Installation/ Technical Manual

Residential/Commercial Generator Sets

OnCue® Plus

Generator Management System
for Kohler® Residential/Light Commercial Generator Sets
equipped with the following controllers:

RDC/DC
RDC2/DC2
VSC

ISO 9001
KOHLER POWER SYSTEMS
NATIONALLY REGISTERED

KOHLER®

TP-7007 2/21a

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Notes

IMPORTANT SAFETY INSTRUCTIONS. Electromechanical equipment, including generator sets and accessories, can cause bodily harm and pose life-threatening danger when improperly installed, operated, or maintained. To prevent accidents be aware of potential dangers and act safely. Read and follow all safety precautions and instructions. SAVE THESE INSTRUCTIONS.

This manual has several types of safety precautions and instructions: Danger, Warning, Caution, and Notice.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Safety decals affixed to the equipment in prominent places alert the operator or service technician to potential hazards and explain how to act safely. The decals are shown throughout this publication to improve operator recognition. Replace missing or damaged decals.

Accidental Starting

WARNING

Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

Hazardous Voltage/ Moving Parts

DANGER

Hazardous voltage.
Will cause severe injury or death.

Disconnect all power sources before opening the enclosure.

Short circuits. Hazardous voltage/current will cause severe injury or death. Short circuits can cause bodily injury and/or equipment damage. Do not contact electrical connections with tools or jewelry while making adjustments or repairs. Remove all jewelry before servicing the equipment.

NOTICE

Electrostatic discharge damage. Electrostatic discharge (ESD) damages electronic circuit boards. Prevent electrostatic discharge damage by wearing an approved grounding wrist strap when handling electronic circuit boards or integrated circuits. An approved grounding wrist strap provides a high resistance (about 1 megohm), *not a direct short*, to ground.

Notes

This manual provides installation and technical troubleshooting instructions for the OnCue® Plus Generator Management System. OnCue Plus allows remote monitoring and control of your generator set using a computer, tablet, or smart phone from any location that provides web access.

OnCue Plus applies to Kohler® Residential and Light Commercial generator sets equipped with the following controllers:

- RDC/DC
- RDC2/DC2
- VSC

Note: The RDC2, DC2, and VSC controllers require an activation code, which is supplied with the OnCue Plus kit provided with the generator set.

Note: The RDC and DC controllers must be equipped with the Ethernet option board kit GM62465-KP1. See TT-1566, provided with the kit, for installation instructions.

Information in this publication represents data available at the time of print. Kohler Co. reserves the right to change this publication and the products represented without notice and without any obligation or liability whatsoever.

Read this manual and carefully follow all procedures and safety precautions to ensure proper equipment operation and to avoid bodily injury. Read and follow the Safety Precautions and Instructions section at the beginning of this manual. Keep this manual with the equipment for future reference.

List of Related Literature

Figure 1 lists related literature.

Literature Type	Part Number
OnCue Plus Specification Sheet	G6-179
OnCue Plus User Guide	TT-7006
Ethernet Option Board Installation Instructions (RDC/DC only)	TT-1566
USB Utility Instructions	TT-1636

Figure 1 Related Literature

Service Assistance

For professional advice on generator set power requirements and conscientious service, please contact your nearest Kohler distributor or dealer.

- Visit the Kohler Generators website at KOHLERGenerators.com.
- Look at the labels and decals on your Kohler product or review the appropriate literature or documents included with the product.
- Call toll free in the US and Canada 1-800-544-2444.
- Outside the US and Canada, call the nearest regional office.

Headquarters Europe, Middle East, Africa (EMEA)
Kohler EMEA Headquarters
Netherlands B.V.
Kristallaan 1
4761 ZC Zevenbergen
The Netherlands
Phone: (31) 168 331630
Fax: (31) 168 331631

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China
North China Regional Office, Beijing
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(86) 10 6518 7951
(86) 10 6518 7952
Fax: (86) 10 6518 7955

East China Regional Office, Shanghai
Phone: (86) 21 6288 0500
Fax: (86) 21 6288 0550

India, Bangladesh, Sri Lanka
India Regional Office
Bangalore, India
Phone: (91) 80 3366208
(91) 80 3366231
Fax: (91) 80 3315972

Japan, Korea
North Asia Regional Office
Tokyo, Japan
Phone: (813) 3440-4515
Fax: (813) 3440-2727

1.1 Kohler OnCue Plus

A device such as a personal computer (PC), smart phone, or tablet running the Kohler® OnCue® Plus application can communicate with the generator set models listed in the Introduction section to monitor the generator set from any location with Internet access. You can also use your device to signal the generator set controller to start or stop the engine or to reset a fault. High speed or broadband internet service is recommended for optimal user experience.

Once OnCue Plus has been activated for a specific generator set, that generator can be monitored from multiple devices and locations. The Kohler OnCue Plus application can be accessed at any time as long as the Kohler generator set's Internet connection is operating. Use OnCue Plus to monitor your generator set from home, at work, or on vacation. The generator serial number, controller password, and OnCue Plus account password provide security and prevent unauthorized access to your generator set.

OnCue Plus also provides the ability to automatically send email, text messages, or push notifications to notify selected recipients of generator set activity, faults, and maintenance reminders.

1.1.1 Mobile Apps

OnCue Plus is available as a web version and as an app for iPhone®, iPad® and Android™ devices. For smart phones or tablets, obtain the Kohler OnCue Plus app from the App Store℠ (for Apple devices) or Google Play™ (for Android™ devices). Mobile app operation is similar to the web application operation described in this manual. For instructions to use the app, refer to the Quick Start guide for the app.

1.1.2 PIM and LCM

If the power system includes a programmable interface module (PIM), load control module (LCM) or load shed kit, OnCue Plus also allows remote control of electric items in your home. See the OnCue Plus User Guide and the instructions for the PIM, LCM, or load shed kit for more information.

