

README: groov RIO Firmware 3.0.1

December 8, 2020.

This Readme provides information about changes to firmware for the *groov* RIO modules listed and their components:

- *groov* RIO modules:
 - GRV-R7-MM1001-10
- *groov* Manage
- Node-RED
- MQTT with Sparkplug B Payload
- MQTT with String Payload

Each Fixed Bug is identified by its bug tracking number. If a number listed here has KB as the prefix, click the link to see a KnowledgeBase article with more information.

Some fixes or enhancements may require that you install a corresponding update to related software; for example, PAC Project. If a fix or enhancement falls into this category, the corresponding update will be listed with the description of the fix or enhancement.

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Installing a *groov* RIO Firmware Update

For steps to install a firmware update, see "Updating Firmware on a *groov* RIO" in the [groov RIO User's Guide, form 2324](#).

Questions

If you have questions, see [How to Get Help](#). To learn where you can find version numbers for the firmware and software components, see [Finding version numbers](#).

groov RIO Firmware 3.0.1

December 8, 2020.

groov RIO 3.0.1

Bug Fixes:

- [KB89444](#) - Large Errors with Thermocouple Input Values When Current Outputs Configured

groov Manage 3.0.0

No enhancements or bug fixes.

MOTT 1.5.3

No enhancements or bug fixes.

Component Versions in groov RIO Firmware Releases

Component Versions in groov RIO Firmware 3.0

groov RIO Firmware 3.0.1

- groov RIO 3.0.1
- groov Manage 3.0.0
- Node-RED 1.1.3

groov RIO Firmware 3.0.0

- groov RIO 3.0.0
- groov Manage 3.0.1
- Node-RED 1.1.3

Component Versions in groov RIO Firmware 2.0

groov RIO Firmware 2.0.2

- groov RIO 2.0.2
- groov Manage 2.0.2
- Node-RED 1.0.3

groov RIO Firmware 2.0.1

- groov RIO 2.0.1
- groov Manage 2.0.1
- Node-RED 1.0.3

groov RIO Firmware 2.0.0

- groov RIO 2.0.0
- groov Manage 2.0.0
- Node-RED 1.0.3

groov RIO Firmware 3.0.0

November 23, 2020.

New Features

- A self-contained PID loop controller has been added to *groov* Manage to help you control up to four PID loops, which run on the module independently. This means you can create and tune PID loops directly in *groov* Manage. You can:
 - Select from a variety of algorithms.
 - Configure the PID loop's parameters.
 - View trends/charts for each loop.
 - Change PID parameters and view the results of those changes.
- The GRV-R7-MM1001-10 now supports thermistors and resistors as inputs on channels 0-7.
- LDAP support has been added, which means your IT department can now manage user accounts and permissions from one central location. In *groov* Manage, you configure its LDAP client with information about how to connect to the LDAP server, how to request authentication of a user, and how to map group membership to permissions on a GRV-R7-MM1001-10.
- You can now access the Scratch Pad area of the GRV-R7-MM1001-10 OptoMMP memory map through *groov* Manage. The Scratch Pad area can hold data that your PAC Control strategy (running on a *groov* EPIC processor or a SNAP PAC controller) can transfer from your GRV-R7-MM1001-10 to another Opto 22 device's Scratch Pad area on the same network.
- You can now apply a *groov* SHELL license ([GROOV-LIC-SHELL](#)) to a GRV-R7-MM1001-10. This *groov* SHELL license lets you access the Linux® operating system on the module through a secure shell (SSH). You'll be able to develop, download, and run control programs built with languages like Python, C/C++, and Java. Carefully review the terms and conditions before installing the license; product support is limited after you install the license.

Enhancements

- Several enhancements have been made to Node-RED:
 - Node-RED has been upgraded to 1.1.3, which provides many enhancements. You can find [a list of enhancements at nodered.org](#).
 - The Node-RED page has been improved with functions to disable or restart the Node-RED Editor, as well as display its status.
 - User-installed Node-RED nodes are now included when you back up and restore either from the Node-RED page in *groov* Manage or your entire GRV-R7-MM1001-10.
- MQTT has been enhanced to support features available on MQTT brokers. For example:
 - Support for more printable characters and spaces.
 - Removing URL length limits.
- The Log page has been updated to include access to MQTT logs.
- An unmount USB API call has been added to the *groov* Manage REST API.
- Support for another USB WiFi adapter has been added: Netis WF2190.

groov RIO 3.0.0

Bug Fixes:

- [KB88826](#) - Output of TPO with Percentage (Duty Cycle) Above 100% is Not Constantly On
- [KB88962](#) - TPO Channel's State Does Not Change With Percentage (Duty Cycle) of 100%, 0%, or Less Than 0%
- [KB89111](#) - Default Scaling for Analog Channels Not Set Correctly
- [KB89181](#) - Node-RED Behaves Oddly After User Logs Out
- [KB89246](#) - groov Analog Totalization Works Incorrectly When Input Goes From Invalid to Valid
- [KB89391](#) - Demoted User Shows PAC Control REST API Permissions
- [KB89389](#) - Some Settings Not Saved When Changing Signal Type
- [KB89398](#) - Digital Output (Except Mechanical Relays) May Pulse On Briefly When Strategy Is Started
- [KB89407](#) - PID Output Remains at Invalid (QNAN)

groov Manage 3.0.0

Bug fixes:

