

IPM Troubleshooting

This Tech Tip is to be used if you are getting an IPM error or the compressor does not start.

1. Turn power off to outdoor unit and wait 3 minutes for DC voltage to discharge.
2. Check that IPM is wired correctly. (According to Schematic)
3. Check the following resistance values on the IPM. (Before taking resistance readings remove all wires connected to the IPM. On certain models the red and black wires to the ACTPM and white and black wires to CN200 on control board should also be removed.)
4. All readings on test 1 should be within +/- 20 ohms of each other and test 2 should be within values shown.

Test 1

Place meter in (Mega Ohms)

Terminal		Resistance value
Tester(+)	Tester(-)	
P	U	Over 2kΩ (Including ∞Ω)
P	V	
P	W	
U	P	Over 20kΩ (Including ∞Ω)
V	P	
W	P	
N	U	
N	V	
N	W	Over 2kΩ (Including ∞Ω)
U	N	
V	N	
W	N	

The Inverter Power Module (IPM) is located where the compressor leads attach to the printed circuit board (PCB). They are marked U, V and W on the PCB and where the Yellow and Blue wires attach P and N

Test 2



Place meter in (Diode mode)

Terminal		Tester display
Tester(+)	Tester(-)	
P	U	∞
P	V	
P	W	
U	P	0.3V ~ 0.7V
V	P	
W	P	
N	U	
N	V	
N	W	∞
U	N	
V	N	
W	N	

5. If the readings on Tests 1 or 2 are incorrect and the wiring is correct replace the board that contains the IPM and depending on model the ACTPM board if it has one.

6. When your IPM is bad you will also need to ohm out compressor and test outdoor fan motor according to Tech Tip #008 and confirm both are good before replacing the IPM or any other boards.