



3 March 2021

**IMPORTANT PRODUCT NOTIFICATION**

To: CR1000X Datalogger Owners

Re: Making Analog Measurements

Dear Customer,

Campbell Scientific discovered an inconsistency with some CR1000X dataloggers and their ability to make analog measurements. According to our records, you purchased at least one CR1000X manufactured between August 2019 and February 2021. If you are not the individual using this equipment, please forward this letter to the appropriate person.

**Symptom:** The CR1000X registers NAN when making analog measurements. This is most easily seen when internal measurements, such as battery voltage and panel temperature, report NAN. This behavior has been found in less than 0.3% of CR1000X dataloggers with serial numbers between 10,000 and 24,413 and is more pronounced when the datalogger is operating in temperatures at  $\pm 5$  °C. We have not seen this behavior in dataloggers manufactured prior to August 2019.

**Problem:** In some dataloggers, the instrumentation amplifier (IA) is in an unstable state when power is applied to the analog measurement circuitry. If this happens, current may flow through protection circuitry built into the IA causing analog calibration and measurement errors.

**Solution:** Campbell Scientific changed the operating system (OS) to switch internal multiplexers keeping the current path from travelling through the IA during the power up sequence. This eliminated the NAN problem in 100% of the known cases. This change was made in operating system 5.0 and we recommend all CR1000X dataloggers, especially those between serial numbers 10,000 and 24,413, be upgraded to OS version 5.0.

Procedures for downloading an OS to your local CR1000X are available at:  
[https://help.campbellsci.com/CR1000X/Content/shared/Maintain/Sending\\_an\\_OS.htm](https://help.campbellsci.com/CR1000X/Content/shared/Maintain/Sending_an_OS.htm)  
<https://www.campbellsci.com/videos/sending-an-os-to-a-local-datalogger-part-1>

Over some communication links, the OS can be downloaded remotely. Call Campbell Scientific for consultation before attempting this.  
<https://www.campbellsci.com/videos/sending-an-os-to-a-remote-datalogger-part-2>

If you are already familiar with the process, download OS version 5.0 here:  
<https://www.campbellsci.com/downloads/cr1000x-os>

To have Campbell Scientific make the change, contact our customer service department to obtain a return materials authorization (RMA) prior to returning the equipment. You may contact our service department at:

Phone: (435) 227-9105

Email: [repair@campbellsci.com](mailto:repair@campbellsci.com)

Please refer to this letter with your request. Once you have an RMA number, reference it on the outside of the shipping container and ship your CR1000X to Campbell Scientific. As specified in our warranty policy, you are responsible for all costs associated with returning the warranty repair to Campbell Scientific. After correcting the problem, we will return it to you prepaid by surface carrier to locations within the continental United States of America. To all other locations, Campbell will return it best way CIP (Port of Entry) Incoterms® 2020, prepaid.

Campbell Scientific appreciates your business and offers our heartfelt apology for any inconvenience this problem caused.

Sincerely,

Kevin Rhodes  
Datalogger Product Manager