PROLON

TROUBLESHOOTING GUIDE

Version 4
PL-TRA-TSG-EN

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System Start-Up

Step 1: Checking each cotrollers' Heartbeat blue LED light: "**HBEAT**".

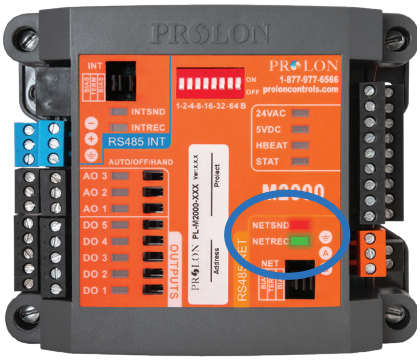
HBEAT light on a M2000

HBEAT light on a NC2000

HBEAT light on a VC2000

Step 2: Checking each controllers' communication LED lights: "**NETSND**" & "**NETREC**".

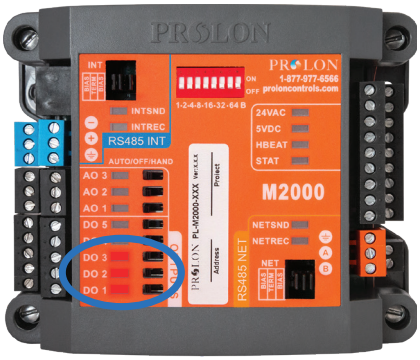
Power up the zone controllers first. Once done, power up the unit controller. **Eight seconds after the unit controller is powered up, communication will be established with its zones.**



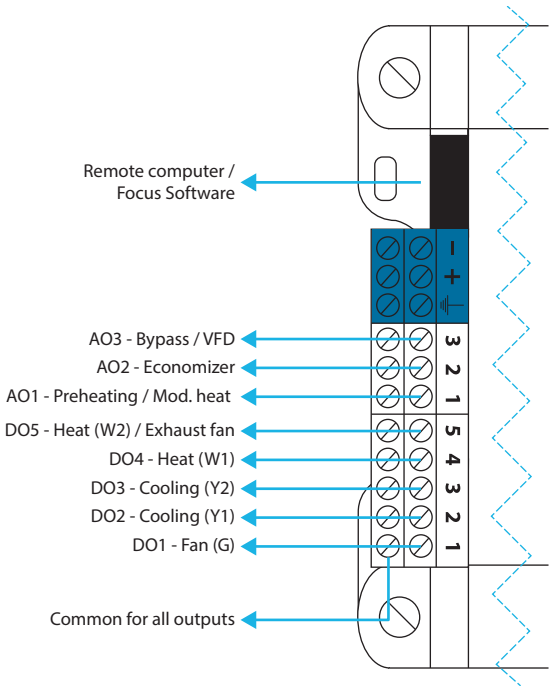
NETSND / NETREC light on a M2000

NETSND / NETREC light on a VC2000

Step 3: Checking the LED output lights.
H-O-A Override switches.



Led output lights on a M2000 (RTU)



M2000 Switches

Step 4: Manual procedure to invert damper opening direction (CW/CCW)

[4A] Confirm actual damper opening direction by resetting power on the controller.

[4B] To change direction, first unplug the power terminal block.

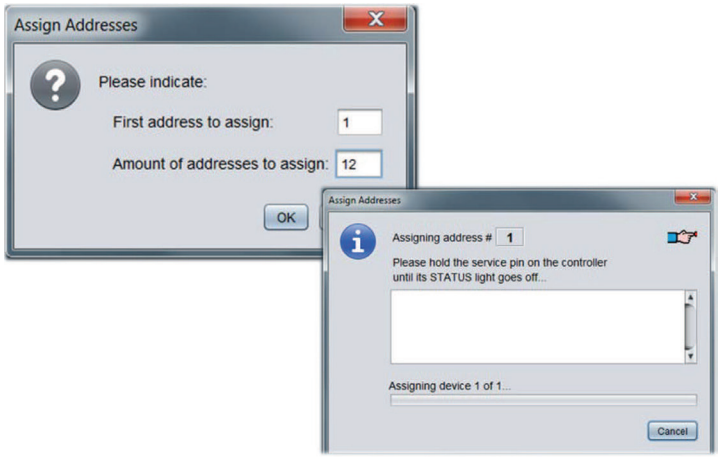
[4C] Using a small screwdriver, press and hold ther service button. **While holding, reapply power.**

[4D] Immediately observe the yellow "STATUS" light.
Clockwise (CW): - - - (blinks 3 times over 3 seconds)
Counter-clockwise (CCW): (solid over 3 seconds)

Virtual Addressing

Network addressing of the VC2000 is now done virtually, without switches. It can either be configured with the help of the Focus software or with a display equipped digital wall sensor (T1000).