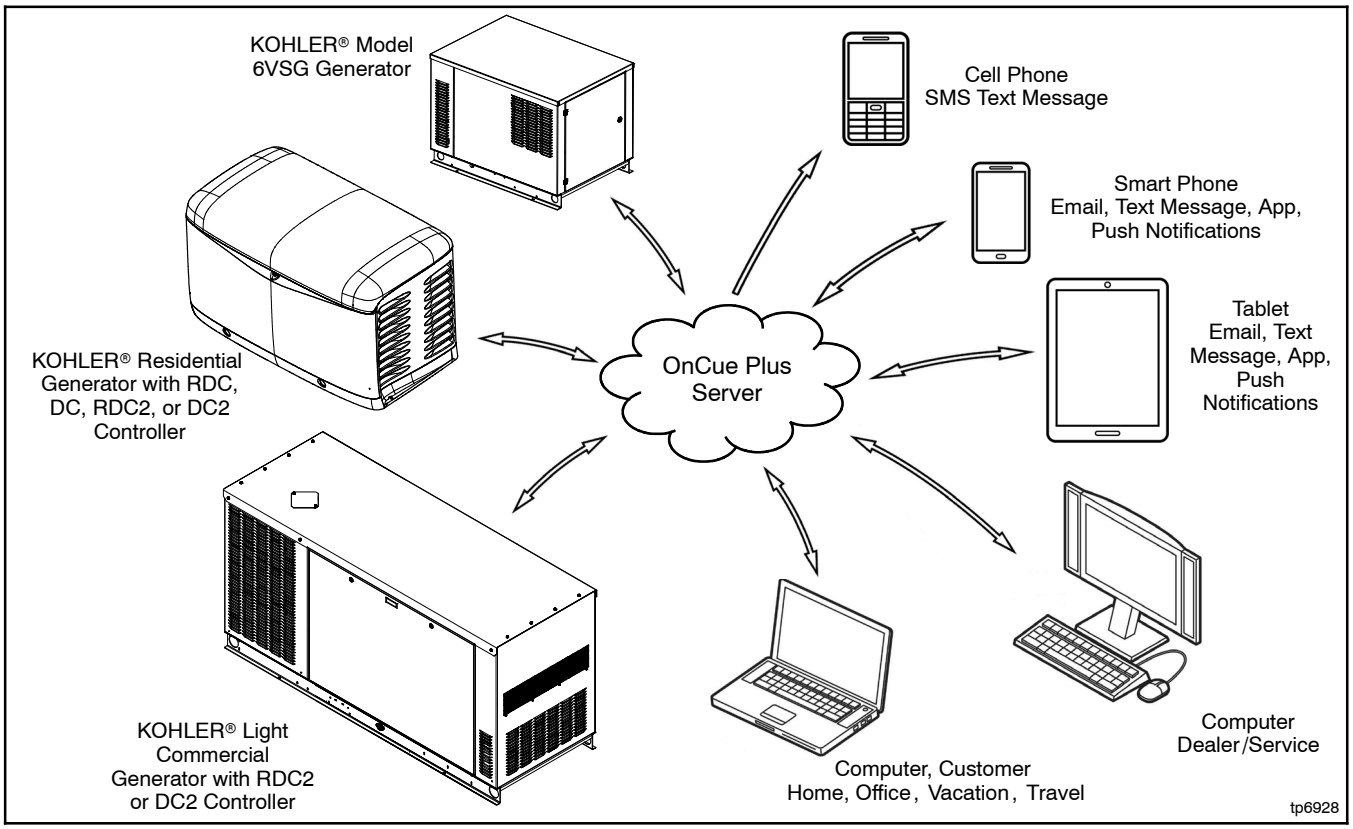

Figure 1-1 Kohler® OnCue® Plus Generator Management System

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Android and Google Play are trademarks of Google Inc.

1.2 Connect and Monitor Multiple Generator Sets

If you own more than one generator set, or if you are a dealer monitoring numerous customer systems, you may use Kohler OnCue® Plus to monitor multiple generator sets.

An OnCue Plus kit with an activation code is included with each residential/commercial generator.To connect to each generator set, enter the serial number, password, and activation code for the generator set as described in Section 2.5. Each generator set needs to be added to your account only once.

Generator sets can also be removed from your account. See the OnCue Plus User Guide for instructions to delete a generator from your account.

1.3 Kohler OnCue Plus Server

Kohler Power Systems operates an Internet server system used to connect Kohler generator sets to the Kohler® OnCue Plus application.

All connections to the Kohler OnCue Plus Server are fully encrypted for your protection. See Section 1.4, Terms of Service.

1.4 Terms of Service

Click on the Terms of Service link and review the OnCue Plus terms and conditions of use when you set up your OnCue Plus account. See Section 2.4. By accepting the OnCue Plus terms and conditions of use, you are acknowledging that you have read the OnCue Plus terms and conditions of use and agreeing to be bound by the OnCue Plus terms and conditions of use.

If you have questions or concerns about the OnCue Plus terms and conditions of use, please contact Kohler Co. by email at privacy@kohler.com, or call 1-800-544-2444. Kohler Co. may update the OnCue Plus terms and conditions of use at any time.

1.5 System Requirements

The following items are the minimum requirements and recommendations for connecting your generator to the Internet.

- “Always-on” Internet service for generator set connection (for example, cable, DSL, or phone line modem connected 24 hours)
- Unused Ethernet port on a switch, router,or modem
- An uninterruptible power supply (UPS) for the modem and router (recommended)
- OnCue Plus requires a customer-supplied network cable for connection of the generator set to the customer’s Ethernet router
- Controller firmware versions shown in Section 1.7. It may be necessary to update the firmware on the controller. Contact your Kohler distributor or dealer, or use the Kohler USB Utility to update the firmware yourself. Visit www.KohlerGenerators.com\usb to obtain the USB Utility.
- USB cable, male USB A to male mini-B, for updating the controller firmware
- **RDC2, DC2, or VSC only:** The generator set serial number, password, and OnCue Plus Activation Code found on the decal, included with the OnCue Plus kits.
- **RDC or DC only:** The generator set serial number, password, and Ethernet option board installed on the generator set controller, included with the OnCue Plus kits.

