Series 2600B System SourceMeter® Instruments
Version 3.3.5 Firmware Release Notes

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Contents

General Information

Supported models

CAUTION	Do not install this firmware on Series 2600 (Models 2601, 2602, 2611, 2612, 2635, 2636), Series 2600A (Models 2601A, 2602A, 2611A, 2612A, 2635A, 2636A), or Series 2650A (Models 2651A, 2657A) instruments.

This firmware is intended for use on the following Keithley Instruments product models:

> 2601B, 2602B, 2604B,
> 2606B,
> 2611B, 2612B, 2614B,
> 2634B, 2635B, 2636B

Installation instructions

For detailed firmware installation instructions, refer to the "Upgrading the firmware" topic in the "Maintenance" section of the *Series 2600B System SourceMeter® Instruments Reference Manual* (document number: 2600BS-901-01). This manual is available online at https://www.tek.com/product-support. If you decide to upgrade the firmware in your instrument, follow the instructions in the manual. Alternatively, you can arrange to have Keithley Instruments upgrade your firmware at the factory by calling your local Keithley Instruments support office.

Upgrade considerations for all Series 2600B models

The following table lists the considerations that should be made when deciding whether to upgrade your Series 2600B instrument firmware to version 3.4.0.

Consideration for upgrade	From version 3.0.0	From version 3.0.1 3.0.3 3.0.4	From version 3.1.0	From version 3.2.1 3.2.2	From version 3.3.0 3.3.1 3.3.2 3.3.3 3.3.5
Recalibration required?	No	No	No	No	No
Backward compatibility concerns?	No	No	No	No	No
Requalification recommended?	No	No	No	No	No
Should you upgrade?	Yes	Review[1]	Review[1]	Review[1]	Review[1]

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[1] Review the entire list of changes made in all firmware versions between your present version and the version you are loading. Upgrade if any of the fixes or enhancements are needed.

Version 3.4.0 Release

Overview

Version 3.4.0 is an enhancement release of the Series 2600B firmware. This release provides one enhancement for the Models 2601B, 2602B, and 2604B.

Critical fixes

PR-61957 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The embedded web applications (Virtual Front Panel, Flash Upgrade, TSB Embedded, and TSP Express) relied on an outdated and unsupported version of Java. Note that the new web applications are only functional if the LAN password is blank or disabled for the web interface.

Resolution:

The Virtual Front Panel, Flash Upgrade, and TSB Embedded were re-implemented using modern web technologies. TSP Express was removed.

Enhancements

PR-61584 Added `localnode.license` to output the open source license information.

Example usage:

```
print(localnode.license)
```

Known issues

PR-61960 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The `lan.reset()` command is disabled when you are working in TSB Embedded.Sending `lan.reset()` in the TSB Embedded console results in the error message:

```
TSP? 1.10000e+03 Command unavailable 2.00000e+01 1.00000e+00
```

Workaround:

Use another command interface to send `lan.reset()` or use the front-panel MENU option **LAN > RESET**.

Version 3.3.5 Release

Overview

Version 3.3.5 is an enhancement release of the Series 2600B firmware. This release provides one enhancement for the Models 2601B, 2602B, and 2604B.

Critical fixes

There were no critical fixes included in this release.

Enhancements

PR-61768 **Models affected:**

2601B, 2602B, 2604B

Enhancement:

A new pulse region (Region 5) has been added to provide better pulse width and duty cycles for lower-voltage devices. This region allows operation up to 6 V and 5 A.

The pulse specifications are shown in the following table.

Region	Maximum current limit	Maximum pulse width	Maximum duty cycle
1	1 A at 40 V	DC, no limit	100%
1	3 A at 6 V	DC, no limit	100%
2	1.5 A at 40 V	100 ms	25%
3	5 A at 35 V	4 ms	4%
4	10 A at 20 V	1.8 ms	1%
5	5 A at 6 V	10 ms	10%

Refer to the *2600B System SourceMeter® SMU Instruments Datasheet* for complete details on pulse specifications.

Noncritical fixes

There were no noncritical fixes included in this release.

Version 3.3.4 Release

Overview

Version 3.3.4 was never released.

Version 3.3.3 Release

Overview

Version 3.3.3 is an enhancement release of the Series 2600B firmware. This release provides one enhancement and a few noncritical fixes.

Critical fixes

There were no critical fixes included in this release. See the "Enhancements" and "Noncritical fixes" sections for more information about release content.

