

# IPC-307 Inverter Phase Checker

## Questions and Answers

### Q. What is the main purpose and application of the IPC-307?

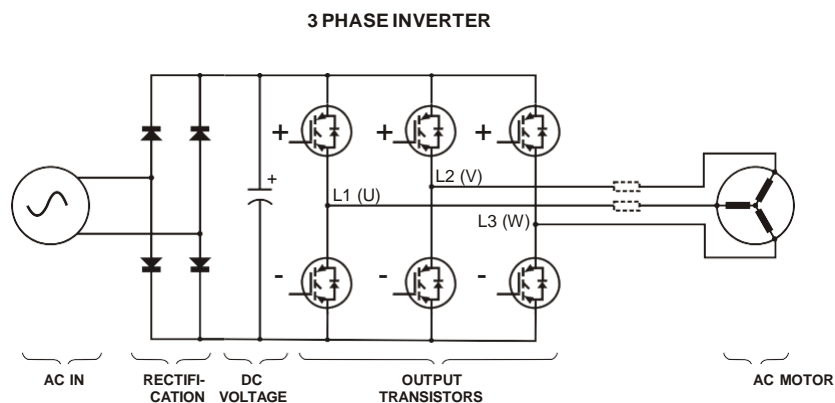
**A.** The IPC-307 is designed to simply and quickly identify faults on the Inverter's Printed Circuit Board (PCB).

### Q. Why test the Inverter PCB?

**A.** Testing helps to identify the cause(s) of system failure. Testing Inverter PCBs prior to removal can prevent unnecessary time and costs involved with swapping PCBs. A compressor failure can often cause failure of the Inverter PCB; so testing for correct Inverter PCB operation before reconnecting replacement compressors can prevent further catastrophic failure.

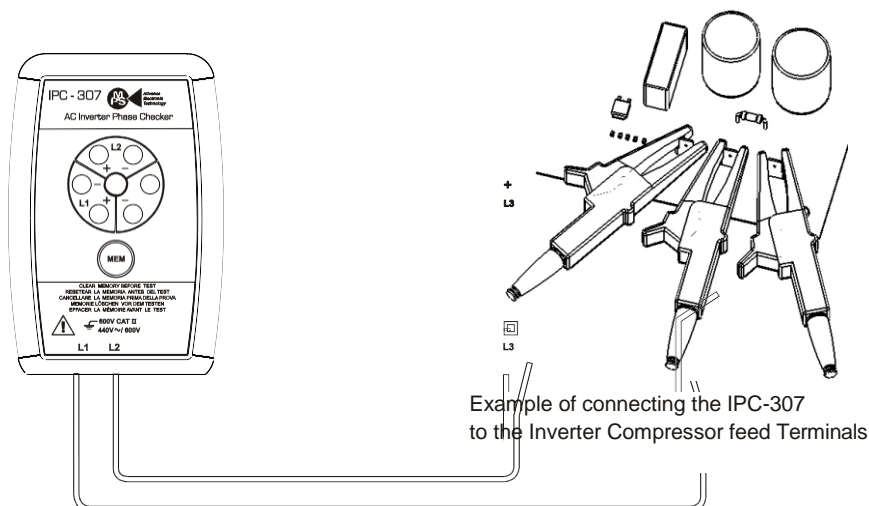
### Q. How does the IPC-307 test the PCB?

**A.** The IPC-307 senses, measures and records the voltages from the 3 phase outputs of the Inverter PCB. Each phase has two transistors that switch positive and negative relative voltages to create alternating current.



### Q. How do you connect the IPC-307?

**A.** Simply disconnect the compressor from the inverter PCB and connect the compressor cable to the IPC-307, or directly to the inverter PCB output terminals.



**Q. How do you start a test?**

**A.** Configure the system for cooling. When the Inverter PCB tries to power the compressor the IPC will automatically wake-up and start measuring.

**Q. What should I expect to observe during a test?**

**A.** There may be a delay before the compressor starts and it might only last for one to two seconds. The IPC-307 LEDs will flash and the unit may click as each phase energises.

**Q. How do I know if the Inverter has tried to start the compressor?**

**A.** If the IPC-307 measured a valid signal during the start sequence, it will sound a beep every four seconds and flash the relevant LEDs. At this time, you can also press the “Recall Memory” switch and the LEDs will show which phases were recorded.

**Q. How do I know if the Inverter PCB is operating correctly?**

**A.** A sequence in which all 6 power transistors of the inverter PCB switch both on and off is indicative of correct operation. All 6 LEDs must be lit. Data will be held in memory for 15 minutes or until cleared by holding the “Recall Memory” switch for 5 seconds.

**Q. What should I expect to see if the Inverter is not operating correctly?**

**A.** One or more LEDs do not light. Or, one or more LEDs remain constantly on.

**Q. How do I switch off the IPC-307?**

**A.** Simply clear the memory and the IPC-307 will switch to sleep mode and consume virtually no power.

**Q. What causes Inverter PCBs to fail?**

**A.** All controls can fail, but often Inverter PCBs fail when problems arise such as compressor over-current. This can often be a problem with the breakdown of the compressor winding insulation. The compressor will need to be replaced and the Inverter PCB checked.

**Always refer to the Operating Instructions for safe and proper use.**