

ABB solar inverters

Programming for HECO compliance

MICRO-0.25-I-OUTD-US-208/240

MICRO-0.3-I-OUTD-US-208/240

MICRO-0.3HV-I-OUTD-US-208/240



Power and productivity
for a better world™



Introduction

This instruction provides the method to reprogram the products listed in Table 1 below to the Hawaii Electric Company, Inc. (HECO) ultra-fast trip transient over-voltage requirements (TrOV-2) and frequency voltage ride through (FVRT) mitigation requirements as described in the document "Appendix IIA Full Ride Through Settings for O'ahu, Maui, Hawai'i" dated January, 2015. Details of these requirements are available on the HECO website at: http://www.hawaiianelectric.com/vcmcontent/StaticFiles/pdf/TrOVandFVRT_Public_Feb2015.pdf.

Verification of inverters set to HECO requirements for the islands of O'ahu, Maui, and Hawai'i

ABB and Power-One branded inverters are compliant to the Full Ride Through setting and TrOV-2 requirements when they operate with the firmware version and grid standard settings specified in Table 1 below:

Brand	Model	Firmware version	Inverter grid standard setting
ABB Power-One	MICRO-0.25-I-OUTD-US-208/240	<ul style="list-style-type: none">- CDD supervisor firmware 2.3.7 or later- Inverter supervisor firmware C112 or later	HAWAII240@60HzSplitPhCSA or HAWAII208@60HzCSA
ABB Power-One	MICRO-0.3-I-OUTD-US-208/240	<ul style="list-style-type: none">- Inverter DSP firmware B159 or later	
ABB Power-One	MICRO-0.3HV-I-OUTD-US-208/240	<ul style="list-style-type: none">- CDD supervisor firmware 2.3.7 or later- Inverter supervisor firmware C011 or later- Inverter DSP firmware B101 or later	

Table 1 - Brand/Model/firmware version/Inverter grid standard setting

Instruction for CDD and inverter firmware upgrade

If the firmware revision of the inverter is earlier than listed in Table 1 above, the inverter must be upgraded to the latest firmware before selecting the Hawai'i grid settings.

Equipment and software needed

- Computer with access to the Internet.
- MICRO-0.25/0.3/0.3HV-I-OUTD-US product manual for reference as needed, located at <http://www.abb.com/abblibrary/DownloadCenter/> (search for "MICRO product manual").

Contact information

For answers to questions regarding reprogramming of inverters in this instruction, contact ABB solar inverter post-sales technical support at 1-877-261-1374, 6 a.m. – 6 p.m. MST.

Step 1

- Access the Aurora Vision site at <http://www.auroravision.net/> and login with your credentials. See Figure 1 below.

