

README: groov I/O Modules Firmware

Document update: October 14, 2019

This Readme provides information about changes to the firmware on *groov* I/O modules.

There may be some fixes that require a corresponding GRV-EPIC-PR1 firmware update. If that is the case, the fix will list the corresponding GRV-EPIC-PR1 firmware update.

<i>groov</i> simple modules.....	page 2
Includes: GRV-IACHVS-24, GRV-IACIHVS-12, GRV-IACS-24, GRV-IACIS-12, GRV-IDCS-24, GRV-IDCIS-12, GRV-OACS-12, GRV-OACIS-12, GRV-IACDCTTLS-24, GRV-ODCIS-12, GRV-OMRIS-8	
GRV-IAC-24, GRV-IACI-12 modules.....	page 3
GRV-IACDCTTL-24 modules.....	page 4
GRV-IACHV-24, GRV-IACIHV-12 modules.....	page 5
GRV-IDC-24, GRV-IDCI-12 modules.....	page 6
GRV-IICTD-12 modules.....	page 7
GRV-IMA-24 modules.....	page 8
GRV-ITMI-8 modules.....	page 9
GRV-IV-24 modules.....	page 10
GRV-OAC-12, GRV-OACI-12 modules.....	page 11
GRV-ODCI-12 modules.....	page 12
GRV-ODCSRC-24 modules.....	page 13
GRV-OVMAILP-8 modules.....	page 14
GRV-OVMALC-8 modules	page 15
GRV-CSERI-4.....	page 16
How to Get Help.....	page 17

Installing a module firmware update

For instructions on installing module firmware, see "Applying a module firmware update" in the [groov EPIC User's Guide, form 2267](#).

Questions

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

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.

groov simple modules Version 1.6e

Released: January 9, 2019. Document update: January 16, 2019.

groov simple modules are the following modules:

- GRV-IACHVS-24
- GRV-IACIHVS-12
- GRV-IACS-24
- GRV-IACIS-12
- GRV-IDCS-24
- GRV-IDCIS-12
- GRV-OACS-12
- GRV-OACIS-12
- GRV-IACDCTTLS-24
- GRV-ODCIS-12
- GRV-OMRIS-8

Bug Fixes

[KB87956](#) - GRV simple and GRV-CSERI-4 modules auto-identify as being in the wrong position on the chassis

groov simple modules Version 1.4b

Released: May 18, 2018

Initial release

GRV-IAC-24, GRV-IACI-12 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-IAC-24, GRV-IACI-12 Version 1.0k

Released: May 18, 2018

Initial release

GRV-IACDCTTL-24 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-IACDCTTL-24 Version 1.0k

Released: May 18, 2018

Initial release

GRV-IACHV-24, GRV-IACIHV-12 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-IACHV-24, GRV-IACIHV-12 Version 1.0k

Released: May 18, 2018

Initial release

GRV-IDC-24, GRV-IDCI-12 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-IDC-24, GRV-IDCI-12 Version 1.0k

Released: May 18, 2018

Initial release

GRV-IICTD-12 Version 1.3b

Released: April 18, 2019

Bug Fixes

[KB88228](#) - GRV-IV-24, GRV-IMA-24, GRV-IICTD-12: Readings may spike

GRV-IICTD-12 Version 1.3a

Released: February, 2019

Initial release

GRV-IMA-24 Version 1.3b

Released: April 18, 2019

Bug Fixes

[KB88228](#) - GRV-IV-24, GRV-IMA-24, GRV-IICTD-12: Readings may spike

GRV-IMA-24 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-IMA-24 Version 1.01

Released: May 18, 2018

Initial release

GRV-ITMI-8 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-ITMI-8 Version 1.2d

Released: May 18, 2018

Initial release

GRV-IV-24 Version 1.3b

Released: April 18, 2019

Bug Fixes

[KB88228](#) - GRV-IV-24, GRV-IMA-24, GRV-IICTD-12: Readings may spike

GRV-IV-24 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-IV-24 Version 1.01

Released: May 18, 2018

Initial release

GRV-OAC-12, GRV-OACI-12 Version 1.3b

Released: October 14, 2019

Bug Fixes

- [KB88434](#) - Pulses may not start for groov digital output channels configured for TPO. You need to apply the groov EPIC firmware update 1.4.3-b130 to completely fix this bug. See the [groov EPIC Firmware readme](#).

