# INSTALLATION AND COMMISSIONING GUIDE

## Actronair Demand Response Ready Retrofit Kit Instructions:

### Purpose:

These Instructions are used to correctly install the provided Demand Response Ready Retrofit Kit into the SRE, SRA & SRD range of Actronair Air Conditioner Condensers.

The Retrofit Kit involves installing a new Demand Response Ready CPU Chip into the Condenser CPU Board, so please ensure all Instructions are followed accurately so as to prevent damage to this fragile part.

### Demand Response Ready Retrofit Kit Contents:

1. These Installation Instructions
2. One of the following CPU Chips for D4 CPU PCB depending on model of Air Conditioner:
    a. **D411P** CPU Chip for D4CPU11 PCB - R22 Standard.
    b. **D103P** CPU Chip for D4CPU11 PCB - R22 Digital.
    c. **P201P** CPU Chip for D4CPU11 PCB - R410a Standard.
    d. **P311P** CPU Chip for D4CPU11 PCB - R410a Digital.
3. Label for D4 CPU PCB Terminal Strip "DRM1, DRM2, DRM3, DR15V"
4. Demand Response Ready “Notice” Label for Electrical Panel.
5. Wiring Diagram WD0478 for Panel Door

### SAFETY:

This Retrofit Kit requires modifications to the Air Conditioners Condenser CPU Board – PLEASE Isolate the incoming Power Supply BEFORE commencing work. Supply can be Isolated at the Main Isolator located near the Air Conditioner (if fitted) or at the Main Supply Circuit Breaker in the Distribution Board supplying the Air Conditioner.
Ideally, correct Lock Out & Tag Out procedures should be followed to ensure Power Supply is not re-energized accidentally.

Before starting any wiring work check that all power to the Unit is dead by use of Multimeter, Test Lamps or other appropriate Test Equipment.

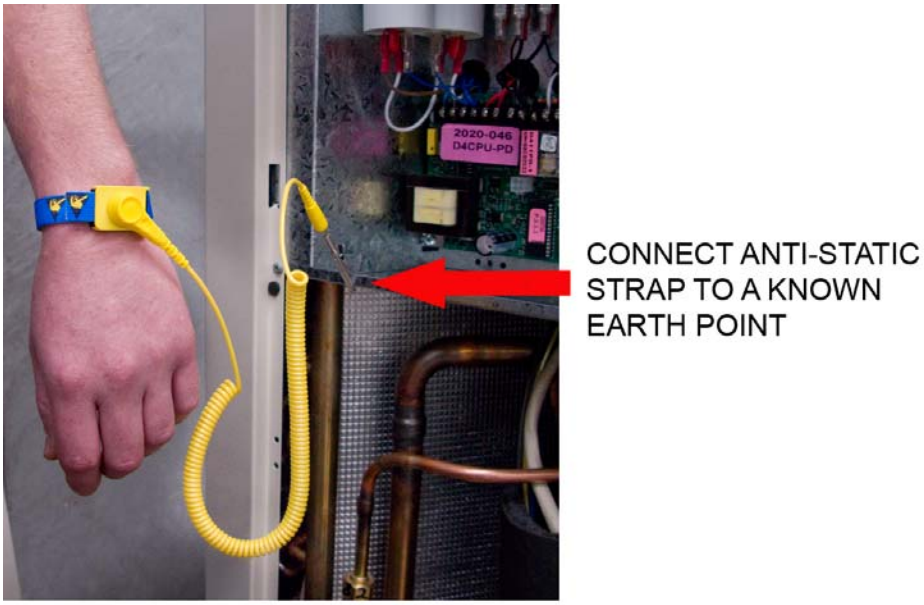
### CAUTION: STATIC SENSITIVE ELECTRONIC EQUIPMENT:


The CPU Chip for the D4 CPU Board is a STATIC SENSITIVE ELECTRONIC DEVICE !!
DO NOT handle the CPU Chip unless you are wearing an Anti-Static Wrist Strap that is connected to a Good Earth. Failing to protect the CPU Chip from Static Electricity may cause unrepairable damage to the Chip.

