

Unity Control Circuit Board  
As of 2-18-16

First To Know was sent out on July 30<sup>th</sup> 2015

## FIRST TO KNOW

Date: July 30, 2015

Models or Product Affected: Cruisair & Marine Air Systems

Recipients: Dealers, Master Dealers, Distributors, OEMs, Manufacturer's Reps

### New U-Control Circuit Board For Cruisair and Marine Air Systems

New "U" version hardware has been released to replace the circuit boards on the Cruisair Q-Logic and Marine Air Passport I/O controls for Turbo self-contained systems, Emerald split systems, and the tempered water/chilled water product lines.

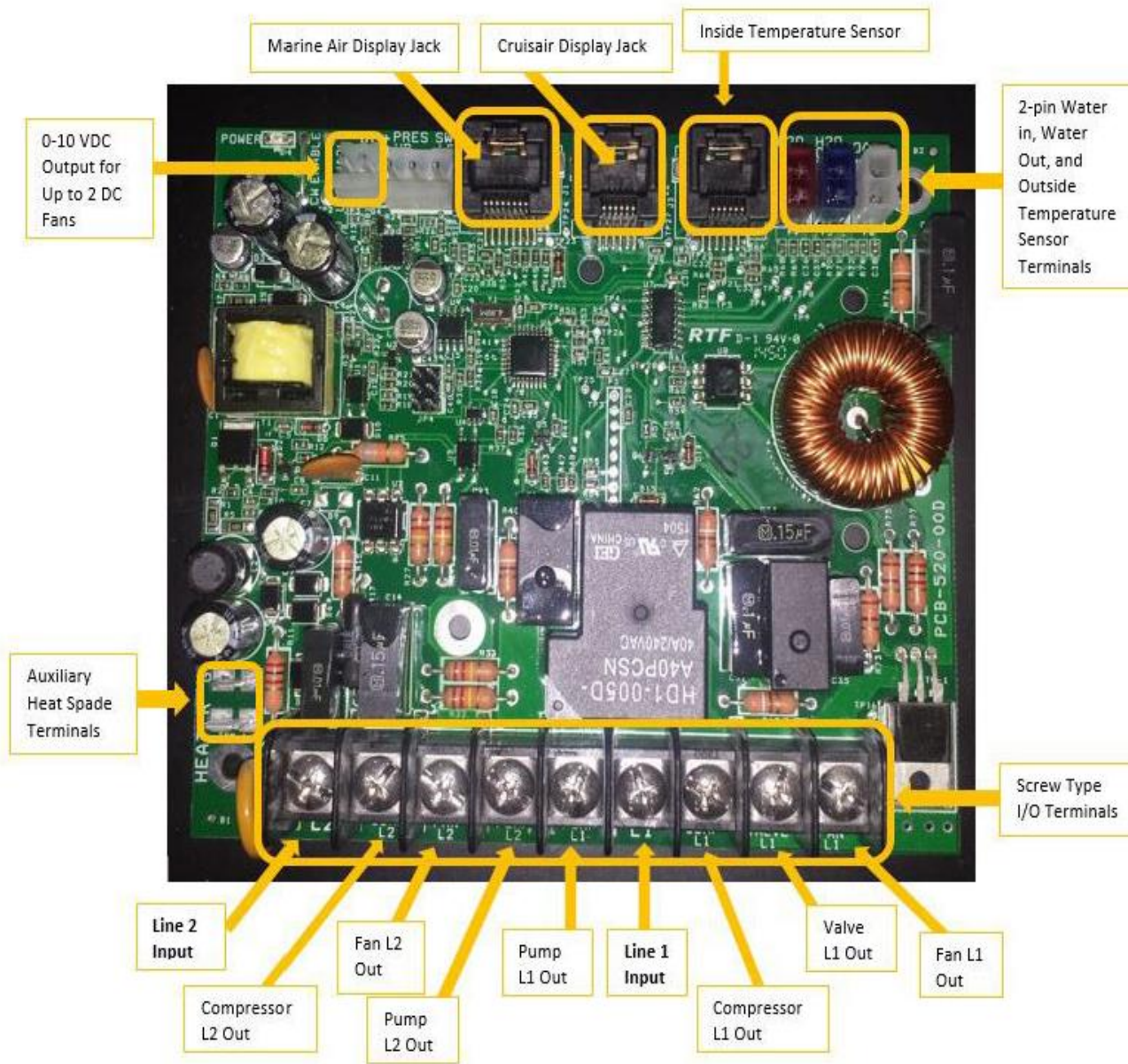
#### • Changes For Cruisair

- The new U board began shipping from the factory during the second half of June 2015 starting with serial number 525xxxxx for Turbos and 526xxxxx for Emeralds. The rest of the Q and SMXII families will follow later this summer.
- Dometic has inventory of Q boards to cover end of life. At this time it is recommended to replace existing Q boards with a Q board. At a future time when Q boards are no longer available for replacement, the electrical box and harness will also need to be changed and Dometic will release retrofit electric box kits to replace Q boards.
- NOTE: Wire colors have changed!
- The U board is compatible with these Cruisair displays:
  - Q Logic – Qht, Q3
  - SMXII – SMXHT, SMXir, SMXIIAB
- The new U board is not compatible with the existing CAN Bus adapter (4250042) used in the following kits:
  - 763100027
  - 763100061
- U board with the CAN Bus daughter board will be available later this summer.

