APPLICATION NOTE

APP#145

Revision 05-03-2023

Revision History

Date	Author	Description
2-18-2020	DEW	Setup
07-15-2020	DEW	ADD Doc file from Bob B with photos
05-03-2023	DEW	Correct wiring for 7 & 8

ROCKWELL LIQUIFLO 2
Variable Frequency Drive

Part# - MCS-LF2-CARD
Allows MCS to hardwire 0-10vdc to Reliance / Rockwell LiquiFlo 2 drive

Any questions regarding this release, contact: support@mcscontrols.com

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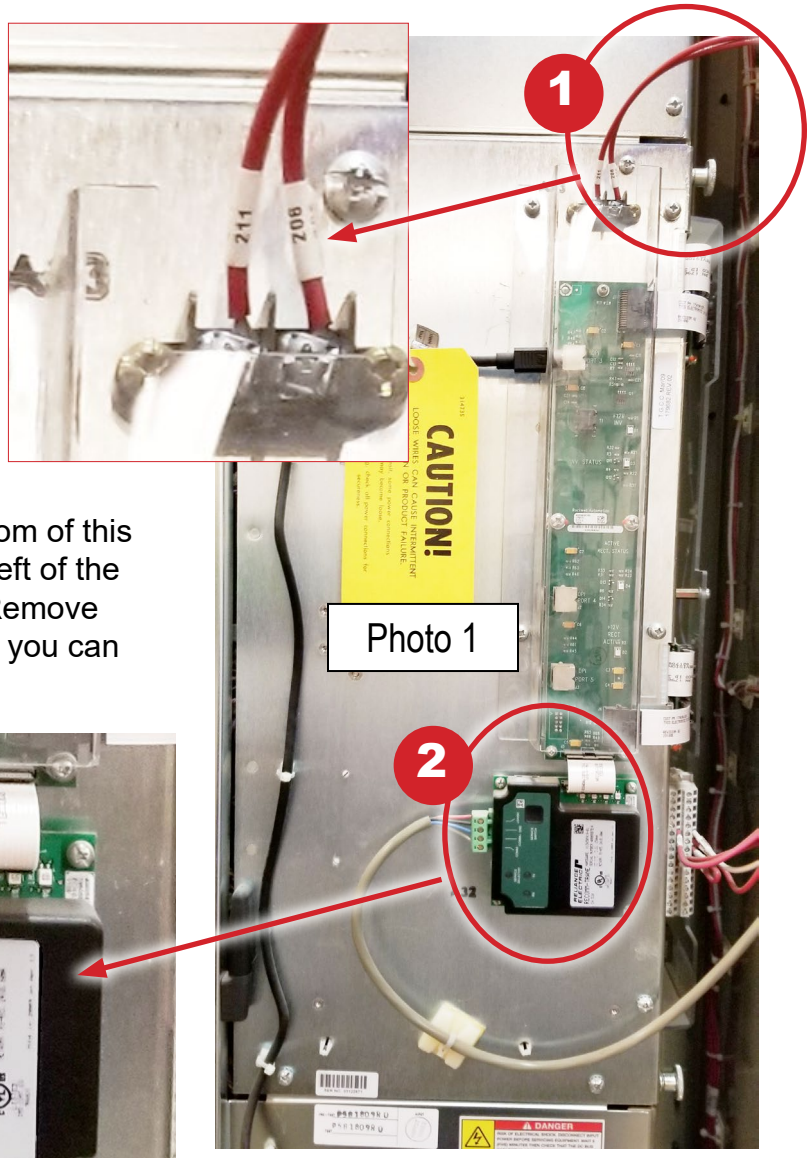
Install I/O Module Analog Board

This work will take place in the right hand side of the VFD.

