-02	Name	Text Field Input	Up to 20 Characters	'DIM-x' where 'x' is the address
DIMx-03	Digital Input 0	Single Select List	Same as SY-11	None
DIMx-04	Groups Affected by Digital Input 0	Multi-Select List	1 to 10	1
DIMx-05	Digital Input 1	Single Select List	Same as SY-11	None
DIMx-06	Groups Affected by Digital Input 1	Multi-Select List	1 to 10	1
DIMx-07	Digital Input 2	Single Select List	Same as SY-11	None
DIMx-08	Groups Affected by Digital Input 2	Multi-Select List	1 to 10	1
DIMx-09	Digital Input 3	Single Select List	Same as SY-11	None
DIMx-10	Groups Affected by Digital Input 3	Multi-Select List	1 to 10	1
DIMx-11	Digital Input 4	Single Select List	Same as SY-11	None
DIMx-12	Groups Affected by Digital Input 4	Multi-Select List	1 to 10	1
DIMx-13	Digital Input 5	Single Select List	Same as SY-11	None
DIMx-14	Groups Affected by Digital Input 5	Multi-Select List	1 to 10	1
DIMx-15	Digital Input 6	Single Select List	Same as SY-11	None
DIMx-16	Groups Affected by Digital Input 6	Multi-Select List	1 to 10	1
DIMx-17	Digital Input 7	Single Select List	Same as SY-11	None
DIMx-18	Groups Affected by Digital Input 7	Multi-Select List	1 to 10	1
DIMx-19	Digital Input 8	Single Select List	Same as SY-11	None
DIMx-20	Groups Affected by Digital Input 8	Multi-Select List	1 to 10	1
DIMx-21	Digital Input 9	Single Select List	Same as SY-11	None
DIMx-22	Groups Affected by Digital Input 9	Multi-Select List	1 to 10	1
DIMx-23	Digital Input 10	Single Select List	Same as SY-11	None
DIMx-24	Groups Affected by Digital Input 10	Multi-Select List	1 to 10	1
DIMx-25	Digital Input 11	Single Select List	Same as SY-11	None
DIMx-26	Groups Affected by Digital Input 11	Multi-Select List	1 to 10	1
DIMx-27	Digital Input 12	Single Select List	Same as SY-11	None
DIMx-28	Groups Affected by Digital Input 12	Multi-Select List	1 to 10	1

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Digital Input Module Parameters (cont.)				
DIMx-29	Digital Input 13	Single Select List	Same as SY-11	None
DIMx-30	Groups Affected by Digital Input 13	Multi-Select List	1 to 10	1
DIMx-31	Digital Input 14	Single Select List	Same as SY-11	None
DIMx-32	Groups Affected by Digital Input 14	Multi-Select List	1 to 10	1
DIMx-33	Digital Input 15	Single Select List	Same as SY-11	None
DIMx-34	Groups Affected by Digital Input 15	Multi-Select List	1 to 10	1
Digital Output Module Parameters				
DOMx-01	Address	Single Select List	1 to 254	111
DOMx-02	Name	Text Field Input	Up to 20 Characters	'DOM-x' where 'x' is the address
DOMx-03	Relay 0 Output	Single Select List	Same as SY-03	None
DOMx-04	Groups Affecting Relay 0 Output	Multi-Select List	1 to 10	1
DOMx-05	Relay 1 Output	Single Select List	Same as SY-03	None
DOMx-06	Groups Affecting Relay 1 Output	Multi-Select List	1 to 10	1
DOMx-07	Relay 2 Output	Single Select List	Same as SY-03	None
DOMx-08	Groups Affecting Relay 2 Output	Multi-Select List	1 to 10	1
DOMx-09	Relay 3 Output	Single Select List	Same as SY-03	None
DOMx-10	Groups Affecting Relay 3 Output	Multi-Select List	1 to 10	1
DOMx-11	Relay 4 Output	Single Select List	Same as SY-03	None
DOMx-12	Groups Affecting Relay 4 Output	Multi-Select List	1 to 10	1
DOMx-13	Relay 5 Output	Single Select List	Same as SY-03	None
DOMx-14	Groups Affecting Relay 5 Output	Multi-Select List	1 to 10	1
DOMx-15	Relay 6 Output	Single Select List	Same as SY-03	None
DOMx-16	Groups Affecting Relay 6 Output	Multi-Select List	1 to 10	1
DOMx-17	Relay 7 Output	Single Select List	Same as SY-03	None
DOMx-18	Groups Affecting Relay 7 Output	Multi-Select List	1 to 10	1

APPENDIX B

Program Settings

#	Parameter	Input Type	Range of Values	Default Value
Virtual Input Module Parameters				
VIMx-01	Address	Single Select List	1 to 254	1
VIMx-02	Name	Text Field Input	Up to 20 Characters	'VIM-x' where 'x' is the address
VIMx-03	Virtual Input 1	Single Select List	Same as SY-11	None
VIMx-04	Groups Affected by Virtual Input 1	Multi-Select List	1 to 10	1
VIMx-05	Virtual Input 2	Single Select List	Same as SY-11	None
VIMx-06	Groups Affected by Virtual Input 2	Multi-Select List	1 to 10	1
VIMx-07	Virtual Input 3	Single Select List	Same as SY-11	None
VIMx-08	Groups Affected by Virtual Input 3	Multi-Select List	1 to 10	1
VIMx-09	Virtual Input 4	Single Select List	Same as SY-11	None
VIMx-10	Groups Affected by Virtual Input 4	Multi-Select List	1 to 10	1
VIMx-11	BACnet Device Instance ID	Integer Value	0-4194302	0
Virtual Output Module Parameters				
VOMx-01	Address	Single Select List	1 to 254	11
VOMx-02	Name	Text Field Input	Up to 20 Characters	'VOM-x' where 'x' is the address
VOMx-03	Virtual Output 1	Single Select List	Same as SY-03	None
VOMx-04	Groups Affecting Virtual Output 1	Multi-Select List	1 to 10	1
VOMx-05	Virtual Output 2	Single Select List	Same as SY-03	None
VOMx-06	Groups Affecting Virtual Output 2	Multi-Select List	1 to 10	1
VOMx-07	Virtual Output 3	Single Select List	Same as SY-03	None
VOMx-08	Groups Affecting Virtual Output 3	Multi-Select List	1 to 10	1
VOMx-09	Virtual Output 4	Single Select List	Same as SY-03	None
VOMx-10	Groups Affecting Virtual Output 4	Multi-Select List	1 to 10	1
VOMx-11	BACnet Device Instance ID	Integer Value	0-4194302	0
Aux Lighting Controller Parameters				
LCx-01	Lighting Controller Address	Single Select List	0-9	1
LCx-02	Name	Text Field Input	Up To 20 Characters	ALC-1

Call Melink Customer Service at (513) 965-7300 if you have any questions.

Please let us know how we can improve our Installation Manual.
We want your experience with our product to exceed all expectations.

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