1.6 Internet Configuration and Security (Firewalls)

When the generator set is connected to an intranet network behind a firewall, for example in a commercial or industrial setting, it may be necessary to configure the firewall to open port 5253 to permit an outbound connection. Contact the network administrator for assistance if necessary. If there is no network administrator, contact the internet service provider.

1.7 Controller Firmware Download and Installation

If your generator set was manufactured before 2014, it may be necessary to update the firmware on your generator set controller. See Figure 1-2 for the firmware version required for your device. Use the version shown or a later version, if available. Refer to the generator set documentation for instructions to find the version number installed on your controller.

Note: Controllers built in 2014 or later, including all controllers with blue circuit boards, are equipped with software that allows communication with OnCue Plus.

Note: The Kohler OnCue® Plus application cannot be used to update controller firmware.

Controller firmware can be updated by a Kohler authorized distributor or dealer using a personal computer and Kohler® SiteTech™ software or the Kohler USB Utility. If you would like to upgrade the firmware yourself, use the Kohler USB Utility. Visit www.KohlerGenerators.com/usb to obtain the Kohler USB Utility and instructions and refer to TT-1636, Firmware Update Using the USB Utility.

For generators that use the APM Automatic Paralleling Module, Kohler authorized distributors and dealers can download firmware from the Service Support section of the Kohler Power Resource Center (KPRC).

Firmware Version Numbers

Software and firmware version numbers consist of three parts separated by periods (or dots) as follows:

[Major version number].[Minor version number].[Build number]

For example, if the version number is 2.3.17, the major version number is 2, the minor version number is 3 and the build number is 17. The build number is typically not shown on the controller display, but is included in the firmware file name.

Note: Preceding zeros may be dropped from version numbers for software and firmware. For example, firmware version 2.3 is the same as version 2.03. However, version 2.1 (two point one) is *not* the same as 2.10 (two point ten).

Controller	Firmware Version Number	Firmware File Name †
VSC (green board)	1.02 or higher	VSC_#_#_#.bin
VSC (blue board)	1.03 or higher	VSC_#_#_#.bin
RDC	3.18 or higher	RDC_#_#_#.bin
DC	3.18 or higher	RDC_#_#_#.bin
RDC2 with red or green board	5.07 or higher	RDC2_#_#_#.bin
DC2with red or green board	5.07 or higher	RDC2_#_#_#.bin
RDC2 with blue board	All versions	RDC2_#_#_#.bin
DC2 with blue board	All versions	RDC2_#_#_#.bin
RDC2 with blue board and APM	101.0 or higher	RDC2_#_#_#.bin

† #_#_# in the file name is the firmware version number.

Note: Generators built in 2014 or later are equipped with software that allows communication with OnCue Plus.

Figure 1-2 Controller Firmware Version Numbers and File Names

1.8 Controller Password and Serial Number

The generator serial number and the controller password for the RDC2 or VSC controller are required for the OnCue Plus application. **Perform the password reset procedure before connecting the generator set's Ethernet cable to the router.**

Note: A new password is generated each time the reset password procedure is performed. If the password reset procedure is performed *after* the controller is connected to OnCue Plus, the connection will be lost. See Section 1.8.4.

The password can be changed via SiteTech or OnCue Plus. If the password is changed, other users will lose the OnCue Plus connection to that generator. See the OnCue Plus User Guide for instructions to change the password using the software.

1.8.1 RDC2 and VSC Controller Password and Serial Number

Be ready to write down the serial number and password. The serial number (S/N) and password are displayed for 10 seconds. Follow this procedure to obtain the serial number and password:

1. Press the controller's down arrow button to navigate to the Networking Information menu as shown in Figure 1-3.

2. Use the Select and Arrow buttons as shown in Figure 1-3 to reset the password. Write down the serial number (S/N) and password when they are displayed on the controller.

See the generator set operation manual for more information, if necessary.

1.8.2 DC2 Controller Password and Serial Number

Be ready to write down the serial number and password. The serial number (S/N) and password are displayed for 10 seconds. Follow this procedure to set the OnCue Plus password on the DC2 controller:

1. Press the OFF button and verify that the generator set is not running.

2. Press and hold the Exercise button until Press Again to Reset OnCue Plus PW is displayed.

3. Release the Exercise button and press it again within 5 seconds.

   Note: If the Exercise button is not pressed within 5 seconds, the controller exits the password reset mode.

4. Write down the serial number (S/N) and password.

1.8.3 RDC/DC Controller Password

The password may have been recorded during the installation of the Ethernet option board on the generator set controller. See TT-1566 or the procedure below.

Be ready to write down the password. The four-digit password will be displayed for 10 seconds. Follow this procedure to obtain the serial number and password:

1. Press the OFF button to place the controller into OFF mode.

2. Press the down arrow button (RDC) or exercise button (DC) 5 times. Note the four-digit code displayed on the controller. This is the controller password.

3. Write down the password to enter into OnCue Plus.

4. Press OFF to clear the display.

1.8.4 Password Reset After Connection

If the generator set is connected to the Internet before the password is set at the controller or if the password is reset after the OnCue Plus system has been set up, the connection will be lost. You will need to cycle power to the controller, leaving the Ethernet cable plugged in. See Section 3.5 for instructions to cycle power to the controller.

Cycling power and/or updating the firmware does not change the controller password. After reconnecting the power, OnCue Plus will prompt you to re-enter the controller password.

