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Contents

General Information

Supported Models

This release note applies to the Keithley Model 2100 6½‑Digit Multimeter.

Installation Instructions

Detailed instructions are included in Chapter 4 of the Model 2100 User's Manual (Document Number: 2100-900-01). The manual is available for download from the Keithley website at http://www.tek.com/tektronix-and-keithley-digital-multimeter/2100-series-6%C2%BD-digit-usb-multimeter-manual/keithley-m. Alternatively, Keithley factory upgrades can be arranged by calling your local Keithley support office.

v1.09 Release

Overview

v1.09 is a maintenance release.

Critical Fixes

Symptom:

When the device answers to a request, the length info in the header of the USBTMC package is short by one, i.e. it counts only the message data itself, but not the EOL character (0x0A) at the end of the message - which leads to a 'cut-off' for this character in the USBTMC driver.

Resolution:

The driver has been corrected to return all characters, including the EOL character.

Non-Critical Fixes

Symptom:

When the USB cable is disconnected from the instrument, and the "Single Trigger" button is pressed, it results in a continuous trigger action (which does not occur when the USB cable is reconnected).

Resolution:

This problem has been corrected.

Enhancements

There were no enhancements included in this release.

v1.08 Release

Overview

v1.08 is a maintenance release.

Critical Fixes

Symptom:

The 2100 will hang when the sample count is set over 32 and a "read?" query is sent.

Resolution:

Issue has been resolved. When the sample count is set over 32, the 2100 will now successfully execute a "read?" query.

Non-Critical Fixes

Symptom:

When the language of the 2100 is set to A34401, the settings for NPLC, Remote Digits Displayed, and Resolution remained set to Default values.

Resolution:

Issue has been resolved. When the language of the 2100 is set to A34401, the instrument settings for NPLC, Remote Digits Displayed, and Resolution are set at values equivalent to that of the Agilent 34401A as seen in the tables below.

Integration Time(PLC)		Resolution	Auto Zero		Remote Digits Displayed	
Default	A34401		Default	A34401	Default	A34401
0.02	0.02	Fast 4½ digits	Off	Off	4½	4½
0.1	1	Slow 4½ digits	Off	On	4½	5½
0.1	0.1	Fast 5½ digits	Off	Off	5½	5½
1	10	Slow 5½ digits	On	On	5½	6½

| 1 | 10 | Fast 6½ digits | On | On | 6½ | 6½ |
| 10 | 10 | Slow 6½ digits | On | On | 6½ | 6½ |

Integration Time(PLC)	Resolution	
	Default	A34401
0.02	0.0001 x Full-Scale	0.0001 x Full-Scale
0.1	0.00001 x Full-Scale	0.00001 x Full-Scale
1	0.000001 x Full-Scale	0.000001 x Full-Scale
10	0.0000001 x Full-Scale	0.00000001 x Full-Scale

Symptom:

The 2100 would not return an error when the resolution setting is out of range.

Resolution:

Issue has been resolved. When the resolution setting is out of range, the 2100 will report the following error: Error +532, "Cannot achieve requested resolution"

Symptom:

When in continuous triggering mode, the 2100 will not return "9.9E+37" when the display shows "OVLD".

Resolution:

Issue has been resolved. The 2100 now correctly reports "9.9E+37" when the display shows "OVLD" while in continuous triggering mode.

Symptom:

After setting the number of readings by pressing CONFIG -> STORE on the front panel, when sending the "INIT" command, the number of readings is set equal to the "sample count"

Resolution:

Issue has been resolved. The number of readings found in the CONFIG -> STORE menu is no longer changed when an "INIT" command is sent.

Symptom:

The sampling number of an "INIT" command is equal to the sample count.

Resolution:

Issue has been resolved. The sampling number of an "INIT" command is now equal to the TrigCount * SampleCount.

Symptom:

The unit is unable to collect 2000 readings per second when set to 0.02 NPLC.