GRV-OAC-12, GRV-OACI-12 Version 1.3a

Released: February 13, 2019

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-OAC-12, GRV-OACI-12 Version 1.0l

Released: August 2, 2018

Bug Fixes

- [KB87499](#) - The TPO feature on groov digital output modules behaves inconsistently. (You need to apply the groov EPIC Firmware Update 1.1.0-b47 to completely fix this bug. See the [groov EPIC Firmware readme](#).)
- [KB87618](#) - groov EPIC AC output digital modules briefly show quality code 9

GRV-OAC-12, GRV-OACI-12 Version 1.0k

Released: May 18, 2018

Initial release.

GRV-ODCI-12 Version 1.3c

Released: October 14, 2019

Bug Fixes

- [KB88434](#) - Pulses may not start for groov digital output channels configured for TPO. You need to apply the groov EPIC firmware update 1.4.3-b130 to completely fix this bug. See the [groov EPIC Firmware readme](#).

GRV-ODCI-12 Version 1.3b

Released: June 17, 2019

Enhancement

Optimized TPO performance.

GRV-ODCI-12 Version 1.3a

Released: August 2, 2018

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-ODCI-12 Version 1.0l

Released: August 2, 2018

Bug Fixes

[KB87499](#) - The TPO feature on groov digital output modules behaves inconsistently. (You need to apply the groov EPIC Firmware Update 1.1.0-b47 to completely fix this bug. See the [groov EPIC Firmware readme](#).)

GRV-ODCI-12 Version 1.0k

Released: May 18, 2018

Initial release.

GRV-ODCSRC-24 Version 1.3c

Released: October 14, 2019

Bug Fixes

- [KB88434](#) - Pulses may not start for groov digital output channels configured for TPO. You need to apply the groov EPIC firmware update 1.4.3-b130 to completely fix this bug. See the [groov EPIC Firmware readme](#).

GRV-ODCSRC-24 Version 1.3b

Released: June 17, 2019

Enhancement

Optimized TPO performance.

GRV-ODCI-12 Version 1.3a

Released: August 2, 2018

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-ODCI-12 Version 1.0n

Released: August 2, 2018

Bug Fixes

[KB87499](#) - The TPO feature on groov digital output modules behaves inconsistently. (You need to apply the groov EPIC Firmware Update 1.1.0-b47 to completely fix this bug. See the [groov EPIC Firmware readme](#).)

GRV-ODCI-12 Version 1.0k

Released: May 18, 2018

Initial release

GRV-OVMAILP-8 Version 1.3b

Released: May 17, 2018

Bug Fixes

[KB88290](#) - GRV-OVMAILP-8: If hot-swapped, could cause continuous resetting of PR1

GRV-OVMAILP-8 Version 1.3a

Released: April 16, 2018

Initial release

GRV-OVMALC-8 Version 1.3a

Released: August 2, 2018

Enhancements

Optimized communication with GRV-EPIC-PR1.

GRV-OVMALC-8 Version 1.0f

Released: May 18, 2018

Initial release

GRV-CSERI-4 Version 1.6e

Released: January 16, 2019

Bug Fixes

[KB87956](#) - GRV simple and GRV-CSERI-4 modules auto-identify as being in the wrong position on the chassis

GRV-CSERI-4 Version 1.6b

Released: May 18, 2018

Initial release

How to Get Help

If you have any questions about the *groov* I/O modules, you can call, fax, 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

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

- Version information for *groov* EPIC, PAC Control Engine, *groov* View, *groov* Manage, and, if applicable, Node-RED and Ignition Edge
- A description of your system equipment:
 - Computer CPU type, speed, memory, and operating system
 - Controller model and firmware version
 - Module types and their firmware versions
- A description of your Setup and Configuration: how it is connected, the purpose of each device, external connections, and networks
- Specific error messages or other diagnostic indications

Finding Version Numbers

You can find the version numbers for the *groov* I/O module firmware by:

1. Logging into your GRV-EPIC-PR1 as a user with administrator authority.
2. Click or tap on "I/O".
3. Click or tap on the module.
4. Click or tap on the "Config" tab. The firmware version is listed on the Firmware field.