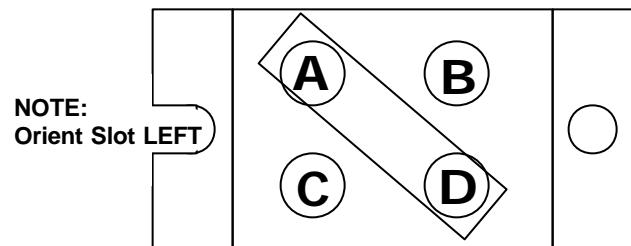


The LAKOTA Rectifier Controller has three Schottky rectifiers that convert the "Wild AC" to a pulsed DC voltage to be stored in batteries usually or consumed. The rectifiers (diodes) only allow current (electron flow) in one direction and can be damaged by lightning, power surges, improper installation or an over-current event. Always use a 3 phase AC Lightning arrestor.

A common failure occurs when the blades are installed backwards causing the LAKOTA rotor to turn in the counter-clockwise direction when facing. The resulting electron flow through the rectifiers will quickly overpower one of the diodes and cause it to short-circuit and fail. This failure will actually protect the system from further damage but the failed diode must be identified and replaced. First remove one or all of the diodes by first removing the brass bar connecting terminals A and D. Remove the diode from the heat sink.

On a flat, non-conducting surface, orient the Schottky rectifier as in the diagram below and using a multi-meter capable of checking diodes, test each pair of terminals in the following pattern. Only two connections should produce a reading of 0.18 plus or minus .05 Ω (ohms). Readings slightly above the maximum 0.23 Ω may be OK. Readings below 0.13 Ω are not.

Alternately place the Positive (red) and Negative (black) leads on each terminal according to the chart at right. A **RED "X"** indicates the meter reading across those two terminals should be OPEN, ie no reading. If there is any current flow on any of these connections the rectifier has failed. Check each combination in sequence to ensure all combinations of connections are tested.



Meter Negative Lead

	A	B	C	D	
A		0.18	X	X	+/- 0.05
B	X		X	X	
C	X	X		0.18	+/- 0.05
D	X	X	X		

Positive Lead

Now reinstall the brass connector bar across A and D terminals (now AD) and check the resulting readings according to the chart below. The only reading should be obtained between terminals C and AD, again at 0.18 + - .05 Ω . The reading across C and B should be double the C-AD reading.

Meter Negative Lead

	AD	B	C	
AD		0.18	X	
B	X		X	
C	0.18	0.36		+/- 0.05

Positive Lead