Resolution:

Issue has been resolved. The 2100 can now correctly collect 2000 readings per second when set to 0.02 NPLC

Symptom:

The documented DISP commands do not work to enable/disable the display.

Resolution:

Issue has been resolved. The documented DISP commands now work as expected to enable/disable the display.

Enhancements

There were no enhancements included in this release.

v1.07 Release

Overview

Internal working engineering release never formally released.

v1.06 Release

Overview

v1.06 is a maintenance release.

Critical Fixes

Symptom:

False -410 query interrupted error occurs.

Resolution:

Issue has been resolved. -410 query interrupted error is no longer generated when the receive buffer length is equal to response length.

Symptom:

No response sent when the requested return count is between 116 and 239.

Resolution:

 Issue has been resolved.

Symptom:

When performing a ZERO calibration, the gain constant saved in flash was incorrect.

Resolution:

Issue has been resolved.

Non-Critical Fixes

Symptom:

SPRTD selection menu shows R-ZERO for the R(0.01°C)

Resolution:

Issue has been resolved. Menu now shows R 0.01°C.

Symptom:

Invalid separator error is generated when extra characters are sent after commands. .

Resolution:

Undefined header reported properly when extra characters are sent after valid commands.

Enhancements

Added calibration test point. -10VDC input 10V, 0.1V, 1V, 100V, 100V calibration at >10G Ohms. Added

command "**:INPut:IMPedance:AUTO {OFF|ON}**"

v1.05 Release

Overview

v1.05 was a maintenance release. It corrects one critical issue

Critical Fixes

ENG.   ***Symptom:***
DISC.   Model 2100 with version 1.03 firmware does not accept zero calibration.

> ***Resolution:***
>
> Update 2100 to accept zero calibration. Any unit with firmware version 1.03 will need to be updated to 1.05 prior to calibration.

Non-Critical Fixes

There were no non-critical fixes included in this release. See the Critical Fixes section for more information about release content.

Enhancements

There were no enhancements included in this release.

v1.04 Release

Overview
Internal working engineering release never formally released.

v1.03 Release

Overview

v1.03 was a maintenance release. It corrects several non-critical issues

Critical Fixes

There were no critical fixes included in this release. See the Non-critical Fixes section for more information about release content.

Non-Critical Fixes

ENG. ***Symptom:***
DISC.   When the user enters self-test from the front panel, the instrument generates Error +604.

    Resolution:

    The error is no longer generated when the 2100 performs a self-test.

ENG. ***Symptom:***
DISC.   When the user selects the FREQ function, the Model 2100 would generate Error +603.

    Resolution:

    The error is no longer generated when the 2100 performs a self-test.

ENG. ***Symptom:***
DISC.   The Model 2100 does not return to all default parameters upon receipt of "*RST".

    Resolution:

    The Model 2100 restores all power-on default functions and values upon receipt of "*RST".

Enhancements

There were no enhancements included in this release.

v1.02 Release

Overview

v1.02 was an internal release.

Critical Fixes

ENG. ***Symptom:***
DISC.   The Model 2100 does not correctly measure temperature in RTD mode when the actual temperature is less than 0 degrees.

    Resolution:

    The multimeter now correctly measures temperature below 0 degrees.

Non-Critical Fixes

ENG. ***Symptom:***
DISC.   Response to "*IDN?" does not follow Keithley format standard.

    Resolution:

Response to "*IDN" query changed to "KEITHLEY INSTRUMENTS INC.,MODEL 2100 <system version>".

ENG.
DISC.

Symptom:

When measuring 4W ohms, the multimeter displays "OVLD" if the Sense HI and Sense LO terminals are connected in reverse with respect to the Input HI and Input LO terminals.

Resolution:

The multimeter will now correctly display a negative resistance value when the Sense HI and Sense Lo terminals are connected in reverse with respect to the Input HI and Input Lo terminals.

Enhancements
There were no enhancements included in this release.

v1.01 Release

Overview

This is the initial release, there are no critical problems to document in this version.