When "Status" is on, no valid address is present in controller



Zone Troubleshooting

SYMPTOMS	WHAT TO DO
[A] The zones do not communicate	**[A1]** Make sure all controllers are supplied with 24VAC and that each have their HEARTBEAT flashing (including unit controller).
	[A2] Verify that the communication bus polarity is the same for all zone controllers and unit controller as well.
	[A3] Verify the 24VAC supply polarity is the same for all zone controllers and that the transformer's neutral is grounded.
	[A4] Make sure the terminating resistors have been correctly activated on the appropriate controllers.
[B] The communication "NETREC" green LED light is continuously lit on one or many zone controllers	**[B1]** The communication bus and/or 24VAC supply polarities are reversed on one of the controllers. Verify and rephase.
	[B2] If needed, check network status with the voltage measurement technique. (See Section #3 "Network Troubleshooting")
[C] The zone controller damper does not seem to respond to the thermostat inputs	**[C1]** Supply: Verify there is 24VAC and HEARTBEAT ("HBEAT").
	[C2] Reset: Push the reset button to validate the dampers rotation. (See Section #4 "Zone damper rotation change")
	[C3] Temperature limits: The ambiant temperature must be within the setpoint limits.
	[C4] Supply air temperature: Must match the corresponding demand mode.
[D] The damper opens in the opposite direction	**[D1]** Reset: Reset power to validate the dampers rotation. (See Section #4 "Zone damper rotation change")

SYMPTOMS	WHAT TO DO
[E] The T500/T1000 digital wall sensor does not work (display blank or no temperature reading)	**[E1]** Verify that the zone controller have 24VAC supply and HEATBEAT (“HBEAT“).
	[E2] Make sure the 24VAC jumper on the C1050 controller is activated (left of the RJ45 port, upper right corner).
	[E3] Verify connections and wiring polarity between the C1050 and T500/T1000 (using LVT 4/18 with Prolon PL-T1000-ADAPT, terminals 1, 2, 3, 4 on both ends).
	[E4] Verify connection (using straight CAT-5 // RJ45 terminated cable --- NO CROSSOVER! ---))
[F] The T500/T1000 sensor displays: “Scan mode“. The “INTREC“ LED light is lit on the zone controller.	**[F1]** Communication problem / polarity reversal: Verify cable & connections
	[F2] Adressing: Verify that the controller has an address between 1 and 127 (C1050/VC2000)
[G] One of the digital outputs does not work	**[G1]** Verify the output state (Red LED). Note that LED remains on even with output in overload condition.
	[G2] Output mode selection: Active 24VAC (“SOURCE“) or dry contact (“SINK“). Check for external jumper (VC2000) or position of switch (C1050/VC2000)
	[G3] Short-Circuit or overload: Unplug output wires and let thermal fuse cool. Fix the problem and replug wires.
	[G1] Outdoor air or morning warm-up interlock sequence (pnly DO #3 & DO #4 aggacted). See unit controller serrings using Prolon Focus Software.
[H] Analog output does not work	**[H1]** Verify the output state (Orange LED). Note that LED turns off when outputs is in overload condition.
	[H2] Short-Circuit: Verify +/- polarity.
	[H3] Outdoor air or morning warm-up interlock sequence: (See unit controller settings with Prolon Focus software.)

RTU/AHU Controller Troubleshooting

SYMPTOMS	WHAT TO DO
[I] The communication LED Lights do not flash (“NETREC“ & “NETSND“)	**[I1]** See “The zones do not communicate“. (Section #1 Zone troubleshooting)
[J] Heating or cooling do not activate on the air handler unit	**[J1]** Verify the proof of fan.
	[J2] Keep in mind the default 5 minutes off-delay upon initial system start-up.
	[J3] Ensure that all zones are communicating and have the same demand.
[K] Economizer sequence does not work Modulating preheating sequence does not work	**[K1]** Outdoor air & supply air sensors: Verify proper connection and positive reading of temperature. (See Unit Controller using Prolon Focus software)

Network Troubleshooting

Galardo Technique (Voltage measurement procedure)

Step 1: Unplug the unit controller (M2000) from the zone network cable.

Step 2: De-activate the terminating resistor jumper from the last zone controller.

Step 3: At any point on the nertwork, perform a DC voltage measurement between each of the NET A & NET B (#15 and #16) communication connectors and neutral (#1)

Step 4: Voltage between “A“ and neutral should read about 2.7Vdc.

Step 5: Voltage between “B“ and neutral should read about 2.7Vdc.

Step 6: Should the readings be different, unplug all zones from network and re-plug one at atime while taking new readings until the faulty zone is found.