

IAC200 FAQ's



How does the IAC200 work?

The IAC200 works by averaging all of the signals that are input into it. For example, let's say we have a scale with four (25 lb) sensors on the bottom, and the IAC200 is set to display voltages, (0-10V). Let's also say a 100 lb person stands on it. The junction box would output 10V since all the weight is dispersed evenly, and each sensor would receive 25 lbs. of the weight. Averaging all of them would give 10V. Please reference this example for the next two questions.

What happens to the output when you disconnect one or more sensors?

If we decide to disconnect one or more of the sensors, the box would average the remaining voltages along with the signal that it's not receiving from the disconnected sensors. So if we remove one sensor, it would still average the weight as if there were four sensors connected, but the fourth sensor is 0V. So the display would read 7.5V.

What happens to the output when you turn off one or more sensors?

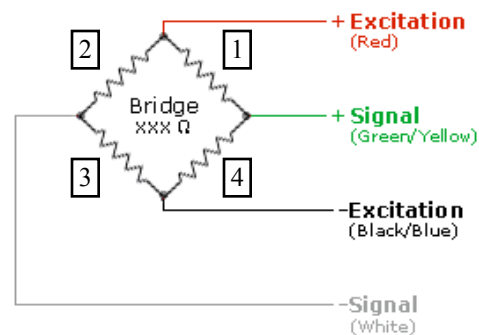
If we turned off one or more of the channels, the display would remain the same. For example, if channel 4 was turned off, there is still 100 lbs. distributed evenly among 4 sensors. One of the sensors, which receives 25 lbs, is not accounted for since it is turned off. The other three sensors are now averaged among one another, and we are still left with 10V.

What happens to the output if one of the sensors has an open bridge?

This depends on which bridge of the sensor is open. A compiled list outputs if certain combinations of bridges failed/opened can be seen here:

Failing Bridges	Output w/ 10V +E at no load
1	-5
2	5
3	+5/-5
4	+5/-5
12	0
13	-10
14	Floating
23	Floating
24	10
34	0
123	Floating
124	Floating
134	Floating
234	Floating

WC1: Standard 4-Wire



The output would still average the incoming signals, but that may vary depending on the type of bridge failure.

What happens to the output if one of the sensors is overloaded?

The output of the overloaded sensor would saturate at a certain value since the amplifier can only provide a certain amount of voltage. The output of the junction box would still average the incoming signals, but would also saturate soon after another sensor is loaded.