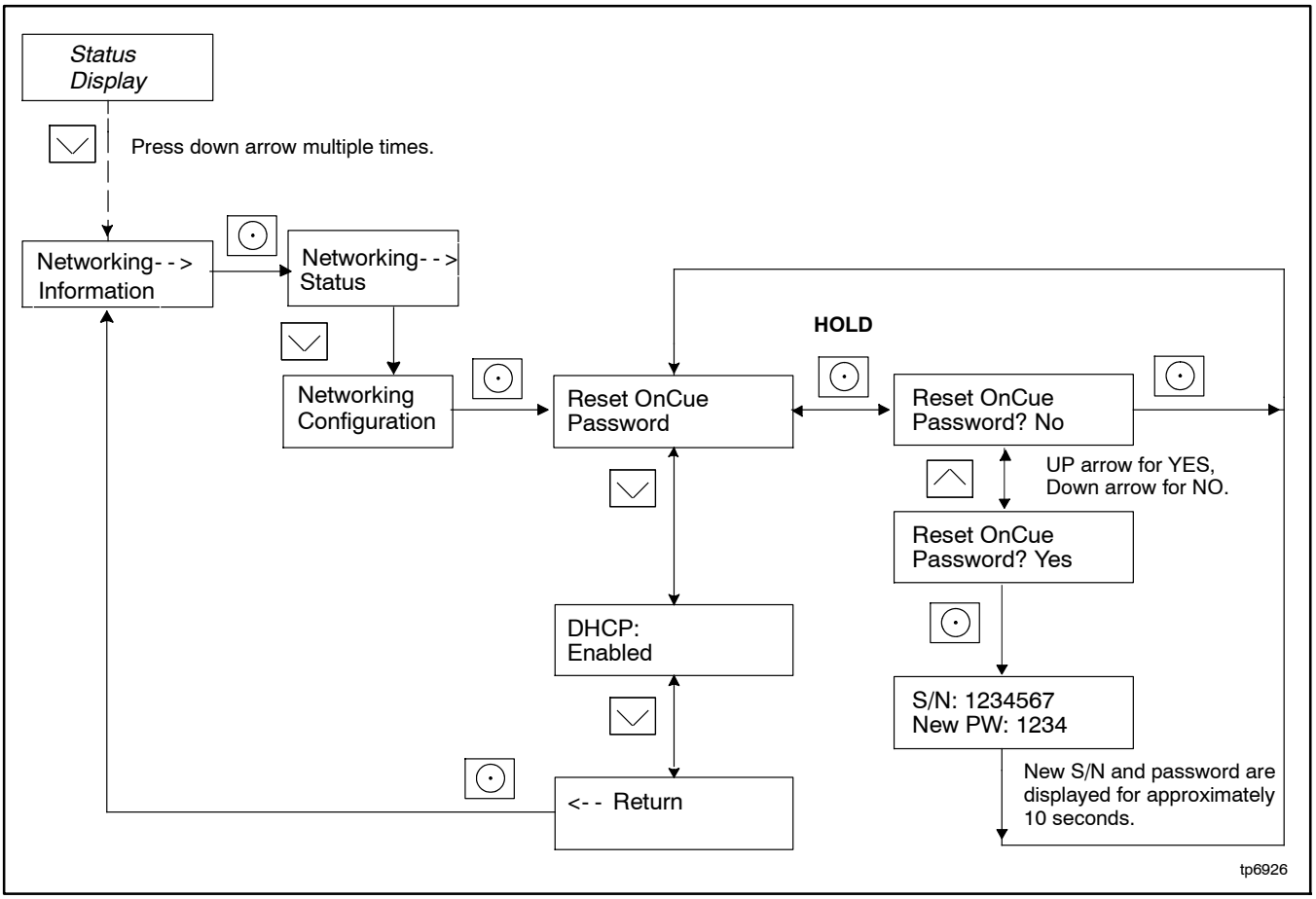
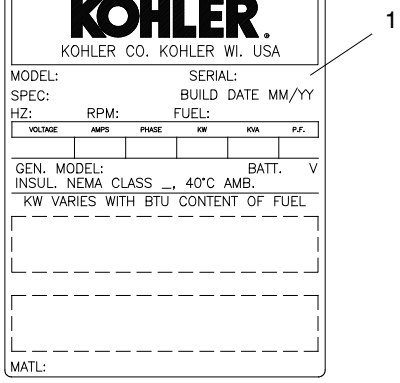


Figure 1-3 Finding the Serial Number and Password, RDC2 and VSC Controllers

1.8.5 Nameplate Serial Number

Verify that the serial number shown on the controller display matches the serial number on the generator set nameplate. A typical nameplate is shown in Figure 1-4. Refer to the service views in the generator Operation Manual for the location of the nameplate, if necessary. If the serial numbers on the controller display and the generator nameplate do not match, contact your distributor or dealer.



1. Generator serial number

Figure 1-4 Generator Nameplate, Typical

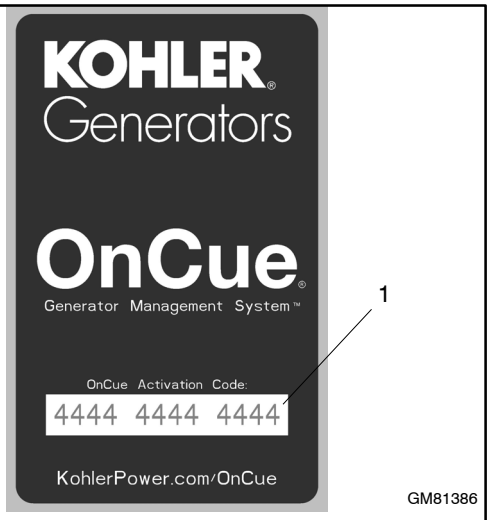
1.8.6 Activation Code

The RDC2/DC2/VSC generator set controllers require a unique 12-digit activation code. The code is on the decal included with the OnCue Plus kit. See Figure 1-5.

Kohler OnCue Plus will prompt the user to enter the activation code the first time the controller connects to Kohler OnCue Plus Server and a user attempts to connect to it. Affix the activation decal to the generator near the controller as shown on the drawing provided with the OnCue Plus kit.

The activation code is only required the first time you connect a generator set to the OnCue Plus system. See Section 2.6.

Note: If the generator set controller has been replaced and the old controller settings file is not loaded onto the new controller, a new activation code may be required. If a new activation code is needed, contact Kohler at 1-800-544-2444.



1. OnCue activation code

Figure 1-5 OnCue Activation Code Decal

1.9 Check the Network Connection

1. Use a laptop computer to verify the network connection before connecting to the generator.
2. Check for and turn off any wireless connections to the laptop.
3. Connect the network cable to the laptop. Connect the other end of the network cable to the customer's router or modem.
4. Verify the internet connection by opening your web browser and going to www.kohlerpower.com or any known website.
5. After verifying the connection.through the network, disconnect the network cable from the laptop and turn the laptop wireless connections back on.