Enhancements

E3331   **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Enhancement:

This release includes support for new internal flash memory devices found on digital board revision F or later, while maintaining support for the original flash memory on old hardware revisions. Hardware revisions that contain the new internal flash memory devices cannot be downgraded below firmware version 3.3.3. To determine the digital board revision, inspect the data returned by the `print(localnode.info())` command. The `DigBrdRev` key contains the digital board revision.

Noncritical fixes

PR47474   **Models affected:**
PR47476
PR47488   2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B
PR47489
        Symptom:

The following functions and attributes do not have proper bounds checking: `bit.bitand()`, `bit.bitor()`, `bit.clear()`, `bit.get()`, `bit.getfield()`, `bit.set()`, `bit.test()`, `bit.toggle()`, `display.inputvalue()`, `display.prompt()`, `digio.trigger[N].stimulus`, `trigger.timer[N].stimulus`, `trigger.blender[X].stimlus[Y]`, `tsplink.trigger[N].stimulus`, `smua.source.output`, `smuX.measure.delay`, `smuX.source.delay`, `trigger.timer[N].count`, `eventlog.enable`, `lan.trigger[N].stimulus`, `localnode.showerrors`, `smuX.measure.autorangei`, `smuX.measure.autorangev`, `smuX.measure.rel.leveli`, `smuX.measure.rel.levelv`, `tspnet.tsp.abortonconnect`

Resolution:

This issue has been corrected.

PR55201   **Models affected:**

2602B, 2604B, 2606B, 2612B, 2614B, 2634B, 2636B

Symptom:

The `smuX.measure.Y()` function in the form: `smub.measure.iv(iReadingBuffer)` causes the instrument to lock up, requiring a power cycle to resolve. Using the function in another form, such as `smub.measure.iv(iReadingBuffer, vReadingBuffer)` does not result in a lockup.

Resolution:

This issue has been corrected.

Known issues

PR46967 **Models affected:**

2601B, 2602B, 2606B, 2611B, 2612B, 2635B, 2636B

Symptom:

When the source is off and smu*X*.source.offmode is set to smu*X*.OUTPUT_ZERO, contact check operations will result in an inappropriate error code 5066, "source.offlimiti too low for contact check" if the effective current limit is less than 1 mA. In this off mode, smu*X*.source.offlimiti is ignored; instead, the effective current limit is initially determined by either:

- The value of smu*X*.source.limiti, if the channel is sourcing voltage when it is turned off
- The greater of smu*X*.source.leveli or 10% of smu*X*.source.rangei, if the channel is sourcing current when it is turned off

In either case, smu*X*.source.limiti, not smu*X*.source.offlimiti, is used to change the effective current limit when the output is off in smu*X*.OUTPUT_ZERO mode. As such, a more appropriate error code would be 5050, "I limit too low for contact check."

PR47029 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The source lowrange attributes should have no effect when sourcing the opposite function. However, when sourcing current, if the combination of smu*X*.source.lowrangev and smu*X*.source.rangei describes a point outside the SMU channel's safe operating area, attempts to change the source configuration erroneously result in error code 5007, "Operation would exceed safe operating area of the instrument." Similarly, when sourcing voltage, if the combination of smu*X*.source.lowrangei and smu*X*.source.rangev describes a point outside the SMU channel's safe operating area, attempts to change the source configuration also erroneously result in error code 5007.

Workaround:

The issue can be avoided by lowering the lowrange attribute.

PR47455 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The tspnet.tsp.rbtablecopy() function may return erratic results or make the instrument unresponsive.

PR47459 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The instrument may fail to operate correctly after an "Out of memory" error. The instrument may ignore commands sent over the command interfaces and may ignore front panel operations.

Workaround:

To avoid out-of-memory issues, you should leave 1 MB of dynamic memory available for instrument use. The `meminfo()` function can be used to monitor the actual free memory remaining. When the free memory drops below 1000 KB, the instrument may encounter an "Out of memory" error. The Series 2600B System SourceMeter Instruments Reference Manual explains how to determine the amount of memory needed for reading buffers and sweeps.

PR47460 **Models affected:**

2601B, 2602B, 2606B, 2611B, 2612B, 2635B, 2636B

Symptom:

When prompts are enabled, if a `tsplink.reset()` command initiated from another command interface is executing when the instrument receives an abort message, a prompt for the abort message may not be generated. The instrument will abort properly even though the prompt is not generated.

