

Advantech AE Technical Share Document

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Category	<input type="checkbox"/> FAQ <input checked="" type="checkbox"/> SOP	Related OS	N/A
Abstract	ADAM-4X17 & ADAM-6X17, How to avoid 120 ohm resistor burned?		
Keyword	Current, AI module, Resistor		
Related Product	ADAM-4017+, ADAM-4117, ADAM-6017, ADAM-6217		

■ Problem Description:

This document shows how to avoid 120 ohm resistor burned in AI module.

■ Answer:

For ADAM-4017+, 4117, 6017, 6217, they use 120 ohm to measure current input from the sensor. Sometimes it is broken because of improper setting or environment. We give some suggestion before using those modules in current mode.

1. **Ensure the specification of loading device**

To make sure the output range of sensor is truly 4~20mA or 0~20mA. Sometimes the power-on surge current is larger than the input range. It may cause the resistor burned.

2. **Improper input signal**

Don't connect the voltage input sensor directly when the jumper is setting to the current mode. The large current will go through the resistor and damage the resistor

3. **Device and sensors DO NOT share the same power**

Power will influence the input of sensors and lead sensors to output improper current. Please separate the power supply of theirs, including the ground wire.

4. **DO NOT wring power wires and signal wires together.**

The power wires may cause the input signal surge current for.

5. **DO NOT install modules around heavy-load devices**

It may induce surges of the input signal, and if the surges are over isolation voltage, it will lead damage of modules.

6. **Install surge protect device**

The customer can use the following surge protect device:

[https://www.weidmueller.com/int/products/electronics/lightning_and_surge_protection/surge_protection_for_instrumentation_and_control\(i_c\).jsp](https://www.weidmueller.com/int/products/electronics/lightning_and_surge_protection/surge_protection_for_instrumentation_and_control(i_c).jsp)