

Phase-A-Matic™ Rotary Converter Troubleshooting Diagnostics

Before beginning to gather the information we require for problem solving, it is imperative that we are identifying the lines properly so we are all speaking about the same thing with no misunderstandings. You need to identify the lines on the input to your machine as they apply to the T-1, T-2, and T-3 of the converter. In other words, the line that is connected to T-1 of the converter will also be T-1 on the input to your machine. The line that is connected to T-2 of the converter will also be T-2 on the input to your machine. And, of course, T-3 from the converter is the T-3 at the input to your machine and is the generated leg produced by the converter.

Tests

1. Momentarily disconnect **T-3** of the converter itself **AT THE CONVERTER** and nowhere else. With this line disconnected, turn the converter on. If the converter does not start, go to **(A)** below. If all is well, the converter will start and run by itself just fine. If it starts fine, then also take an amperage reading on each of those two lines, which are lines **L-1** and **L-2** on the input to the converter.

Amperage on line **L-1** is _____. **Amperage** on line **L-2** is _____.

- A. If the converter does not start**, check to make sure you have the single-phase lines **L-1** and **L-2** connected to leads **T-1** and **T-2** of the converter itself. If either single-phase line was connected to **T-3** of the converter, it is **improperly wired** and will not start with **T-3** disconnected. Correctly connect single-phase lines to **T-1** and **T-2** of the converter. With lines properly connected, try starting the converter again with **T-3** still disconnected. **If it starts, proceed to (2.)** If it does not start, do the following measurements in **(AA)** and **(BB)** and notify Phase-A-Matic of the results.

AA. Line-to-line voltage between lines **T-1** and **T-2** is _____.

BB. Voltage to ground on line **T-1** is _____. Voltage **to ground** on line **T-2** is _____.

IMPORTANT: If reading is done with a digital meter, use the “record” or “min” button for accuracy.

2. Take the following voltage readings **AT THE MACHINE** and not at the converter with machine **OFF**:

A. Line-to-line voltage between lines **T-1** and **T-2** is _____.

B. Line-to-line voltage between lines **T-2** and **T-3** is _____.

C. Line-to-line voltage between lines **T-1** and **T-3** is _____.

3. Take the following voltage readings **AT THE MACHINE** and not at the converter with the machine **starting up**.

A. Line-to-line voltage between lines **T-1** and **T-2** is _____.

B. Line-to-line voltage between lines **T-2** and **T-3** is _____.

C. Line-to-line voltage between lines **T-1** and **T-3** is _____.

4. Take the following voltage readings **AT THE MACHINE** and not at the converter with machine **running**:

A. Line-to-line voltage between lines **T-1** and **T-2** is _____.

B. Line-to-line voltage between lines **T-2** and **T-3** is _____.

C. Line-to-line voltage between lines **T-1** and **T-3** is _____.

5. **If** voltage between lines **T-1** and **T-2** drops below 208V anywhere in the circuit or under any condition, then measure the voltage from line to line at the single-phase breaker on the wall under the **same condition**.

A. Line-to-line voltage at single-phase breaker on the wall between lines **L-1** and **L-2** drops to _____ **under condition** as described in 1._____, or 2._____, or 3._____, or 4._____.