## Installation of Retrofit Kit:

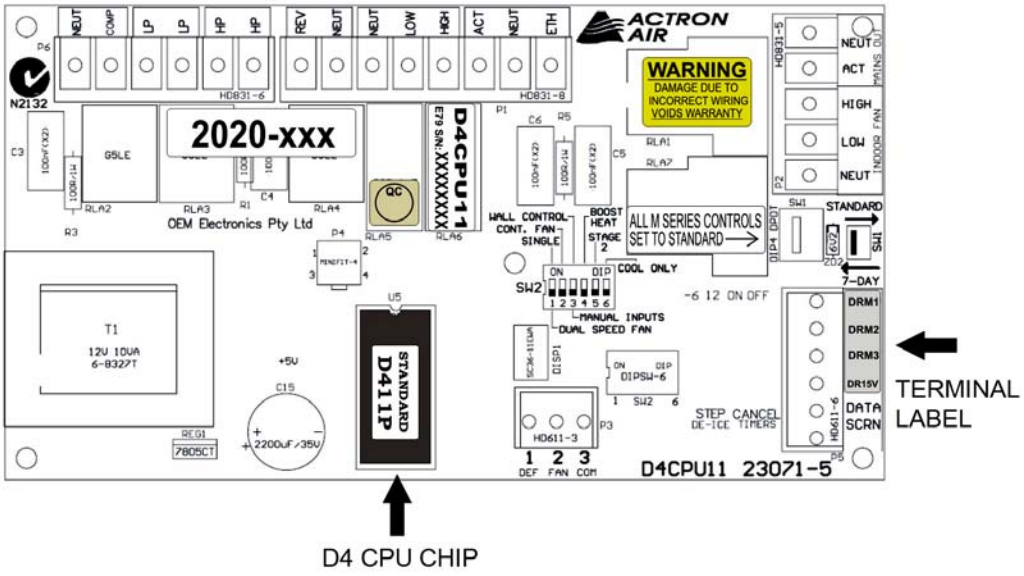
1. Ensure Main Air Conditioner Power Supply is Isolated & that Power is de-energized on all Phases by testing with Multimeter, Test Lamps or similar.

2. Connect Anti Static Wrist Strip firstly by placing Elastic Loop on one end around your Wrist & the Alligator Clamp on the other end to a suitable Earth Point – usually the Bare Metal of the Electrical Panel.

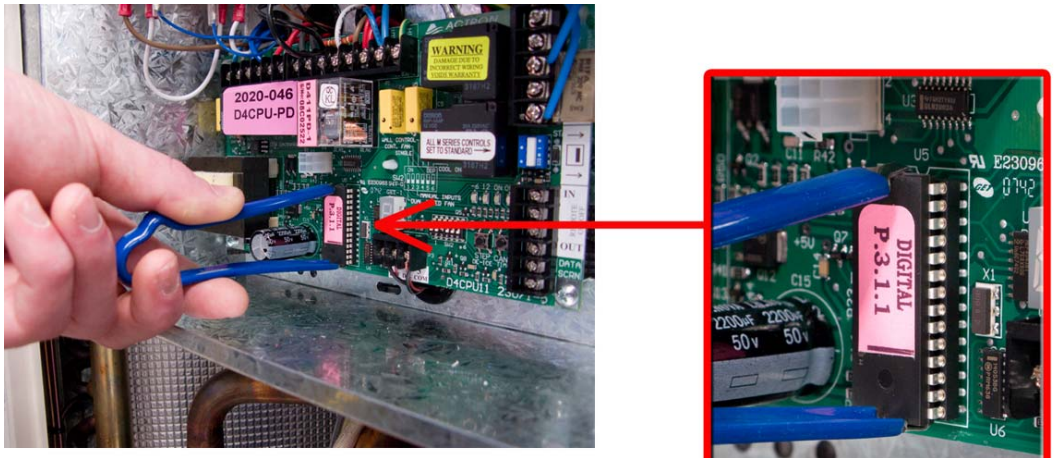



Before continuing, take a moment to identify the key components on the Condenser CPU Board.

### Typical Condenser CPU Board Layout



3. Using the provided CPU Chip Tool, carefully remove the existing CPU Chip from the Condenser Board – take care not to damage the Chip Base or any other PCB components on the Board.

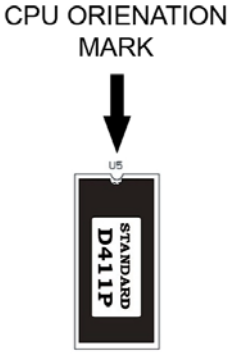



USE THE CPU CHIP TOOL TO CAREFULLY REMOVE CHIP FROM BOARD.