PR47461 **Models affected:**

2601B, 2602B, 2606B, 2611B, 2612B, 2635B, 2636B

Symptom:

Aborting a `tsplink.reset()` command or aborting a script executing a `tsplink.reset()` command may take a long time because the `tsplink.reset()` command is allowed to complete before execution is aborted. The `tsplink.reset()` command may take several seconds when a large number of nodes are connected together.

PR47463 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The instrument may incorrectly generate an "Out of memory" error when allocating a reading buffer. When there is insufficient memory to allocate the reading buffer, the garbage collector should automatically run to reclaim any unused memory before generating the "Out of memory" error. The garbage collector often fails to run, and the instrument issues an "Out of memory" error.

Workaround:

To work around this issue, call the `collectgarbage()` function prior to creating a new reading buffer.

PR47478 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

Pressing the Recall Buffer button in the virtual front panel when TSP® Express is active will cause the virtual front panel to generate a "Cannot open window:java.lan.Exception: Cannot read from instrument" error.

PR47479 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

TSB Embedded does not generate any errors or warnings when TSP® Express is active. The tool appears to work but will not show any saved scripts, nor will it run new scripts.

PR47482 **Models affected:**

2601B, 2602B, 2606B, 2611B, 2612B, 2635B, 2636B

Symptom:

Executing a `tsplink.reset()` while overlapped measurements are in progress causes the instrument to become unresponsive.

PR47487 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When using TSP-Net, timeouts may occur earlier than programmed. For example, with `tspnet.timeout` set to 5 seconds, the `tspnet.read()` function may actually time out after only 4.7 seconds.

PR47490 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When loading a script using an invalid script name, the instrument loads the script as the anonymous script and does not generate an error.

PR47494 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When nonprintable control codes are embedded in the text passed as parameters to display functions such as `display.settext()`, the control codes cause the display to malfunction. Some of the possible effects are:

- The displayed text is corrupted.
- The instrument beeps or buzzes.
- The display shuts down and displays a "NO COMM LINK" message.

PR53798 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The front-panel USB host port becomes non-operational after inserting a flash drive and removing it within a span of approximately 2 seconds. The host port functionality is restored upon rebooting the instrument.

PR57534 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

LabVIEW sometimes reports a VISA error after a `*CLS` command is sent to the instrument.

PR61670 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

mDNS does not reliably discover the instrument.

Workaround:

To work around this issue, use VXI-11 to discover the instrument.

PR61713 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The following functions do not have proper bounds checking: `digio.writebit()`, `display.setcursor()`, `dataqueue.add()`, `dataqueue.next()`.

Version 3.3.2 Release

Overview

Version 3.3.2 is a maintenance release of the Series 2600B firmware. This release resolves one noncritical issue.

Critical fixes

There were no critical fixes included in this release. See the "Noncritical fixes" section for more information about release content.

Enhancements

There were no enhancements included in this release. See the "Noncritical fixes" section for more information about release content.

Noncritical fixes

SYS172   **Models affected:**

2601B, 2602B, 2606B, 2611B, 2612B, 2635B, 2636B

Symptom:

The instrument front panel menu has TSPLINK listed twice, before and after UPGRADE. Both menu options work correctly.

Resolution:

This issue has been corrected.

Version 3.3.1 Release

Overview

Version 3.3.1 is a maintenance release of the Series 2600B firmware. This release resolves one noncritical issue.

Critical fixes

There were no critical fixes included in this release. See the "Noncritical fixes" section for more information about release content.

Enhancements

There were no enhancements included in this release. See the "Noncritical fixes" section for more information about release content.

Noncritical fixes

PR61503   **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When using `smuX.SETTLE_DIRECT_IRANGE` as the `smuX.source.settling` option, changing the source polarity with the instrument output off will result in the incorrect polarity setting when the output is turned back on.

Resolution:

This issue has been corrected.

Version 3.3.0 Release

Overview

Version 3.3.0 is an enhancement release of the Series 2600B firmware. This release adds support for the model 2606B, provides one minor enhancement, and a few noncritical fixes.

Critical fixes

There were no critical fixes included in this release. See the "Enhancements" and "Noncritical fixes" sections for more information about release content.

Enhancements

E3301   **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Enhancement:

The instrument flashes the Channel Output LEDs while upgrading the firmware. This gives feedback on models without a front panel display for when firmware upgrade is complete, as well as additional feedback for models with a front panel display.