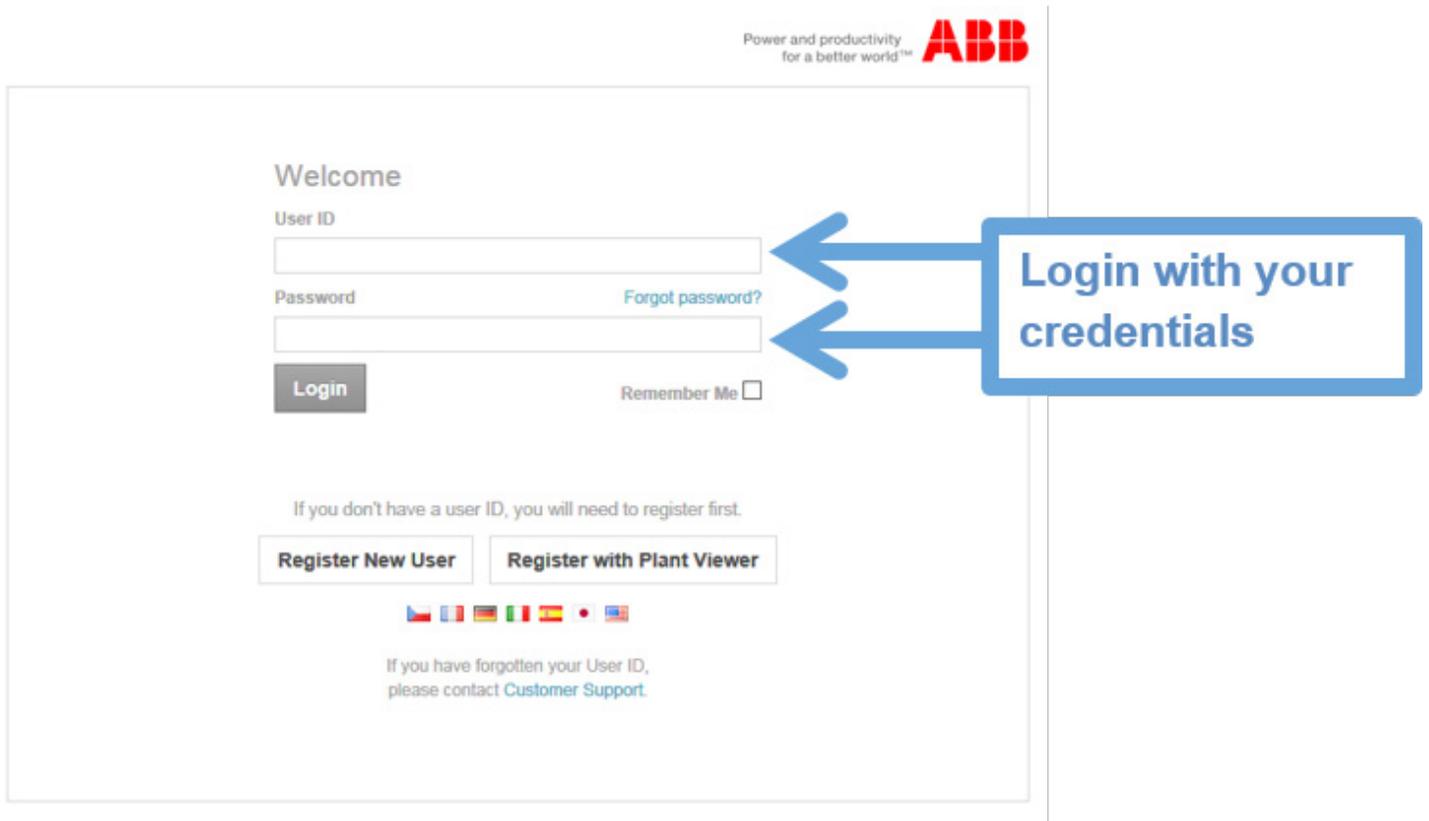


Figure 1 Aurora Vision login

Step 2

- Once logged in, navigate to the "Plants --> Management" page of the Plant Portfolio Manager for your micro-inverter plant. See Figure 2 below.

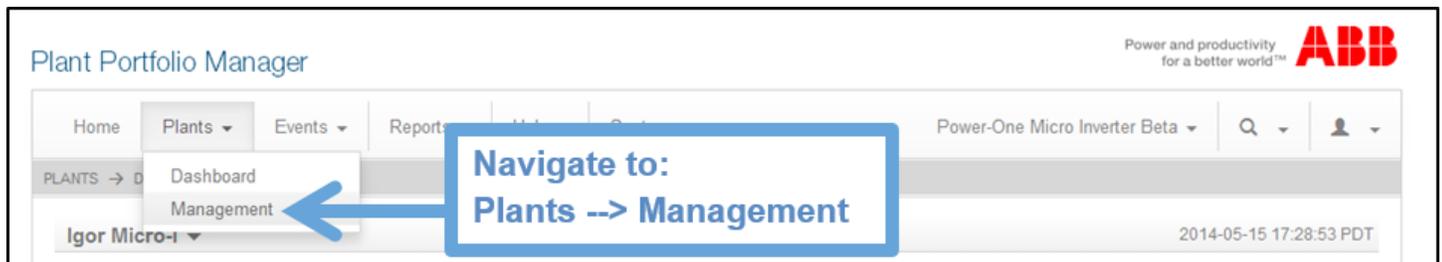


Figure 2 Navigate to the "Plants -> Management page

Step 3

- Navigate to CDD details page by selecting the logger as shown in Figure 3 below.