4. Check the new CPU Chip Number to ensure it is the correct one for the Air Conditioning unit it is being installed in. The table below lists the 4 possible variations -

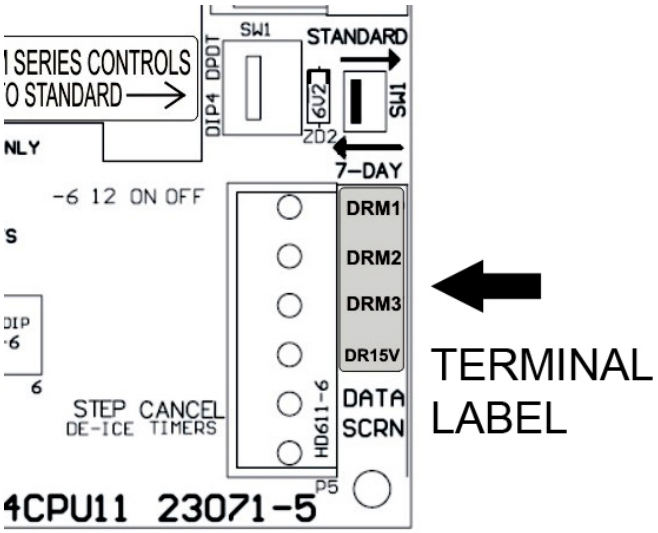
| MODEL | D4CPU CHIP TYPE |
|---|---|
| R410A STANDARD | P210P STANDARD |
| R410A DIGITAL | P311L DIGITAL |
| R22 STANDARD | D411P STANDARD |
| R22 DIGITAL | D103P DIGIRAL |

5. Take the new CPU Chip out of its protective packet. Inspect the Pins on the CPU to ensure they are all straight. Carefully place the CPU Chip in its correct Orientation on the Chip Base – the Orientation can be checked by lining up the Half Circle indent on the top of the CPU Chip with its corresponding Half Circle on the CPU Base. BEFORE pressing the CPU chip all the way in – make sure all the Pins are lined up with the Holes in the Base – then gently press the CPU Chip in as far as it will go.



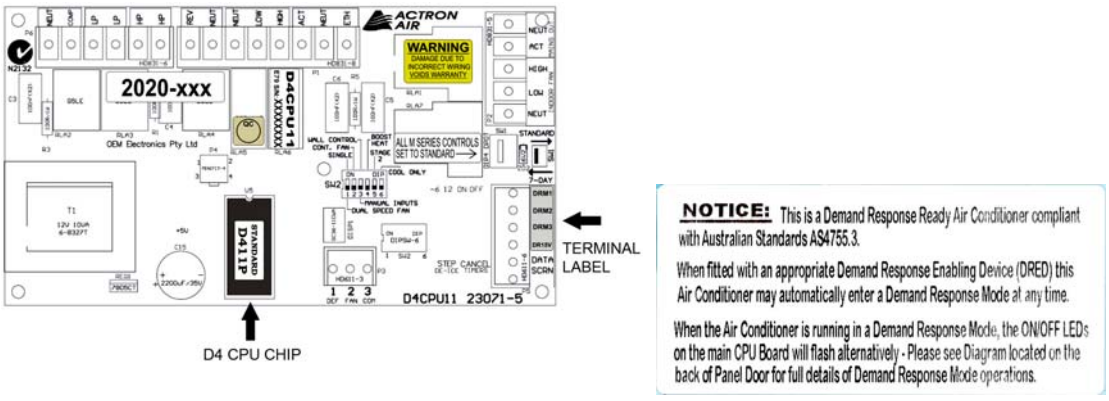
**NOTE: Once the CPU Chip has been installed correctly – you may remove the Anti-Static Wrist Strap.**

6. Now take the small stick on label marked “DRM1, DRM2, DRM3, DR15V” out of the pack. Peel off the back & stick over the existing Terminal Markings “Comp, Fan, Heat, 15V”. Take care to ensure it lines up precisely with the top 4 Terminals of this terminal block. See picture below –