Noncritical fixes

PR58201   **Models affected:**

2601B, 2602B, 2604B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When using the averaging filter, a measured value will incorrectly be reported as an overflow if the previous measurement was an overflow.

Resolution:

This issue has been corrected.

PR61416   **Models affected:**

2601B, 2602B, 2604B, 2606B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The instrument responds to unrecognized/unsupported RPC portmapper execution requests with a reply indicating the request was unsuccessful. As per RPC standards, the instrument should ignore the request and not send a reply.

Resolution:

This issue has been corrected.

PR61417   **Models affected:**

2601B, 2602B, 2604B, 2606B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The instrument sends an invalid reply to an RPC Dump command request.

Resolution:

This issue has been corrected.

PR61418 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

Invalid RPC packets can cause the instrument to generate a fatal exception.

Resolution:

This issue has been corrected.

PR61419 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The instrument will execute commands received on a socket connected to the Dead Socket Termination port. The only commands that should be processed are password commands and `*idn?` queries.

Resolution:

This issue has been corrected.

PR61420 **Models affected:**

2601B, 2602B, 2604B, 2606B, 2606B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The instrument will accept multiple socket connections. Any commands sent on those connections are held and executed when the first connection is closed. It appears that the instrument is not responding, but all queued commands will be executed later, which can cause unexpected results.

Resolution:

This issue has been corrected.

Version 3.2.2 Release

Overview

Version 3.2.2 is a maintenance release of the Series 2600B firmware. This release resolves one noncritical issue.

Noncritical fixes

PR49204
PR57201

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

With open leads, rapidly executed contact check measurements erroneously return a reading of 0 ohms, instead of the expected reading of 9.91E+37.

Resolution:

This issue has been corrected.

Version 3.2.1 Release

Overview

Version 3.2.1 is a release for internal purposes only. This version provides the same functionality as version 3.1.0.

Version 3.2.0 Release

Overview

Version 3.2.0 was never released.

Version 3.1.0 Release

Overview

Version 3.1.0 is an enhancement release of the Series 2600B firmware. This release provides two enhancements and one noncritical fix.

Critical fixes

There were no critical fixes included in this release. See the "Enhancements" and "Noncritical fixes" sections for more information about release content.

Enhancements

PR47031 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Enhancement:

The QYE, DDE, EXE, and CME bits in the Standard Event Status register of the status model are now set on the master node in addition to the remote node when a remote node generates an error that is logged to the error queue of the master node.

PR54004 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Enhancement:

The front-panel USB port now supports interfacing to mobile devices running the Android platform.

Noncritical fixes

PR47032 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When certain errors are generated, the bit set in the Standard Event Status register of the status model does not match the bit dictated by the SCPI standard. For example, some errors cause the EXE bit to be set but the SCPI standard dictates that the DDE bit be set for that error.

Resolution:

This issue has been corrected.

Version 3.0.4 Release

Overview

Version 3.0.4 is a maintenance release of the Series 2600B firmware.

Critical fixes

PR51387 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

A voltage measurement triggered within 85 µs of a voltage measurement range change operation may not meet the accuracy specifications of the instrument.

Resolution:

This issue has been corrected.

Enhancements

There were no enhancements included in this release. See the "Critical fixes" and "Noncritical fixes" sections for more information about release content.

Noncritical fixes

PR50614 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

In the `KIPulse` factory script, the step size ratio `b` is calculated incorrectly in functions `ConfigPulseIMeasureVSweepLog` and `ConfigPulseVMeasureISweepLog`.

Resolution:

This issue has been corrected.

PR50743 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When sourcing voltage and measuring current with measure autoranging enabled, if the current flowing through the SMU terminals momentarily exceeds a setpoint of approximately 100 mA, the next reading will occur on the 1 A range or greater, even if a smaller range would be more appropriate for the signal. The autoranging routine resumes its expected behavior on the following reading.

Resolution:

This issue has been corrected.

PR51312 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

Series 2600B web applications do not work in Internet Explorer 11. Running any of these web applications brings users to a Keithley support login website.

Resolution:

This issue has been corrected.

PR51313 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When running a Series 2600B web application, a Java security prompt may ask for your confirmation for running the application. An incorrect application name is shown on the security dialog box.

Resolution:

This issue has been corrected.

PR51314 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

Series 2600B web applications (Flash Upgrade, TSB Embedded, Virtual Front Panel, and TSP Express) are blocked from running in Java version 7 update 51 because the JAR file manifest does not contain the Permissions attribute.