Plant Portfolio Manager Power and productivity for a better world™ **ABB**

Home Plants Events Reports Help System Power-One Micro Inverter Beta

PLANTS → MANAGEMENT

Micro-Inverter L1	Actions
Entity ID: 1176214	Bounce Parser
Display Name: Micro-Inverter L1	Delete Cache
State: Active	Manage Logger
Description: Power-One	Update Firmware
First Reported Date: 2012-09-20 12:13:31	Replace
Logger ID: 00:12:4b:00:02:29:e3:9d	Decommission
Categories: Logger	Notes
Manufacturer: Power-One	
Model: Concentrator Data	
Firmware Version: fwmicro 3.7.b, fwsubmicro not provided, fwrf 0001, fwvf 0001	
Type: Logger	
Serial Number: 059156-3M60-3012	
Hardware Version: not set	

Navigation Callout: Navigate to the CDD details page under the micro-inverter plant name. The CDD can be identified from the Model designation "Concentrator Data" shown above.

Figure 3 Navigate to the CDD details page

Step 4

- Navigate to the Actions menu on the right-hand side of the page and click on the "Upgrade Firmware" link, as show in Figure 4.

Actions

- Bounce Parser
- Delete Cache
- Manage Logger**
- Update Firmware**
- Replace
- Decommission
- Notes

Action Callout: Click: Update Firmware (Note: Firmware update may require a few hours to deploy).

Figure 4 Navigate to the Actions menu

Selecting Hawai'i grid settings compliant to HECO January 2015 requirements

Step 5

- Access the Aurora Vision website at <http://www.auroravision.net/> and login with your credentials. See Figure 5 below.