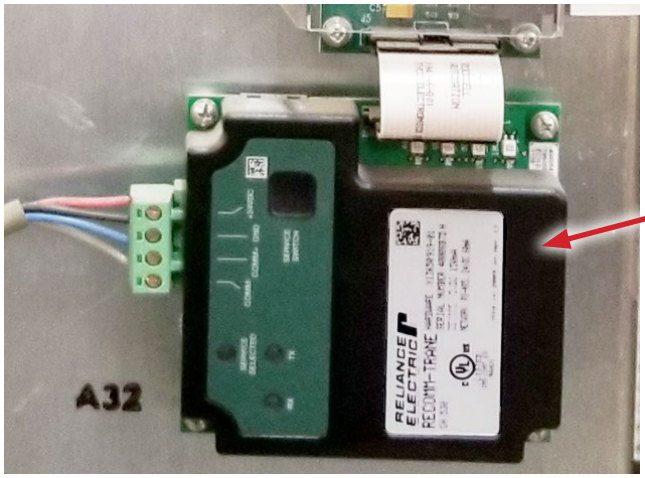
REMOVE POWER FROM THE UNIT BEFORE ATTEMPTING TO REMOVE WIRING

1. To install the analog board first remove the two red wires at the top of the board.

2. Wire 211 is on the left and 208 is on the right and they have to be reconnected that way.

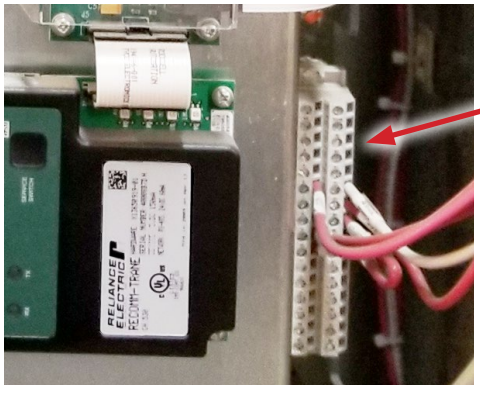


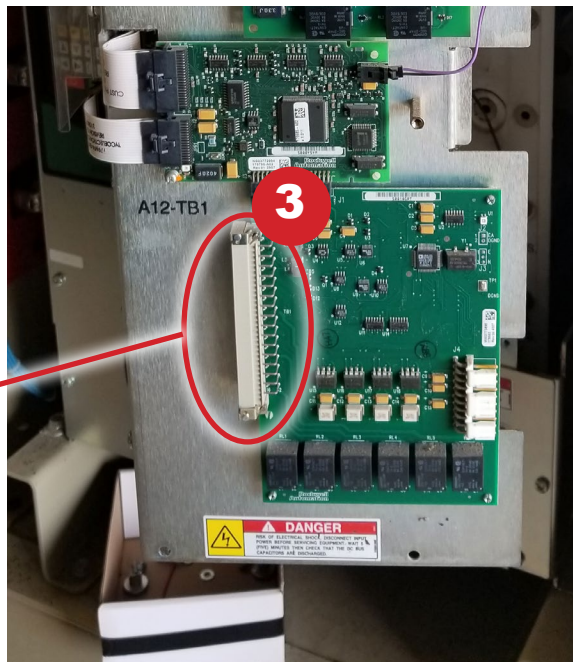
2. The Trane communication module is at the bottom of this photo (A32) Unplug the IPC bus cable on the left of the module and remove the cable from the panel Remove the ribbon cable on the top of the module. Then you can remove the module.



3. On the bottom right of the photo is a plug on board A12-TB1 with red and white wires on it. Pull straight toward you and set it aside.

   On the back of this board there is also a hidden plug that you have to remove by pulling straight back.

