



# Tech Tip

September 2023

# Odyssey Symbio MODbus communication troubleshooting



The following information is based on utilizing a Symbio outdoor and indoor unit.

OD unit model – TTA/TWA with the 15<sup>th</sup> digit as “S” identifying it as a Symbio unit.

ID unit model – TWE with the 15<sup>th</sup> digit as “D” identifying it as a 2-stage airflow/Single Zone VAV. Meaning it will have a VFD with keypad and will require pair of twisted shield 18 awg wire between indoor and outdoor. This will be needed for Modbus communication for the blower to operate.

Depending on other accessories like electric heat, another pair of twisted shield 18 awg wire will be needed. This will be required for IMC communication for the blower to operate correctly with electric heat call for operation.

Please reference link provided or go to [Tranesupport.Zendesk.com](https://Tranesupport.Zendesk.com) (Commercial Help Center website) as well as reference IOM(Installation, Operation and Maintenance manual) that comes with equipment for correct wiring instructions as well configuration of Symbio board.

Once wiring and configurations are confirmed, the following step are to troubleshoot Modbus communication from OD unit to ID unit.

TTA / TWA - Cooling / Heat Pump Condenser with Symbio
Digit 15 – Controls
<b>S = Symbio™</b>

TWE Air Handler with Symbio
Digit 15 – Controls
1 = Constant Volume
C = 2 Stage Airflow (Electromechanical Condenser Only)
<b>D = 2 Stage Airflow/Single Zone VAV (Symbio Condenser Only)</b>

D = VFD - Modbus Communication  
2 twisted / shielded pair 18 awg



- Reference List for IOMs**  
**SS-SVX001A TTA IOM**  
**SSP-SVX001A TWA IOM**  
**SSA-SVX06H TWE IOM**

Field Service Representative Contact

Local office number and follow automated menu to support


Regional - 844-358-7263; option 2, option 3

# Odyssey Symbio Modbus communication troubleshooting

Modbus communication originates from the Symbio 700 Board at P1.

Normal Modbus Com between Symbio board and ID TR150 VFD is 4.73 to 4.15 VDC pulsing approximately 10 times a minute, no pattern.

If communication is normal; At Symbio board Modbus LEDs TX/RX will pulse at the same time with about a second in between and a couple quick pulses every now and then. The Com LED on the VFD keypad will fast and slow flash.

If you do not have normal Modbus comm, you will get a red LED flashing at Symbio board. Also have multiple alarms that will show in the Symbio app at 

“Supply Fan VFD communication status”. The Com LED on the VFD keypad will be solid ON or OFF.

The end of Modbus Com is the TR150 VFD. From there it goes to P1 at ID unit Relay board. The next connection point is at J7 Relay board terminal plug where the field connection of Com wire terminate at ID unit. The next point is the OD unit field connection of Com wire at J16 Adapter board terminal plug. At the OD unit Adapter board J4 plug then goes to where Modbus originates which is P1 of the Symbio 700.

When troubleshooting Modbus, use the LEDs. For direction. At the OD unit disconnect J16 field connection terminal plug and see if you are getting 4.73 to 4.15 VDC output from Adapter board. Then work your way to the furthest point to see when the communication voltage is not normal.

Go to the link below for further troubleshooting information.

[Commercial Help Center: Odyssey Symbio Modbus Com Troubleshooting](#)