1.10 Connect the Generator to the Internet

Note: Record the controller password and serial number from the controller as described in Section 1.8 **before** connecting the generator to the Internet.

⚠ WARNING

Accidental starting.
Can cause severe injury or death.

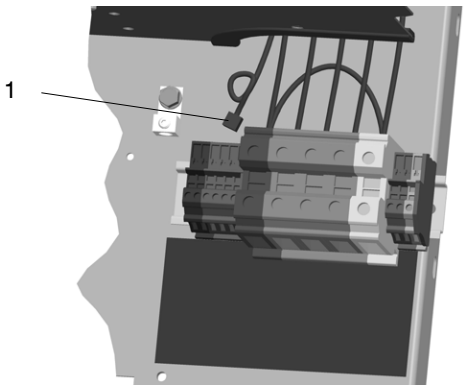
Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

1.10.1 OnCue Plus for RDC2/DC2/VSC

The RDC2, DC2, and VSC generator set controllers are equipped with an Ethernet cable for connection to the Internet. The Ethernet cable is connected to the controller and routed into the customer connection area inside the generator enclosure.

After setting the controller password, connect the RJ45 inline connector included in the OnCue Plus kit to the Ethernet cable inside the generator enclosure. See Figure 1-6 or the generator set installation manual. Then connect one end of the customer-provided network cable to the RJ45 connector, and connect the other end of the cable to the customer's router or modem. See Figure 1-7 or Figure 1-8.



1. Ethernet cable for OnCue Plus connection

Figure 1-6 Ethernet Connection, RDC2/DC2 (Model 20RESA Shown)