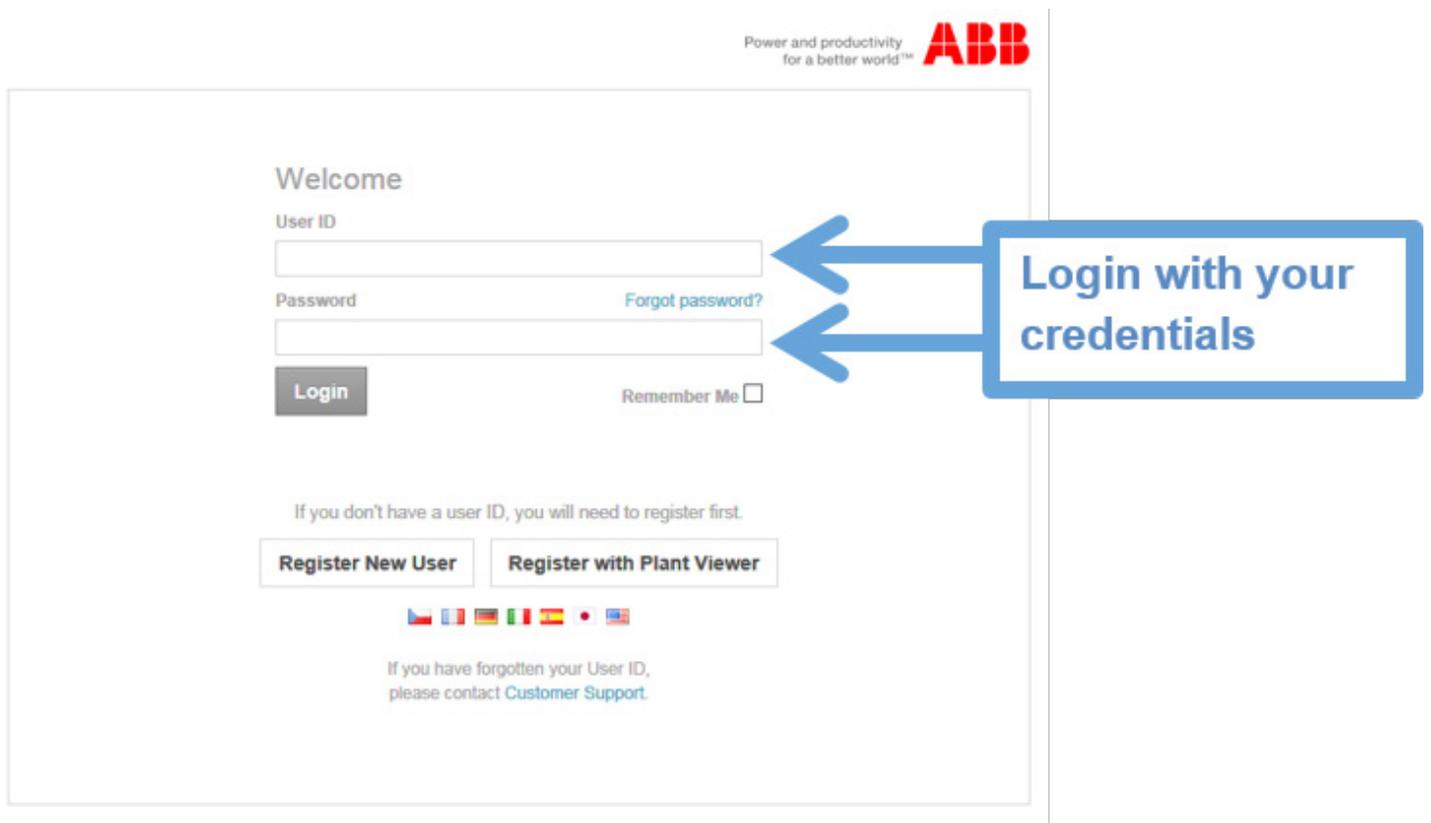


Figure 5 Navigate to the Aurora Vision website

Step 6

- Once logged in, navigate to the "Plants --> Management" page of the Plant Portfolio Manager for your micro-inverter plant. See Figure 6 below.

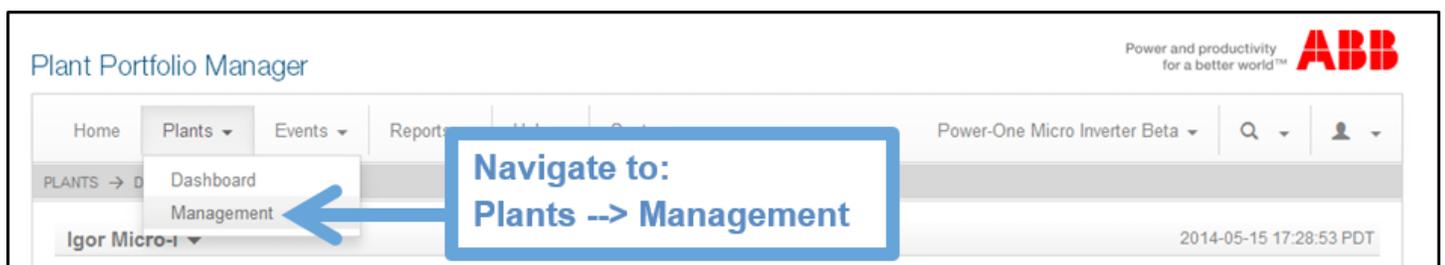


Figure 6 Navigate to the "Plants -> Management" page

Step 7

- Navigate to CDD details page by selecting the logger as shown in Figure 7 below.

The screenshot displays the Plant Portfolio Manager interface. The left sidebar shows a tree view of plants, with 'Igor Micro-I' expanded to show 'Micro-Inverter L1'. A blue arrow points from this entry to the main content area. The main content area shows the details for 'Micro-Inverter L1', including fields for Entity ID, Display Name, State, Description, First Reported Date, Logger ID, Categories, Manufacturer, Model, Firmware Version, Type, Serial Number, and Hardware Version. A blue arrow points from the 'Model' field, which contains 'Concentrator Data Device', to a blue callout box. The callout box contains the text: 'Navigate to the CDD details page under the micro-inverter plant name. The CDD can be identified from the Model designation "Concentrator Data" shown above.'

Field	Value
Entity ID	1176214
Display Name	Micro-Inverter L1
State	Active
Description	Power-One Concentrator Data Device
First Reported Date	2012-09-20 12:13:31
Logger ID	00:12:4b:00:02:29:e3:9d
Categories	Logger
Manufacturer	ABB
Model	Concentrator Data Device
Firmware Version	fwmicro 2.0.7.d, fwsubmicro not provided, fwrf 0001, fwwf 0001
Type	Logger
Serial Number	059156-30-3012
Hardware Version	not set

Figure 7 Navigate to the CDD details page

Step 8

- Verify CDD firmware version. The designator "fwmicro" should be 2.3.7 or higher. See Figure 8 below.

Micro-Inverter L1	
Entity ID	1176214
Display Name	Micro-Inverter L1
State	Active
Description	Power-One Concentrator Data Device
First Reported Date	2012-09-20 12:13:31
Logger ID	00:12:4b:00:02:29:e3:9d
Categories	Logger
Manufacturer	ABB
Model	Concentrator Data Device
Firmware Version	fwmicro 2.3.7.d, fwsubmicro not provided, fwrf 0001, fwwf 0001
Type	Logger
Serial Number	059156-3M60-3012
Hardware Version	not set

“fwmicro” designator should show version 2.3.7 or higher.