#### • Changes For Marine Air

- The new U board began shipping from the factory in early July 2015 starting with serial number 528xxxxx for Turbos, Emeralds, and chilled water systems.
- The U board is a mechanical drop-in replacement (same footprint), however the wiring and terminal-block layout do change. Order part number 223100502, which consists of the replacement U board for DX systems, generic wiring diagram, and terminal strip label. The U board is compatible with these Marine Air displays and firmware versions:
  - Elite – Firmware releases A13 and later.
  - Passport I/O – Firmware releases A12 and later.

# U Control Circuit Board





# U Control Circuit Board

- All equipment built with this board will have the letter “U” in the description after the BTU, (ex: STQ12U-410A, VTD12UK-410A).
- All Dometic brand units will have the letter “U” in the model #, (ex: DTU,DEU)
- Works with Passport I/O, Firmware A12 and later, Elite, Firmware A13 and later
- Works with all SMXII, SMXHT, Q-3, or QHT displays
- **Only works with SMXIR displays made from 2005 to present**
- Starting dates for Marine Air units, July 2015, serial # 528xxxxx for all Turbos, Emerald, & CW
- Starting date for Q-logic units, June 2015, serial # 525xxxxx for Turbos and 526xxxxx for Emerald units
- Starting date for SMXII units, October 2015, serial # 541xxxxxx
- **Will not fit the same footprint of an A-288D SMXII board or a 701800004 Q-logic board. Will have about 3 years before end of life for these old boards.**
- Wire color code has changed with all **Cruisair units** to Marine Air using the unity board. Also all the new Dometic brand units will have the standard Marine Air colors.
  - Compressor common wire, Purple to Black
  - Compressor start wire, Pink to Orange
  - Compressor run wire, White/red to White
  - Fan wire, Orange to Red
  - Reversing valve Blue to Yellow
  - High pressure switch wires, Yellow to Black & Orange
  - Low pressure switch wires, White to Black & Blue



# U-Board With SMXIR, SMXHT or SMXII Keypads

Another change that was made with the u-board is the SMXII, SMXIRB or SMXHT keypad will now show HP/-- or LP/-- on start up if we have an open pressure switch. This could be from a bad switch, loose connection or a unit that is out of refrigerant.

This enhancement was carried over from the Q-logic keypads.

Also another enhancement is that the keypad will show a 3 minute count down starting at 90 and count down to zero when the unit has cycled on the Hi pressure switch.

For the SMXII and SMXIR, right now it only shows the fault codes or count down when the keypad is showing the inside temperature and not the set point. If you are looking at the set point temperature it will just kick the unit out of the mode and back in the off mode. This small glitch has been fixed in revision V3R28 that will be coming out soon.



# Replacement Board And Adaptors for U Control Circuit Board

## Replacement Board part numbers:

**223100502** DX or CW U Board (No cable adapters)

**223100500** DX U Board retro for Passport I/O. Comes with 3 cable adapters and coupler for air and water sensors.

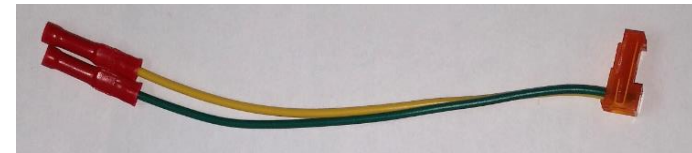
**223100503** DX U Board with Canbus daughter board.

