

SPD Field Testing – DTK-2MHLP Series Technical White Paper



The following procedure is for testing and evaluating DITEK's DTK-2MHLP Series of surge protectors in the field.

Test 1

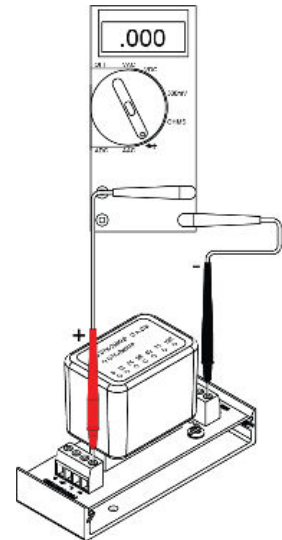
Remove DITEK unit from the circuit.

Using a VOM Meter, test for continuity between:

1+ UNPROTECTED (INPUT) and 1+ PROTECTED (OUTPUT)	SHORT = PASS
1- UNPROTECTED (INPUT) and 1- PROTECTED (OUTPUT)	SHORT = PASS
2+ UNPROTECTED (INPUT) and 2+ PROTECTED (OUTPUT)	SHORT = PASS
2- UNPROTECTED (INPUT) and 2- PROTECTED (OUTPUT)	SHORT = PASS

Scenario 1: If the surge current energy is too great for the components to handle, or the number of surge hits are too numerous, the result will be an **OPEN** circuit from INPUT to OUTPUT.

This is the indication that the replaceable surge module has gone end of life.



Test 2

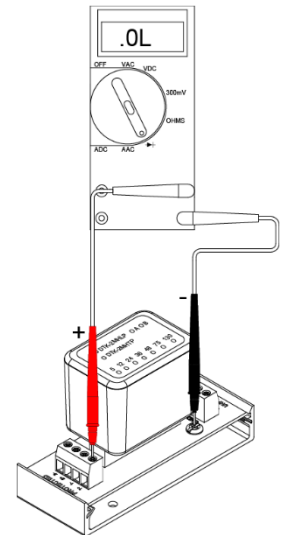
Remove DITEK unit from the circuit.

Using a VOM Meter, test for continuity between:

1+ UNPROTECTED (INPUT) and GND (Ground)	OPEN = PASS
1- UNPROTECTED (INPUT) and GND (Ground)	OPEN = PASS
2+ UNPROTECTED (INPUT) and GND (Ground)	OPEN = PASS
2- UNPROTECTED (INPUT) and GND (Ground)	OPEN = PASS

Scenario 2: If the surge voltage energy is too great for the components to handle, or the number of surge hits are too numerous, the SAD component will **SHORT** out giving a ground fault.

This is the indication that the replaceable surge module has gone end of life.



The DTK-2MHLP Series utilizes a multi-stage hybrid circuit design that incorporates SAD (Silicon Avalanche Diode) technology and a Slo-Blo (Fuse). This device is passive to the circuit until there is a change in voltage (overvoltage). Then, the component turns on and shorts the overvoltage energy down the ground path and away from the circuit. After the fault is removed, the components release their hold on ground; they reset and get ready for the next event.

DITEK also offers a **Test Module Kit-Part Number DTK-2MHLPTM**. Please see the [DTK-2MHLP Series data sheet](#) under Accessories. This can be used for troubleshooting to jump out the circuit to verify surge module failure. For more information, please visit <https://www.diteksurgeprotection.com/>