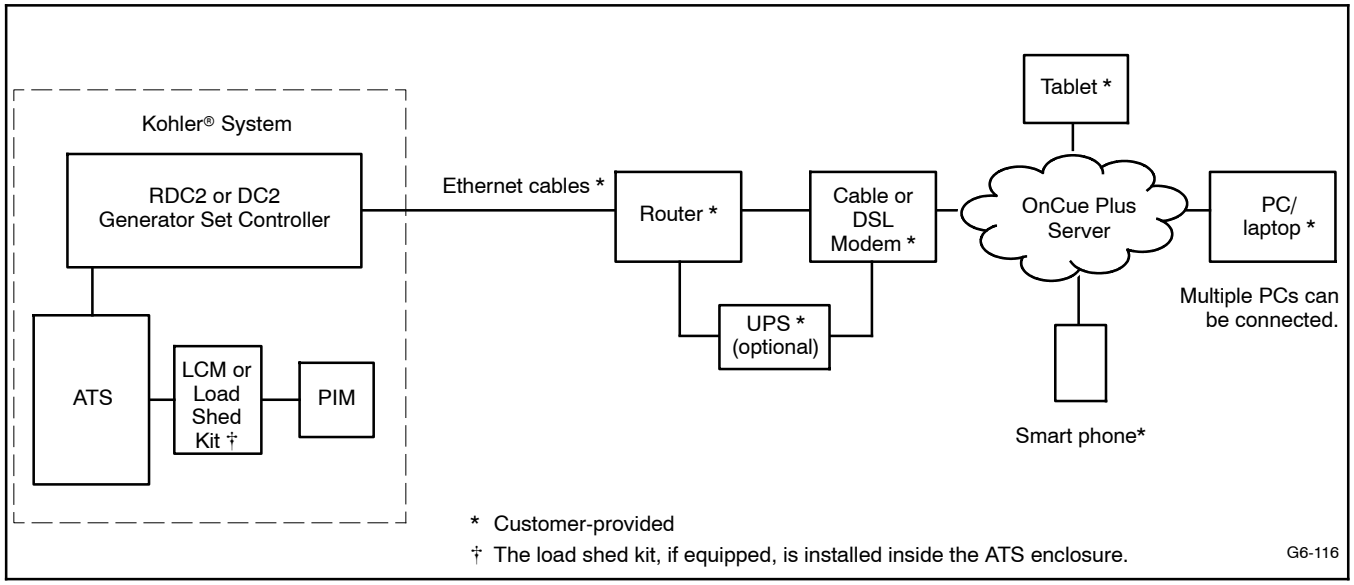


Figure 1-7 Typical Wired Connections for RDC2/DC2 Controller - OnCue Plus Kit

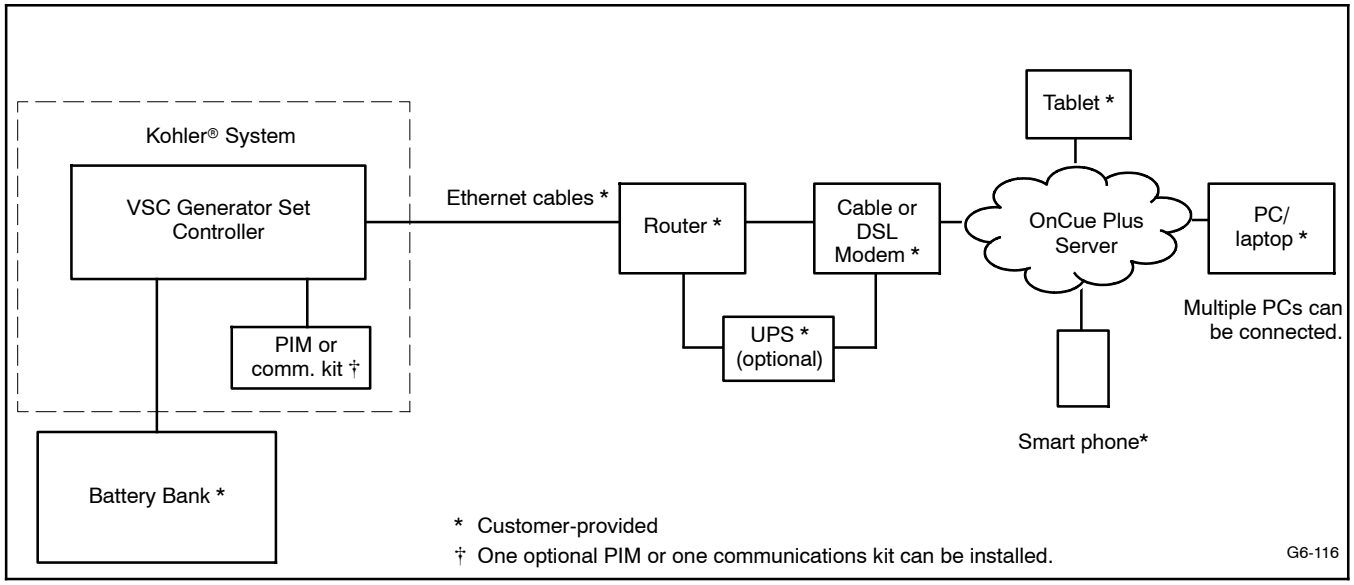


Figure 1-8 Typical Wired Connections for VSC Controller - OnCue Plus Kit

1.10.2 OnCue Plus for RDC/DC

The RDC and DC controllers are no longer used on new generator sets. For units in the field, purchase the OnCue Plus kit for the RDC/DC controller.

The RDC/DC generator set controller must be equipped with the Ethernet option board, which allows connection of the generator set to the Internet through a broadband Internet connection. The Ethernet option board is included in the OnCue Plus kit for the RDC/DC controller. See instruction sheet TT- 1566, included with the kits, for Ethernet option board installation and connection instructions.

When the Ethernet board is installed, update the RDC/DC controller firmware and follow the instructions in Section 1.8.3 or TT-1566 to record the controller password and generator set serial number for entry into the OnCue Plus application.

In most cases, once the new firmware is uploaded to the controller and the Ethernet board is connected to the customer's router or modem, the controller will automatically connect to the Kohler OnCue Plus server. Controller settings and network router adjustments are usually not required.

RDC/DC Connection

1. Install the Ethernet option board on the generator set controller. See TT-1566, provided with the OnCue® Plus kit, for instructions.
2. Connect the generator set to the Internet using a network cable connected from the Ethernet board to your router or modem.

See Figure 1-9 for typical OnCue Plus wired connections.

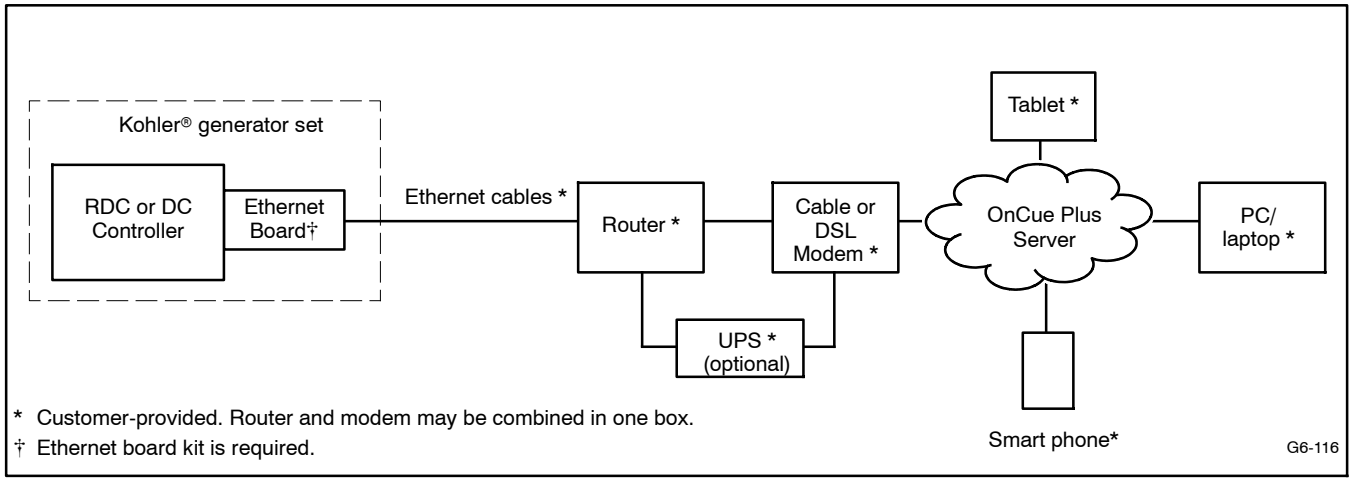


Figure 1-9 Typical Connections for RDC/DC Controller - OnCue Plus Kit

1.11 Verify the Connection

Before proceeding to activate OnCue Plus, please test the internet connection to OnCue Plus with the steps below or by using the communications test within the Kohler USB Utility.

RDC2 Controller

To verify connection, check the networking information menu. Under the networking status sub menu, the OnCue status should state “connected.” If it does not, please review section 1.10 from the beginning or consult the troubleshooting instructions in Section 3.

DC2 Controller

To verify connection, wait for the display to show ”OnCue:Connected.” If this is not displayed, please review section 1.10 from the beginning or consult the troubleshooting in section 3

RDC or DC Controllers

Check for a dot in the lower right corner of the RDC or DC controller display to verify that the controller is connected to the Kohler® OnCue® Plus server. See Figure 1-10.

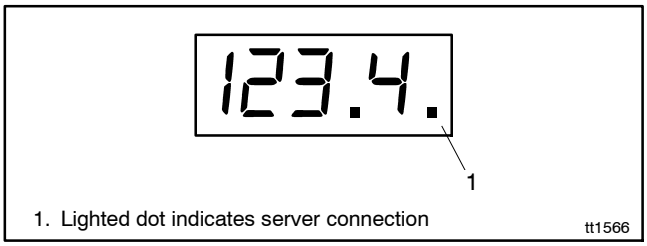


Figure 1-10 Controller Display with Server Connection Indicator

2.1 Introduction

After connecting the generator set to the Internet as described in Section 1, follow the instructions in this section to set up an OnCue Plus account and activate the generator.

Note: Sample screens are shown in this document. The actual screens may vary.

2.2 Information Required

You will need to enter some information when you create your OnCue Plus account and activate your generator set. To set up an account, provide your full name and email address, and create a username and account password. To add a generator to the account, you will need other information from the generator set and the OnCue Plus kit. Required information is listed in Figure 2-1.