Figure 8 Verify CDD firmware version

Step 9

- Select the grid standard installed on the CDD to the applicable Hawaii setting. See Figure 9 below.

Micro-Inverter L1	
Entity ID	1176214
Display Name	Micro-Inverter L1
State	Active
Description	Power-One Concentrator Data Device
First Reported Date	2012-09-20 12:13:31
Logger ID	00:12:4b:00:02:29:e3:9d
Categories	Logger
Manufacturer	ABB
Model	Concentrator Data Device
Firmware Version	fwmicro 2.3.7.d, fwsubmicro not provided, fwrf 0001, fwwf 0001
Type	Logger
Serial Number	059156-3M60-3012
Hardware Version	not set
<hr/>	
Grid Connectivity 	
Country Standard	HAWAII240V@60HzSplitPhCSA

Select the correct grid standard (HAWAII240@60HzSplitPhCSA or HAWAII208@60HzCSA) installed on the CDD in "Country Standard" under "Grid Connectivity".

Figure 9 Select CDD's grid standard

Step 10

- Navigate to micro-inverter details page by expanding the CDD tree as shown in Figure 10 below.

Plant Portfolio Manager

Home Plants Events Reports Help Power-One Camarillo Test Profile

PLANTS → MANAGEMENT

- 114 Solar Project
 - 114 Power-One 1
 - 114 Power-One 2
- EMEA
- FramTrak Industries
- Hammer Investments Inc
- Igor Micro-I
 - Igor Micro-I
 - Micro-Inverter L1
 - Micro SN 843868
 - Micro SN 852039
 - Micro SN 852486
 - MicroInverter_001_**
 - MicroInverter_002_
 - MicroInverter_003_
 - MicroInverter_004_
 - MicroInverter_005_
 - MicroInverter_006_
 - MicroInverter_006_
 - MicroInverter_007_
 - MicroInverter_008_
 - MicroInverter_009_
 - MicroInverter_010_

MicroInverter_001_

Entity ID	1176230	Edit	Notes
Device ID	00:12:4B:00:01:F4:F5:05		
Device Address	00:12:4B:00:01:F4:F5:05		
Interface ID	0		
Display Name	MicroInverter_001_		
State	Active		
Description	Power-One Micro Inverter		
First Reported Date	2012-09-20 3:12:57		
Categories	Inverter		
Installed Capacity	not set	kw	
Type	Device		
Manufacturer	ABB		
Model	Aurora Micro		
Firmware Version	fwmicro C111, fws... not provided, fwdsp B158, fwsbdsp not provided,		
fwrf 01			
Serial Num			
Hardware V			
Device Da			

Navigate to the micro-inverter details page under the CDD. The micro-inverter can be identified by the model designation as shown above.

Figure 10 Expand the CDD tree to navigate to the micro-inverter details page

Step 11

- Verify micro-inverter firmware version. See Figure 11 below. The firmware versions must be verified by inverter serial number, as follows:

S/N xxxxxx-3L03-xxxx:
“fwmicro” should be C112 or later
“fwdsp” should be B159 or later

S/N xxxxxx-3L05-xxxx:
“fwmicro” should be C011 or later
“fwdsp” should be B101 or later

Micro SN 063736	
Entity ID	2988607
Device ID	00:12:4B:00:02:69:5F:AD
Device Address	00:12:4B:00:02:69:5F:AD
Interface ID	0
Display Name	Micro SN 063736
State	Active
Description	Power-One Micro
First Reported Date	2014-04-30 19:18:00
Categories	Inverter
Installed Capacity	not set
Type	Device
Manufacturer	ABB (Power-One)
Model	Aurora Micro
Firmware Version	fwmicro C112, fwsu micro not provided, fwdsp B159, fwsubdsp not provided, fwrf 01
Serial Number	063736-3L03-2113
Hardware Version	not set

Verify the micro-inverter firmware on the micro-inverter details page. The firmware versions must be verified by inverter serial number, as follows:
**S/N xxxxxx-3L03-xxxx: “fwmicro” should be C112 or later
“fwdsp” should be B159 or later**
**S/N xxxxxx-3L05-xxxx: “fwmicro” should be C011 or later
“fwdsp” should be B101 or later**

Figure 11 Verify micro inverter firmware version

For more information please contact:
www.abb.com/solarinverters

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