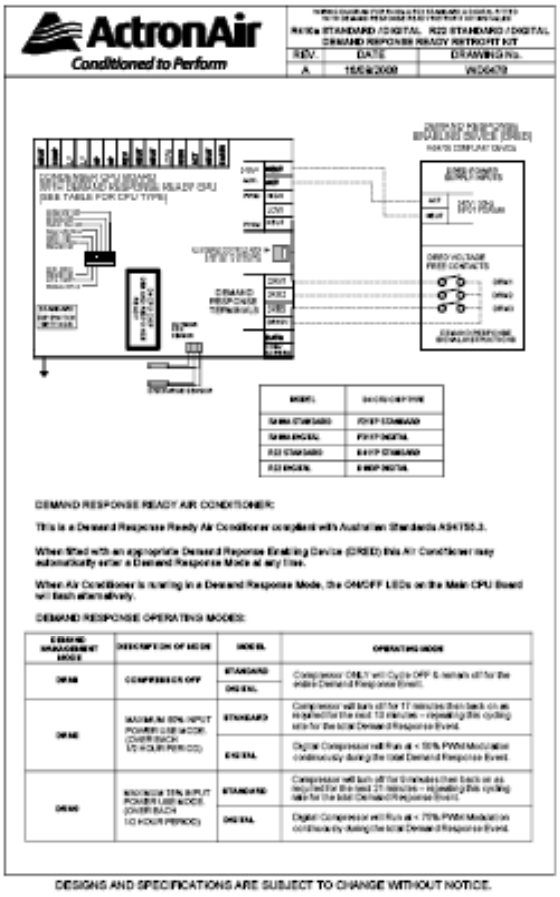



7. Now take the “Notice: Demand Response Ready Air Conditioner” Label out of the Packet. Peel the back off & stick this label on the Bare Metal of the Electrical Panel as close as possible to the Condenser CPU Board near the newly labelled Terminal Strip above.

**NOTE: clean the area of the Metal Electrical Panel BEFORE sticking the Label to ensure good adhesion.**



8. Take the Wiring Diagram WD0478 & using a Spray Adhesive, neatly stick it onto the Rear of the Main Electrical Panel Door as near as possible to the existing Wiring Diagram for the Air Conditioner.

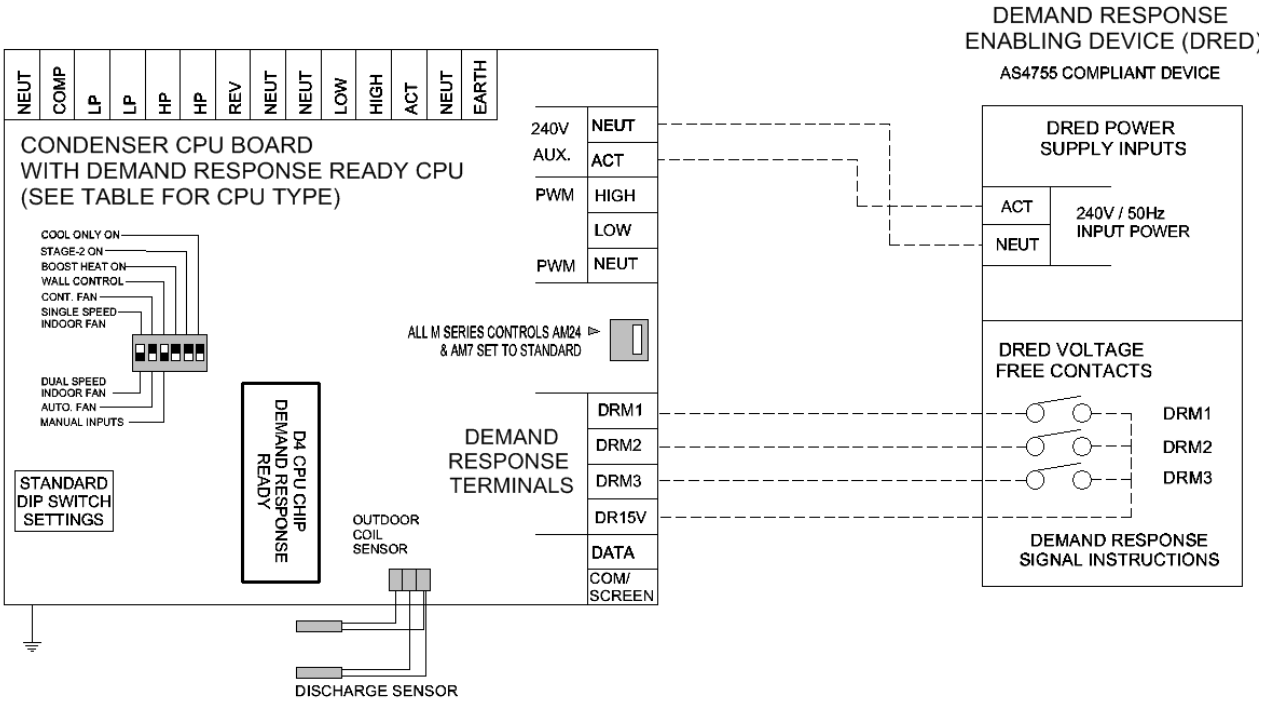



9. The installation of the Demand Response Ready Retrofit Kit is now complete.

**If you are now installing an appropriate AS4755 Compliant Demand Response Enabling Device (DRED) then please refer to their relevant Instructions in combination with the Wiring Schematic below -**

Otherwise, proceed to Step 10.

## Wiring Schematic for 3rd Party DRED Connection:




10. Check all connections & installation – once everything has been installed correctly, re-energize the Main Power Supply & check for correct operation of Air Conditioning Unit.
    Replace all Panels & ensure Air Conditioner is left in Safe & Tidy state.