**263400602** CW U board retro for Passport I/O. Comes with 2 cable adapters and couplers for water sensors.



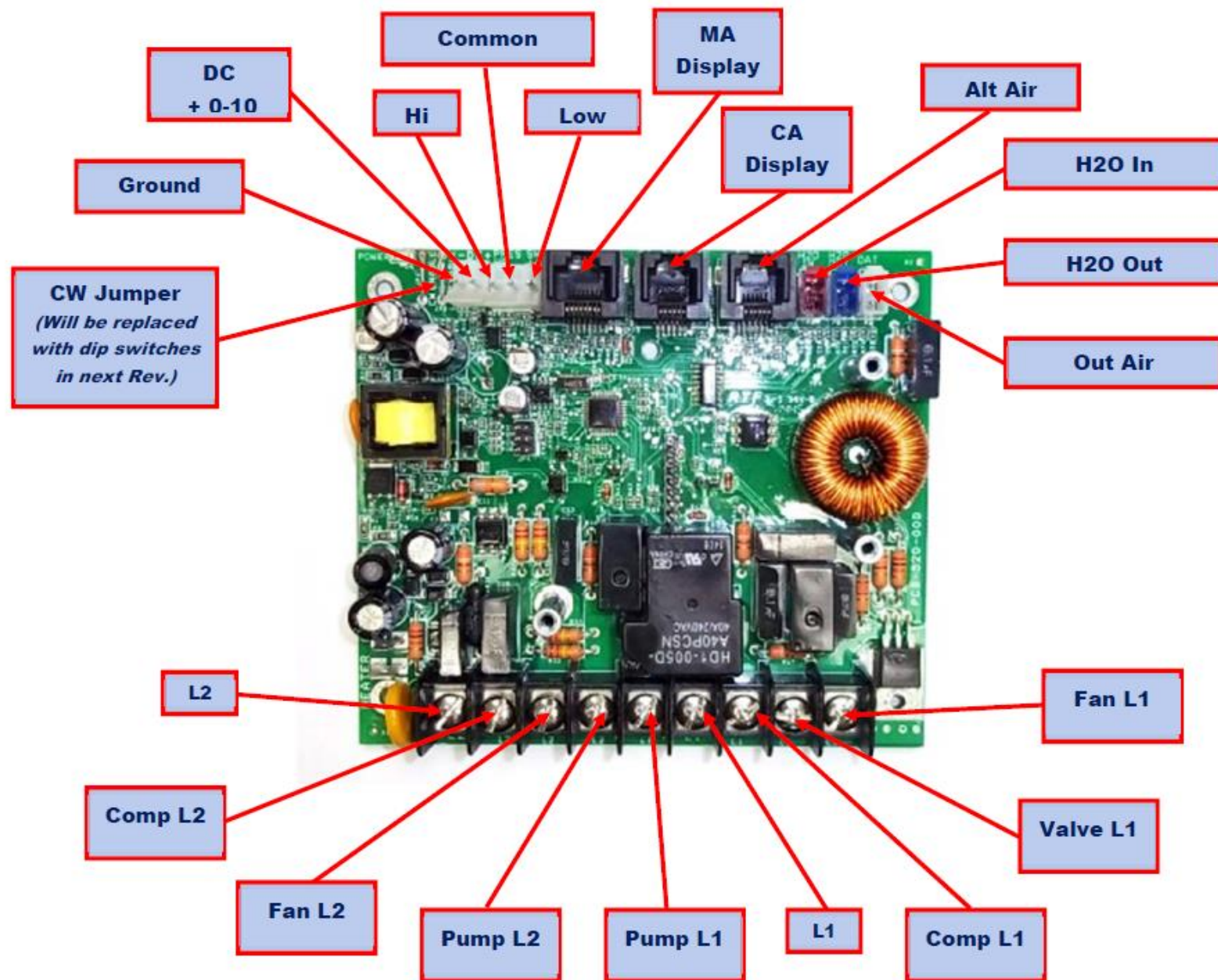
Kit Number 222103190  
ADAPT SENSOR U-CNTRL WTR/OAS

Adapters are necessary for retrofits or optional sensors. New units will arrived with new sensors