Item	Description	Set Up Account	Add Generator	Can Change in Settings View?
Full Name	Enter your full name when setting up your account.	●		NO
Username	Create your username when setting up your account.	●		NO
Email Address	Enter your email address when setting up your account.	●		YES
Password	Create a password when setting up your account.	●		NO
Serial Number	For adding new generator, get from genset controller nameplate or controller. See Section 1.8.		●	NO
Genset Password	For adding new generator, get from genset controller. See Section 1.8.		●	YES
OnCue Plus Activation Code	From OnCue decal, provided with OnCue Plus kit. See Section 2.6.		●	NO
Genset Displayname	Create a name that identifies the generator set.		●	YES
Genset Location	Enter address or other location information for the generator set.		●	YES

Figure 2-1 Required Information

2.3 Start OnCue Plus

On your PC or Laptop

To use the OnCue Plus web application, use your computer to navigate to the OnCue Plus website www.kohlergenerators.com\oncue. The OnCue Plus log-in window opens. When you start OnCue Plus for the first time, select Create Account. See Figure 2-2.

Note: OnCue Plus works with the following web browsers:

- Google Chrome
- Safari
- Microsoft Edge (version 79 or higher)
- Firefox
- Opera

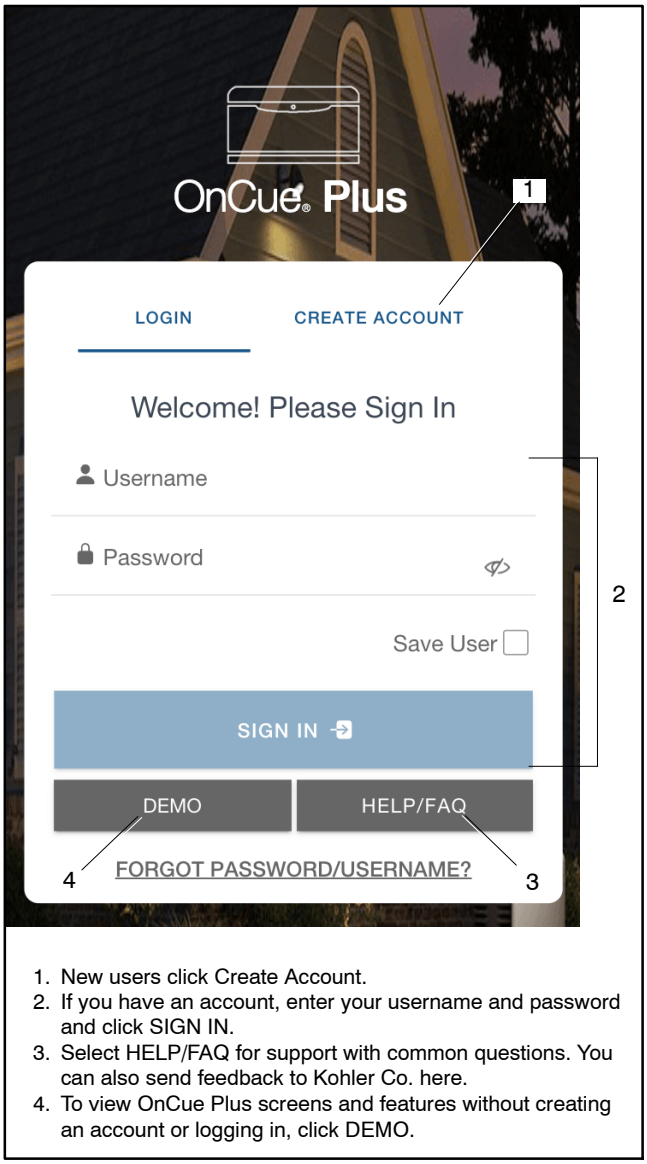
Pop-up blockers may need to be disabled.

On your Smart Phone or Tablet

For smart phones or tablets, obtain the Kohler OnCue Plus app from the App Store℠ (for Apple devices) or Google Play™ (for Android devices). Follow the Quick Start instructions in the app to set up an account and add your generator to OnCue Plus. Operation of the app is similar to using the web application as described in this manual.

Note: OnCue Plus works with Android version 5.0 or higher and iOS version 11.0 or higher.

OnCue Plus will remember your generator set and connect to it each time you use OnCue Plus.



1. New users click Create Account.
2. If you have an account, enter your username and password and click SIGN IN.
3. Select HELP/FAQ for support with common questions. You can also send feedback to Kohler Co. here.
4. To view OnCue Plus screens and features without creating an account or logging in, click DEMO.

Figure 2-2 OnCue Plus Sign In Screen

2.4 Create an Account

The first time that you use OnCue Plus, you will need to set up an account. A username, email address and password will be required. Create a username with 6 to 25 characters (no spaces) and a password for your account, and keep them in a safe place.

Click on Terms of Service near the bottom of the screen and read the OnCue Plus terms and conditions of use. Then click on the box next to “I accept the OnCue Plus terms and conditions of use” to indicate your acceptance of the OnCue Plus terms and conditions of use.

Click on Create Account.

An email will be sent to the email address given for the account. Follow the instructions in the email to activate your account. An account must be activated in order to log in for the first time. Internet access is required to activate your account.