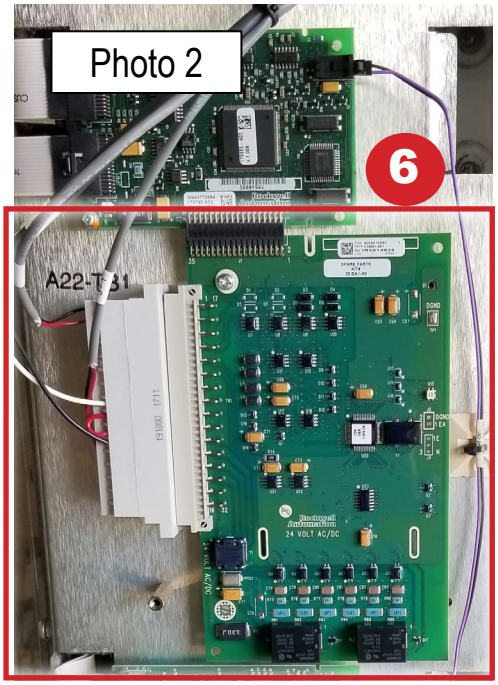




4. Next there are 2 screws in the top of this hinged panel and 2 on the bottom. Remove them.

5. On the right side of this panel there are 4 thumb screws that have to be removed. Then this panel will swing out so that you can remove the 2 screws that hold the lexan cover on the boards on the side.

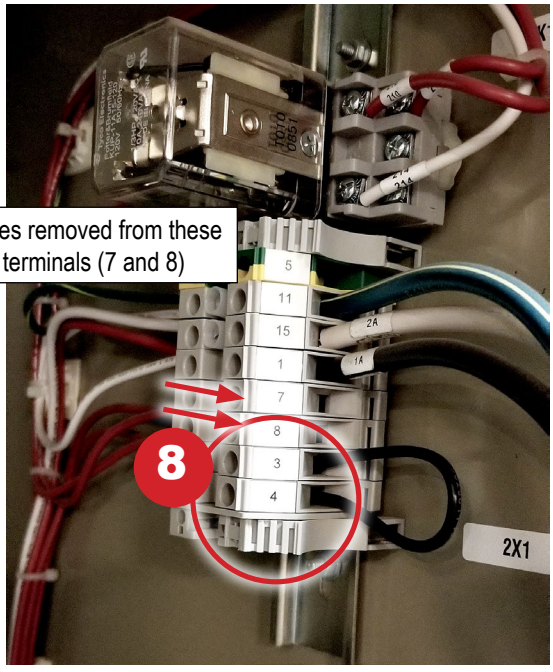
6. You will now install the I/O module 2 1T-180060-A01 in space A22 TB1. This location is shown in photo 2. Wire it in accordance to the diagram on page 3. In one of the little packs that came with the board will be a screw and a plastic push anchor. On the top left there is a mounting hole with a brass standoff behind it, that is where the screw goes. The bottom left is for the plastic push anchor.



7. Now reverse the procedure with the lexan cover, thumb screws and sheet metal screws. Reinstall the back cable on module A12 TB1 and the front connector.

8. Next is terminal strip 2X1 on the upper right side. Jumper terminals 3 and 4, this was the high pressure switch and this cable now gets pulled back to the MCS Control panel. Wires on terminal 7 and 8 are removed and pulled out of the conduit.

9. Now turn power on to the VFD and program as per the following write-up.



Wiring I/O MODULE

1. Isolate A32 Reliance Electric Recomm-Trane Module by removing the ribbon cable.
2. Install the new I/O module 2 1T-180060-A01 from Carrier and wire accordingly:

1.	Negative	0-10 Analog Speed Signal
2.	Positive	
12.	Common	Fault Input to MCS
13.	N.O.	
24.		
25.	Jumper	Run Enable to dry set of N.O. Contacts
26.		
27		

Programming the VFD

Use OEM keypad to change parameters. Scroll from basic to advanced. Hit OK button, hit escape, go to parameters (P) and make the following changes:

# 42	This will be the FLA's	
# 44	3553	RPM
# 81	38.0	Hertz Min Speed
# 90	1	for AO1
# 91	60	Hertz High
# 92	0	Hertz Low
# 196	1	
# 276	000011	Logic Mask
# 277	111111	Start Mask
# 322	10	Volts High
# 323	0	Volts Low
# 324	0	
# 327	0	
# 361	7	Run Enable
# 362	0	
# 363	0	
# 364	0	
# 365	0	
# 366	0	
# 380	1	Fault