



Service Bulletin

Bulletin No: SB-0003-18-238-SW Effective Date: 08-26-2018

Type: Instructional

Subject: SW350/353 Bridge Rectifier Tests

Scope

This service bulletin provides directions to qualified Mission Critical Energy, Inc. and Superwind GmbH approved technicians to inspect and test the 3-phase bridge rectifier used in the SW350 and SW353 wind turbines.

Background

The most common cause of damage to the bridge rectifier is accidentally reversing battery polarity. This can occur during the initial installation of the turbine or while performing maintenance or repairs on the installed system. This type of damage is not covered by the turbine's warranty. **Diagram 1** shows the schematic for the bridge rectifier.

Symptoms

Possible symptoms of a damaged bridge rectifier include the following:

1. No power output from the turbine.
2. The turbine rotor continues to spin freely when the stop switch is placed in the "stop" position.
3. No increase in rotational torque (physical resistance) of the rotor when the red and black turbine cables have been short-circuited.

Equipment required

1. Multimeter with diode test function

Initial inspections

1. Visually inspect the bridge rectifier and connected wires for damage or signs of overheating - discoloration, burn marks, or brittle plastic on connection covers.
2. Inspect the unit for signs of water intrusion or corrosion.

Testing the rectifier

1. Select "diode test function" on the multimeter and connect the positive and negative leads to the meter as per the manufacturer's instructions.
2. Disconnect the five (5) wires from the rectifier
3. Check the electrical continuity between the terminals of the rectifier by connecting the red (positive meter test lead) and black (negative meter test lead) as shown in **Table 1**. Refer to **Figure 1** for test point locations.
4. Compare the meter readings with those provided in the "display" column.

red	black	display
-	+	0.8
-	L1	0.4
-	L2	0.4
-	L3	0.4
+	-	OL
+	L1	OL
+	L2	OL
+	L3	OL
L1	+	0.4
L1	-	OL
L1	L2	OL
L1	L3	OL
L2	+	0.4
L2	-	OL
L2	L1	OL
L2	L3	OL
L3	+	0.4
L3	-	OL
L3	L1	OL
L3	L2	OL

Table 1

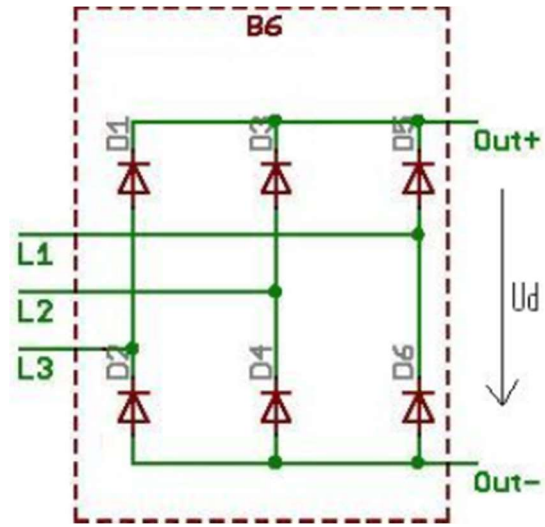


Diagram 1

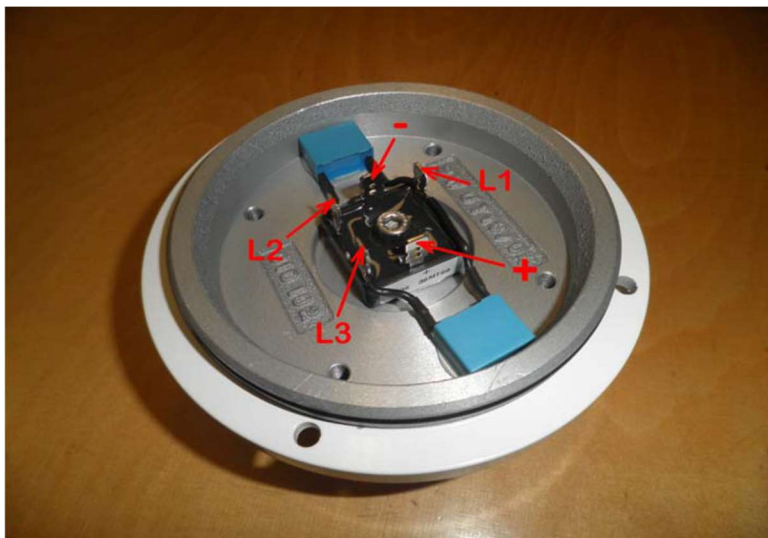


Figure 1



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