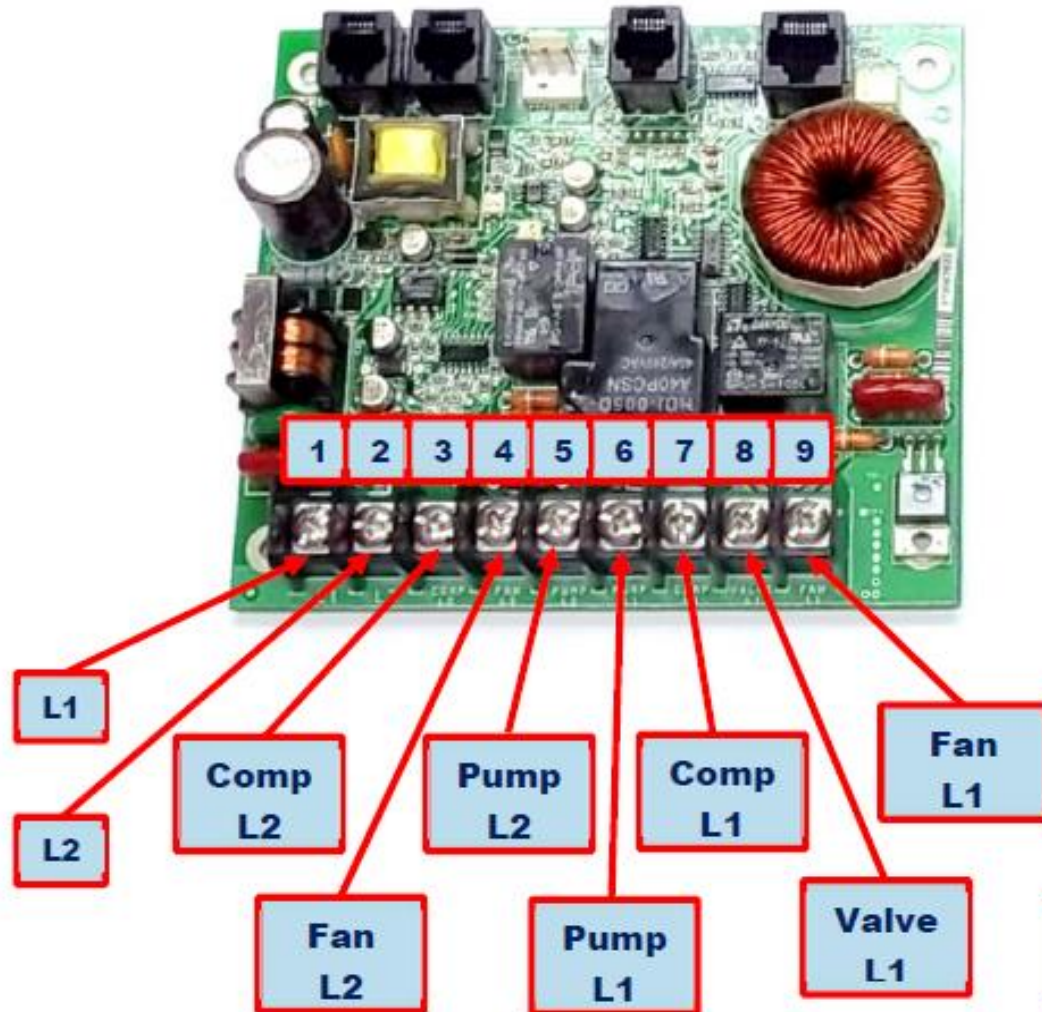


# U Control Circuit Board Revision D

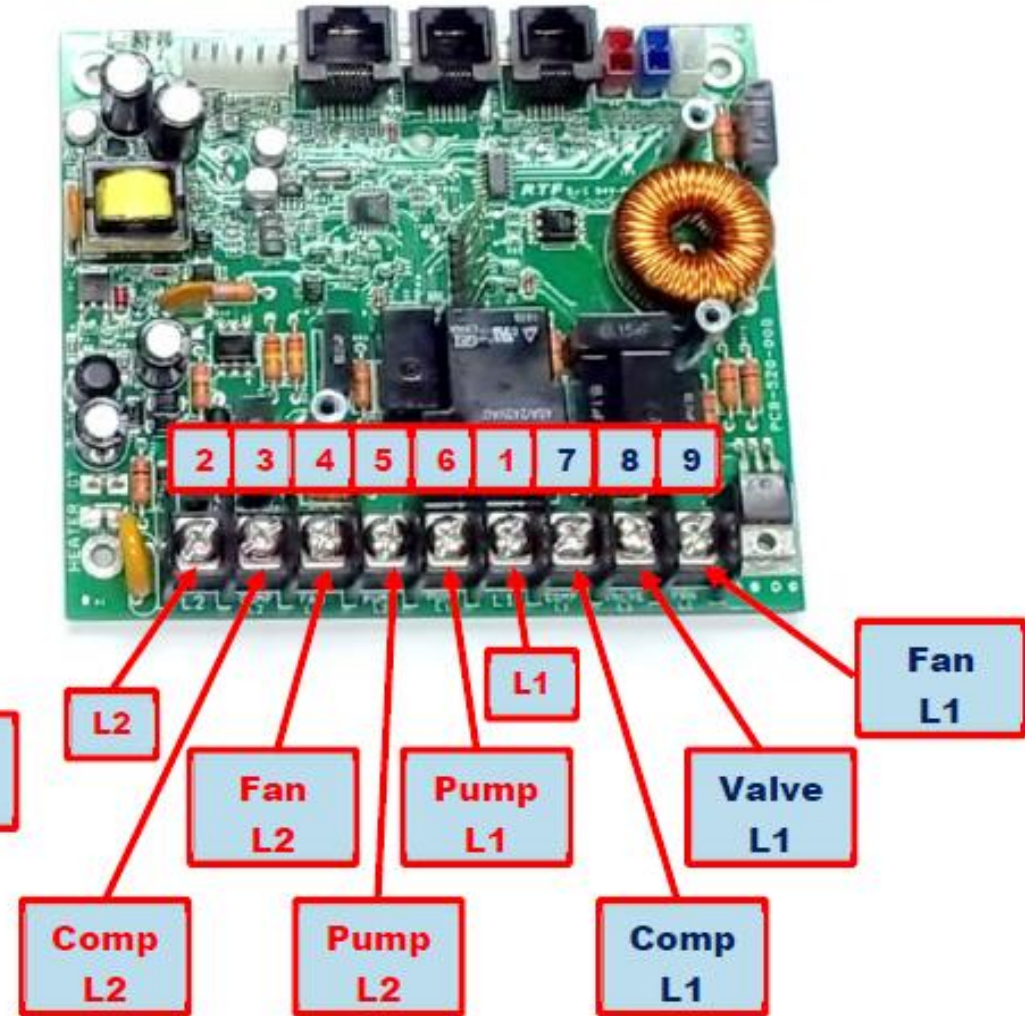


# Passport I/O and U Control