- [KB89126](#) - Generic MMP Page Does not Flag Invalid Hexadecimal Value and Displays Empty Error Messages
- [KB89155](#) - Files Downloaded from USB are Prependded with Path
- [KB89171](#) - Certificates Invalidated/Certificate Store Unusable After Binary DER Certificate Uploaded
- [KB89167](#) - Invalid MMP Addresses on Generic MMP Page May Cause groov Manage to Disconnect from I/O Server

MQTT 1.5.3

Bug fixes:

- [KB88935](#) - MQTT Topic Identifiers with Spaces are Truncated at First Space Character
- [KB89007](#) - MQTT Broker Client ID with Non-Alphanumeric Characters or Spaces Not Allowed
- [KB89068](#) - MQTT Client Publishes Topics Erratically
- [KB89070](#) - Whitespace Surrounding Strings is Trimmed During Writes
- [KB89227](#) - No Historic Queuing When Primary Application ID is Not Set

groov RIO Firmware 2.0.2

September 17, 2020.

groov RIO 2.0.2

Bug Fixes:

- [KB88608](#) - Get and Restart Measurement commands don't restart measurement correctly
- [KB89037](#) - Firmware upgrade: upload appears to fail; user logged out
- [KB89048](#) - Node-RED stops responding or behaves irregularly
- [KB89064](#) - Require Password Change option doesn't work
- [KB89066](#) - Quick Start not shown after creating first user
- [KB89081](#) - Analog input channels with non-zero offset calibration show incorrect values
- [KB89084](#) - I/O configuration between PAC Control and RIO do not match; -56 "Invalid Address" error
- [KB89099](#) - Writes to Digital Packed Data Area of memory map fail; discrete output not modified

groov Manage 2.0.2

Bug Fixes:

- [KB89106](#) - Channel's Status field does not update for digital inputs on channels 2-7
- [KB89210](#) - After power cycle, groov Manage REST API calls or Node-RED for groov I/O nodes may fail

Node-RED 1.0.3

No enhancements or fixes.

MQTT with Sparkplug B Payload

No enhancements or fixes.

MQTT with String Payload

No enhancements or fixes.

groov RIO Firmware 2.0.1

June 8, 2020. Updated: June 9, 2020.

groov RIO 2.0.1

Known Issue RESOLVED:

- [KB88975](#) - Current Outputs and Discrete Outputs Can Reduce Thermocouple Accuracy

Bug Fixes:

- [KB88912](#) - Milliseconds Since Powerup Value Incorrect
- [KB88994](#) - Number of Supported PID loops Value Incorrect in Memory Map
- [KB89039](#) - Can't Communicate with GRV-R7-MM1001-10
- [KB89047](#) - Reconfiguring a DI Channel May Clear the Feature Parameter

groov Manage 2.0.1

Bug Fixes:

- [KB89005](#) - MQTT with Broker Using SSL does not Publish Topics
- [KB89011](#) - Instructions for RIO Firmware Update are Incorrect

Node-RED 1.0.3

No enhancements or fixes.

MQTT with Sparkplug B Payload

No enhancements or fixes.

MQTT with String Payload

No enhancements or fixes.

groov RIO Firmware 2.0.0

May 4, 2020. Updated: June 8, 2020.

groov RIO 2.0.0 - Initial Release

- [KB88975](#) - Known Issue: Current Outputs and Discrete Outputs Can Reduce Thermocouple Accuracy (RESOLVED in 2.0.1)

groov Manage 2.0.0

Initial release.

Node-RED 1.0.3

Initial release.

MQTT with Sparkplug B Payload

Initial release.

MQTT with String Payload

Initial release.

How to Get Help

If you have any questions about *groov* RIO, you can call or e-mail Opto 22 Product Support. Hours are Monday through Friday, 7 a.m. to 5 p.m. Pacific Time.

Phone: 800-TEK-OPTO (800-835-6786) or 951-695-3080

Fax: 951-695-3017

Email: support@opto22.com

Opto 22 website: www.opto22.com/support/contact-us

When calling for technical support, be prepared to provide the following information about your system to the Product Support engineer:

- Version information for *groov* RIO
 - Specific error messages or other diagnostic indications
 - A description of your setup and configuration: how it is connected, external connections, and networks
-

Finding Version Numbers

You can find the version numbers for the *groov* RIO firmware and software components in the following locations:

groov RIO Firmware and groov Manage

Log into your *groov* RIO with a user ID that has administrator privileges. From the Home screen, click Info and Help, then click About.

- The firmware version number is listed under System Version.
- Scroll down to see the *groov* Manage version.

Node-RED

Log into your *groov* RIO with a user ID that has administrator privileges. From the Home screen, click Node-RED. Scroll down to see the Node-RED version.