Resolution:

This issue has been corrected.

PR51328 **Models affected:**

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

The links to download Java plugin on Series 2600B web applications is broken.

Resolution:

This issue has been corrected.

PR51349 **Models affected:**

2601B, 2602B, 2604B

Symptom:

Attempting to sweep current using the `smuX.trigger.initiate()` command erroneously fails with error 802, "OUTPUT blocked by interlock", if and only if the voltage limit exceeds 20 V.

Resolution:

This issue has been corrected.

Version 3.0.3 Release

Overview

Version 3.0.3 is a maintenance release of the Series 2600B firmware. This release provides two minor enhancements and resolves a few noncritical issues.

Critical fixes

There were no critical fixes included in this release. See the "Enhancements" and "Noncritical fixes" sections for more information about release content.

Enhancements

PR46007
PR49024

Models affected:

2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Enhancement:

Bit 10 of the `status.questionable` register now functions as the HIGHV_NOT_READY bit. When this bit is set, it indicates that either the interlock is not engaged, or that the interlock was engaged recently and the high voltage supply is still stabilizing. If the interlock is engaged and this bit is set, attempting to turn on the output on the 200 V range will result in error code 5052, "Interlock engaged; system stabilizing."

PR48808
PR48812

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Enhancement:

Keithley has updated its digital signature on all of its Series 2600B Java web applications (TSP Express, TSB Embedded, Flash Upgrade, and Virtual Front Panel) to a stronger 2048-bit certificate.

Noncritical fixes

PR48755
PR48911

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

Rarely, when running a sweep with the `smuX.trigger.source.stimulus` attribute set to a value other than zero, the sweep may halt unexpectedly before executing the source action.

Resolution:

This issue has been corrected.

PR49406
PR50283

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

If smu$X$.trigger.measure.stimulus is nonzero, and smu$X$.trigger.measure.action is set to smu$X$.ENABLED, then measurement overruns are not reported.

Resolution:

This issue has been corrected.

PR49413
PR50284

Models affected:

2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

If smu$X$.source.autorangev is set to 1 and the interlock is not engaged, voltage sweeps that cause the SMU to change to the 200 V source range improperly execute without error. Instead, the execution attempt should fail with error code 802, "OUTPUT blocked by interlock." Note that the SMU output does not actually exceed safe voltage levels when this issue occurs.

Resolution:

This issue has been corrected.

PR50402
PR50432

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When communicating with the instrument over the USB interface, occasionally you will not be able to read all the generated output and will see unexpected "Query UNTERMINATED" error messages.

Resolution:

This issue has been corrected.

Version 3.0.2 Release

Overview

Version 3.0.2 was never released.

Version 3.0.1 Release

Overview

Version 3.0.1 is a maintenance release of the Series 2600B firmware. This release resolves one critical issue and two noncritical issues.

Critical fixes

PR47324
PR47349

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When `smuX.source.offmode` = `smuX.OUTPUT_ZERO` and `smuX.source.offfunc` = `smuX.OUTPUT_DCAMPS`, turning the SMU off leaves the hardware in an invalid state. The effective voltage in this state is:

- The value of `smuX.source.levelv` if `smuX.source.func` is set to `smuX.OUTPUT_DCVOLTS`
- The value of `smuX.source.limitv` if `smuX.source.func` is set to `smuX.OUTPUT_DCAMPS`

The effective current limit in this state is unpredictable, but can exceed the standard operating area of the SMU.

Resolution:

This issue has been corrected.

Enhancements

There were no enhancements included in this release. See the "Critical fixes" and "Noncritical fixes" sections for more information about release content.

Noncritical fixes

PR47316
PR47375

Models affected:

2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

When setting `smuX.sense` to `smuX.SENSE_CALA`, the effective source range is determined by the `smuX.measure.rangeY` setting instead of the `smuX.source.rangeY` setting. To properly calibrate range R, `smuX.measure.rangeY` must be set to R before setting `smuX.sense` to `smuX.SENSE_CALA`.

Resolution:

This issue has been corrected.

PR47411 **Models affected:**
PR47412
2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B

Symptom:

In TSP® Express, running tests with high capacitance mode enabled generates error code 5069, "Autrorange locked for HighC mode," for the following configurations:

- Source voltage, measure voltage
- Source current, measure current
- Source current, measure current and voltage

Resolution:

This issue has been corrected.