Comparison

**Passport I/O (Rev J)**



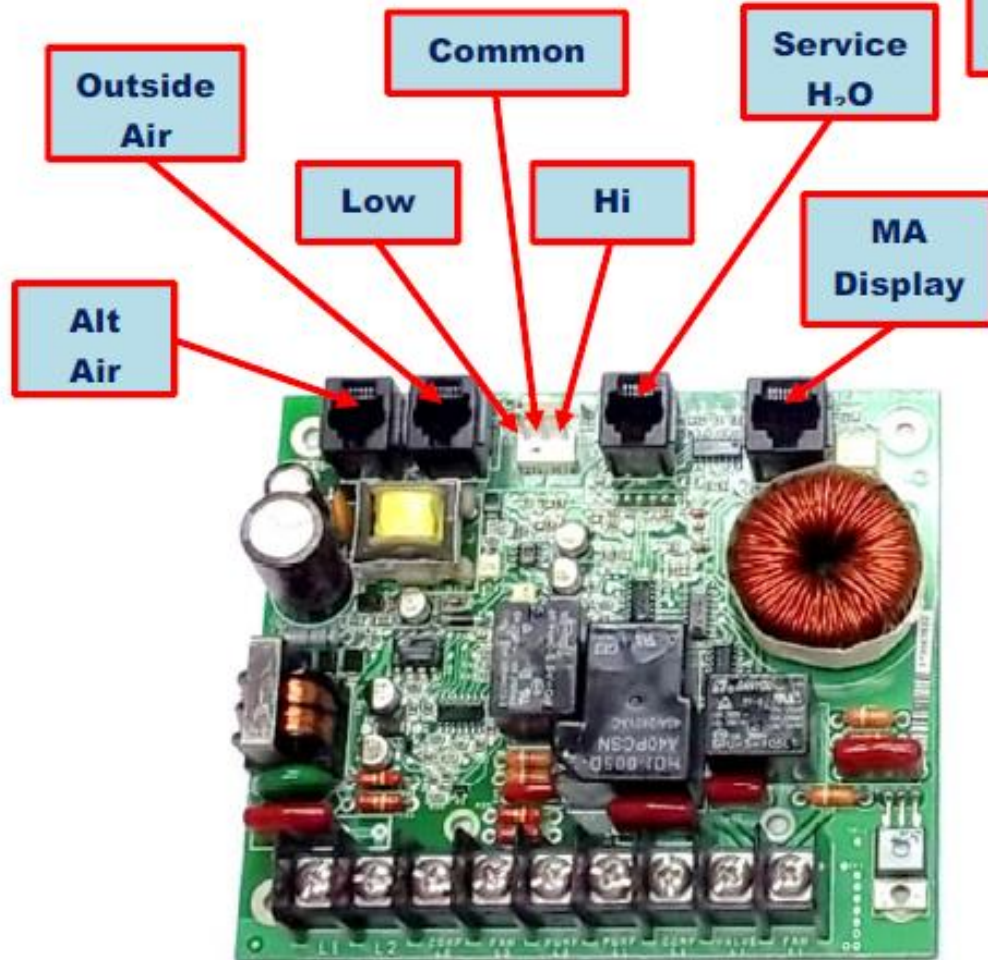
**U (Rev D, Rev E Coming)**



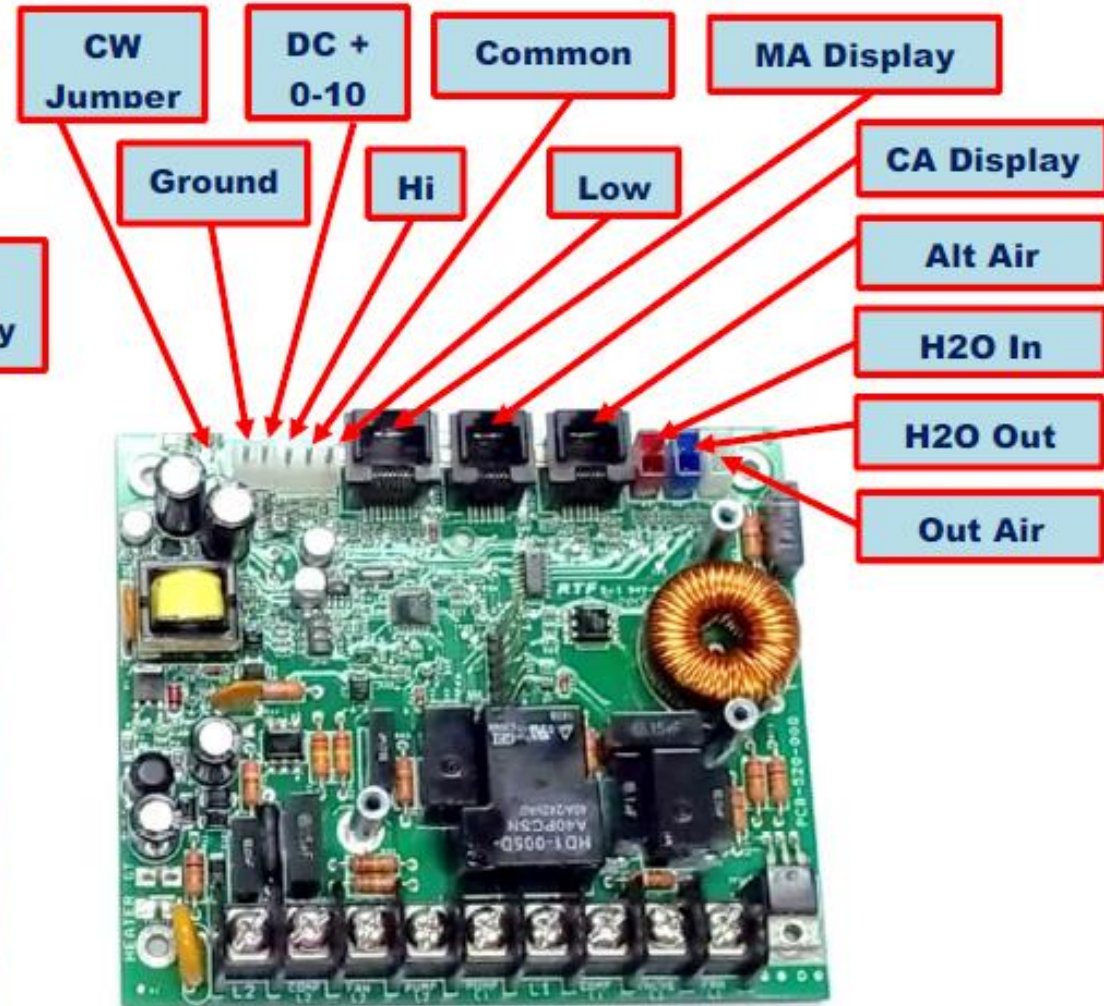


# Passport I/O and U Control Comparison

## Passport I/O (Rev J)



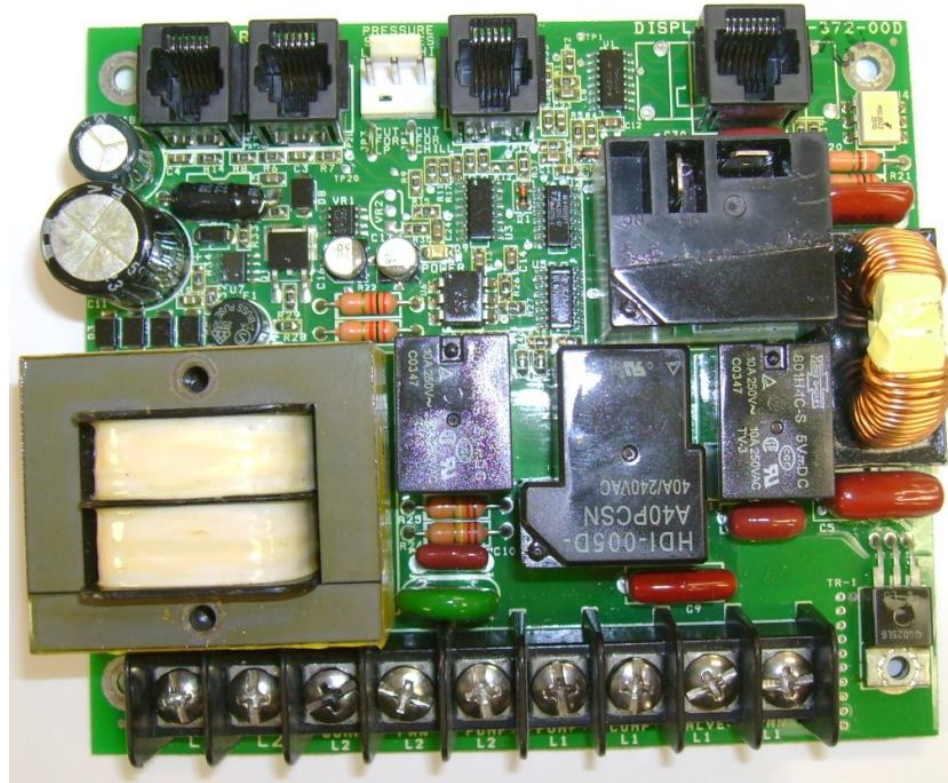
## U (Rev D, *Rev E Coming*)



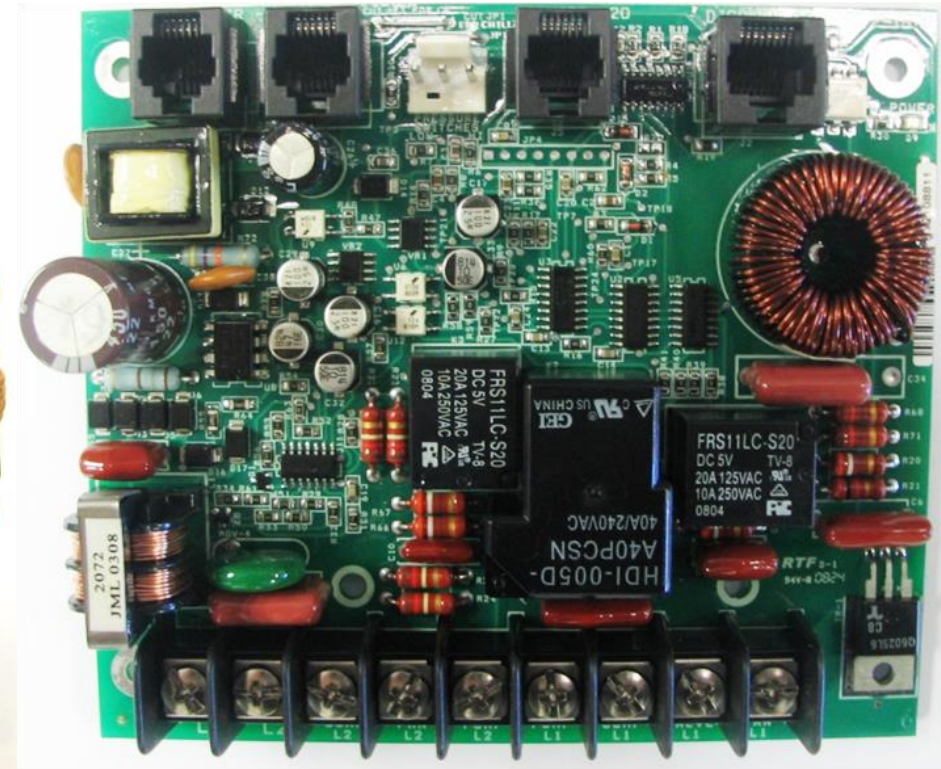


# Passport I/O Circuit Board for use with AC blowers

**Out of Production!**



Older Revision - 335424



Newer Revision - 4220020

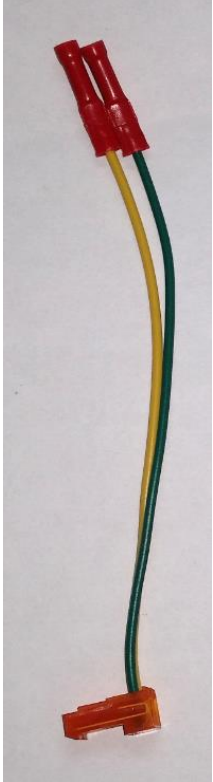


# U Control Circuit Board Revision D

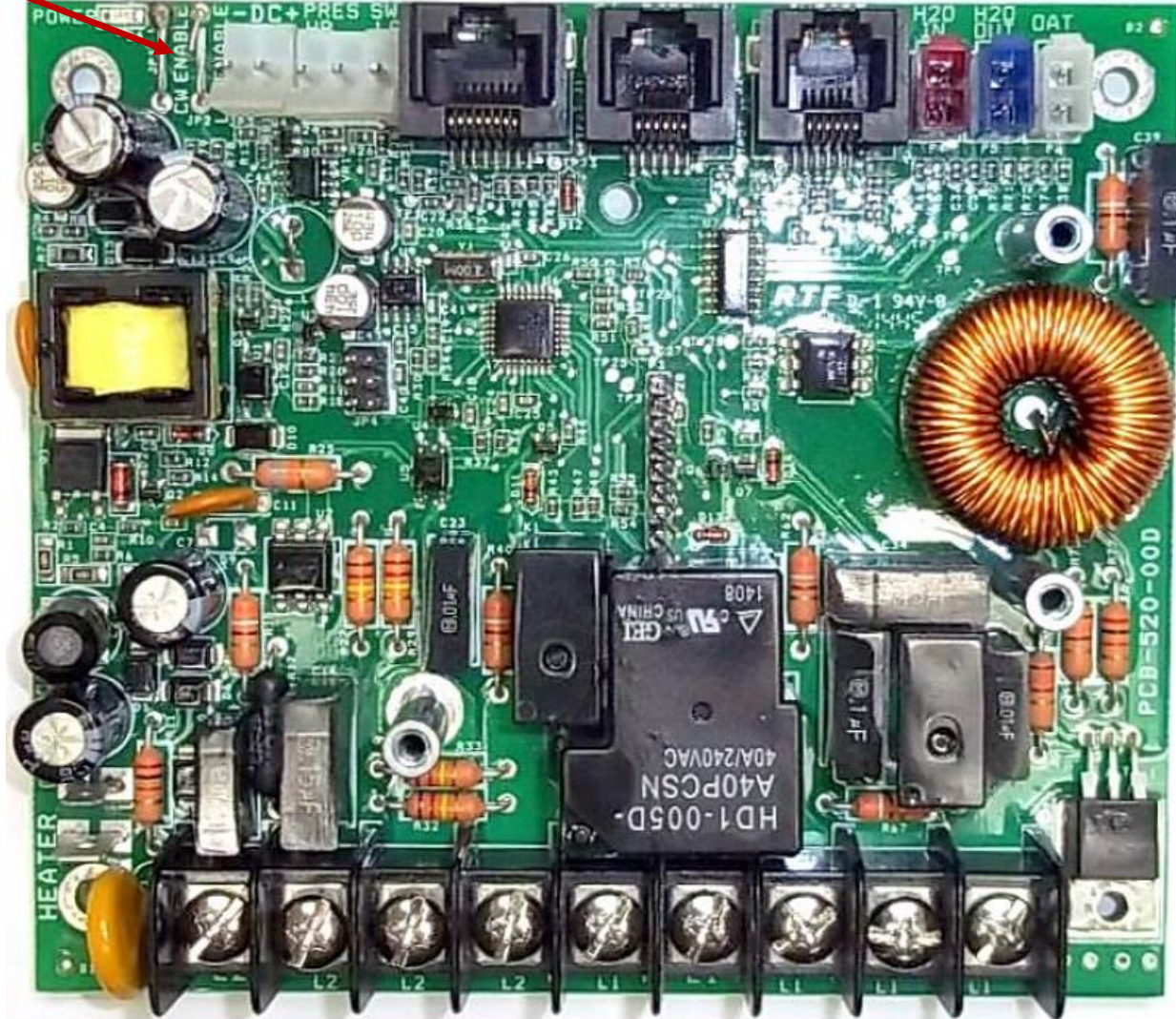
## First Version Released Out In The field

### 2 Jumpers

One for CW  
One for LP switch



Optional DC  
adaptor required  
for DC blower  
operation for Rev  
D board  
p/n: 337788



### Air temp sensors

- It depends on the display that is plugged in.
- Sensors are still optional for Marine Air.
- If you use a Marine Air display you have to use a MA 6 pin 10K ohm temp sensor.
- If you use a Cruisair display you have to use a CA 4 pin 3K ohm temp sensor.



# U Control Circuit Board Rev E

## These will be used with the Dometic Brand Units DTU, DEU, ECT.

JP5 jumper for  
MAS sensors

Screw on connector  
for DC connections,  
so adapter will no  
longer be needed.



p/n 337788  
DC adaptor for DC  
blower operation will  
no longer be needed  
with Rev E U-Boards



### Air temp sensors

- Sensors are still optional for Marine Air.
- A Marine Air display will work with a CA 4 pin 3K ohm sensor with JP5 jumper un-cut.
- If you use a MA 6 pin 10K ohm temp sensor, the JP5 jumper has to be cut.
- If you use a Cruisair display you have to use a CA 4 pin 3K ohm temp sensor, and leave the JP5 jumper un-cut.



# Easy Way To Identify the Different Revision U Control Circuit Board

Board has  
2 jumpers

2 pin plug for DC  
connections.



U Board Rev D

Board has  
3 jumpers

Screw on connector  
for DC connections.



U Board Rev E



# U Control Circuit Board, Next Revision...

Notable changes:  
Jumpers will be replaced by Bimini jumpers.



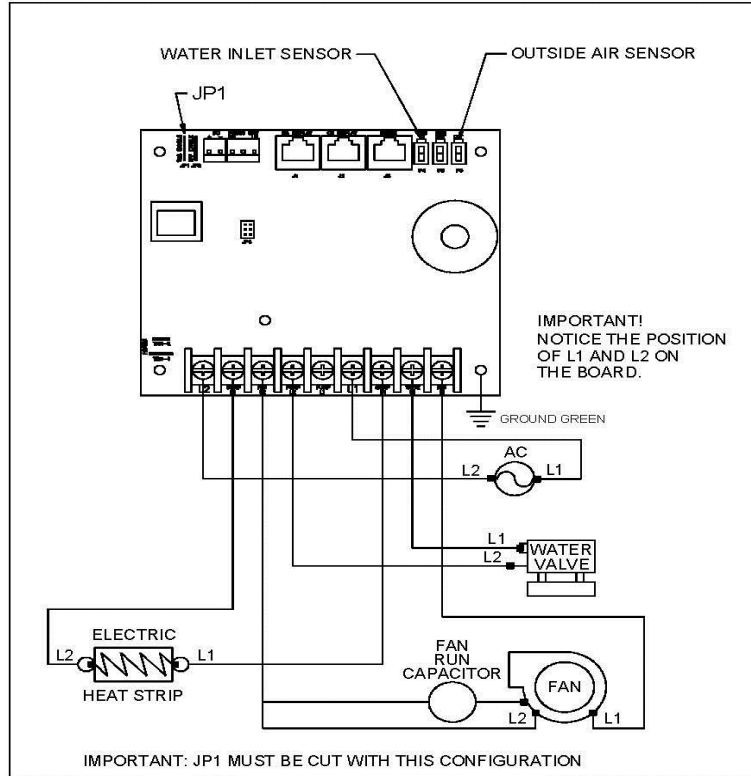
3 sockets & DC connections will be relocated

DC connections will be a 3 wire connection

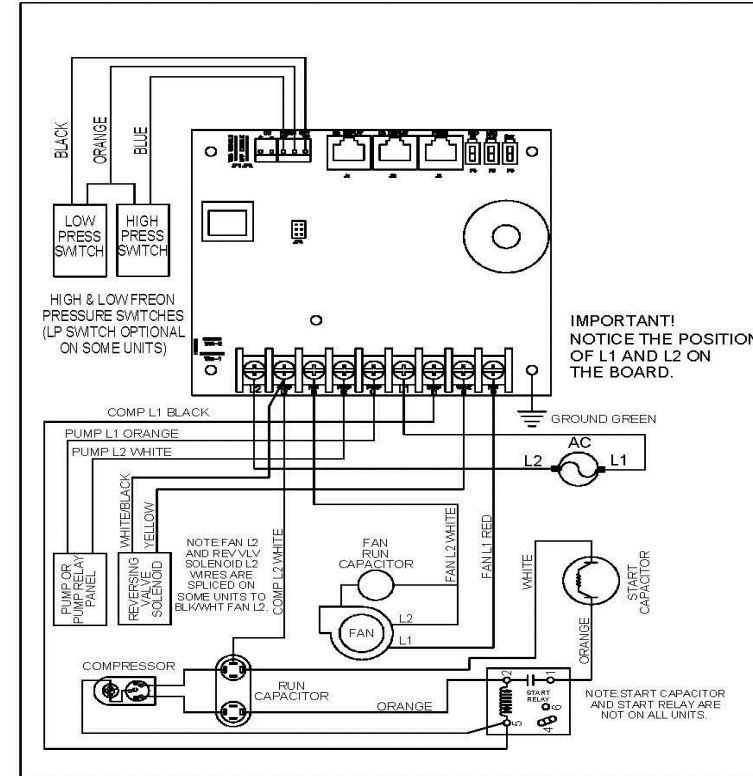
This will possibly be available in the Summer of 2016

# U Control Circuit Board Wiring Diagram For CW or DX

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TW AIR HANDLER



DIRECT EXPANSION

REV	DATE	REVISION DESCRIPTION	DWG	APR	Dometic Corporation			DOMETIC			
A	2/23/15	ADDED UNIT TYPE IDENTIFIERS & NOTE,CAD085-15	DRR	JPR	WIRING DIAGRAM U-CONTROL BOARD GENERIC						
B	6/30/15	REVISED TITLE AND NOTES,CAD365-15	DRR	JPR							
					DATE: 2/19/15	DWG BY: DRR	PART NUMBER:	DWG	338133	REV B	
					SCALE: NTS	APR BY: JPR	338133				



# U Control Circuit Board CanBus & DC