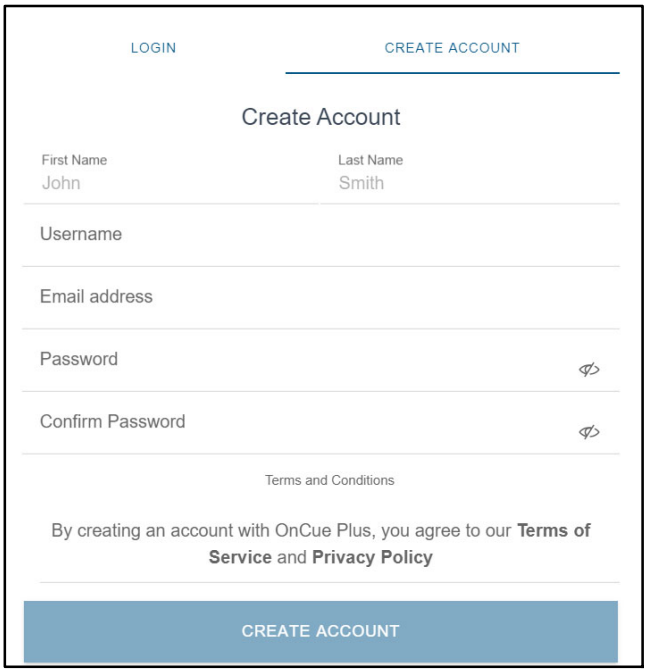


Figure 2-3 Create Account

2.5 Add Generator

In order to monitor and control a generator using OnCue Plus, you must add the generator to your OnCue Plus account. Multiple generators can be added to one account. If you own more than one generator set, or if you are a dealer monitoring numerous customer systems, you may add them to your account using this screen.

Select the + symbol or notepad symbol in the lower right corner.

Note: The + symbol will appear if you have not connected to a generator. If you are already connected to one or more generators, the notepad symbol will appear.

Click on ADD GENERATOR as shown in Figure 2-4. The generator set serial number and controller password are required. See Section 1.8 for instructions to obtain the serial number and password.

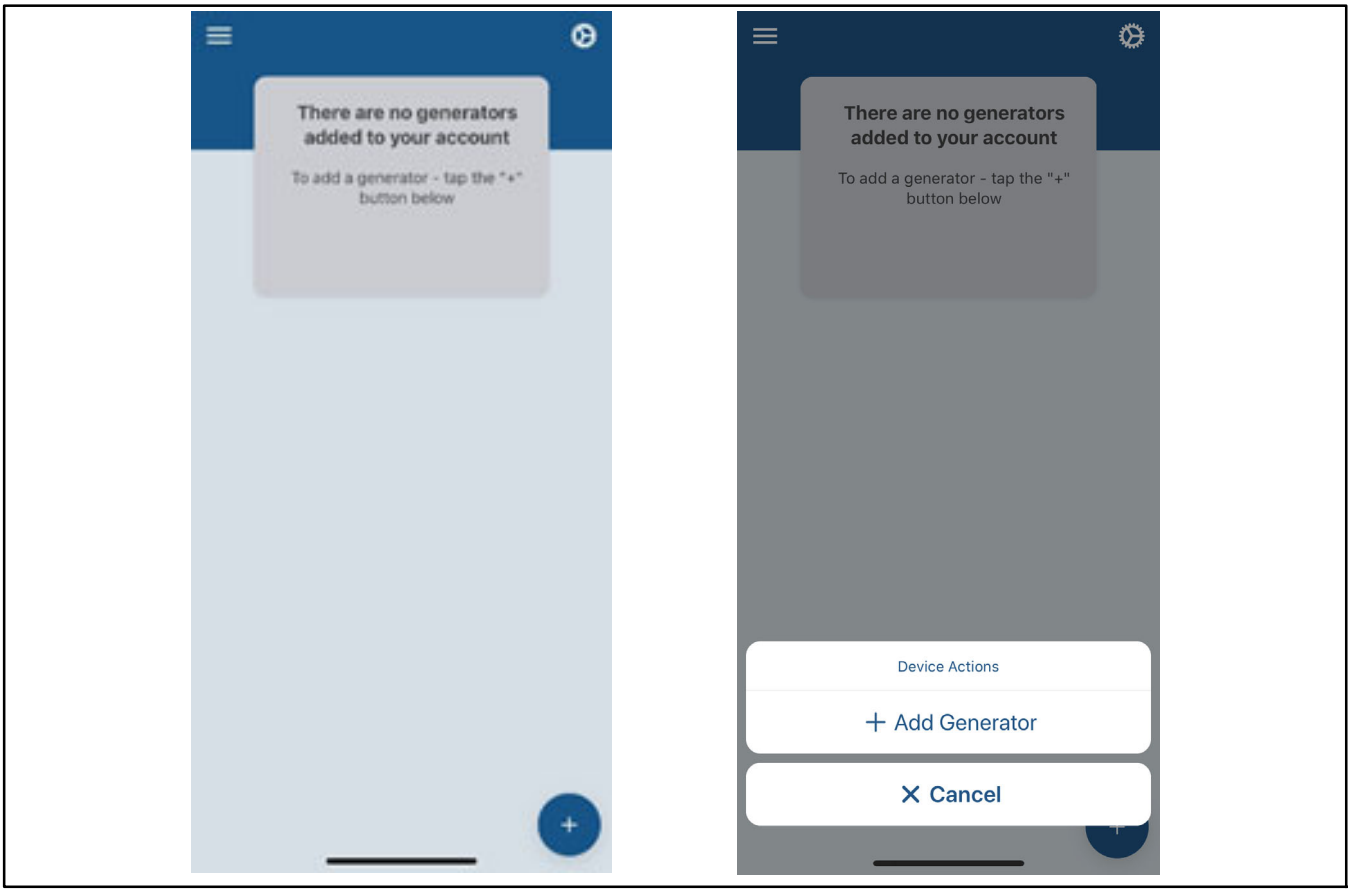


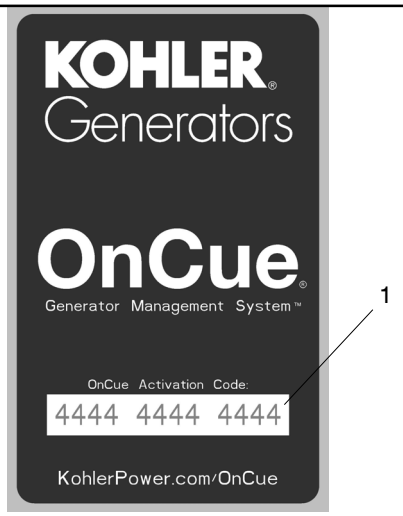
Figure 2-4 Add Generator

2.6 Activate Your Generator

Find the activation code on the decal provided with OnCue Plus. See Figure 2-5. Attach the OnCue activation code decal to the generator set.

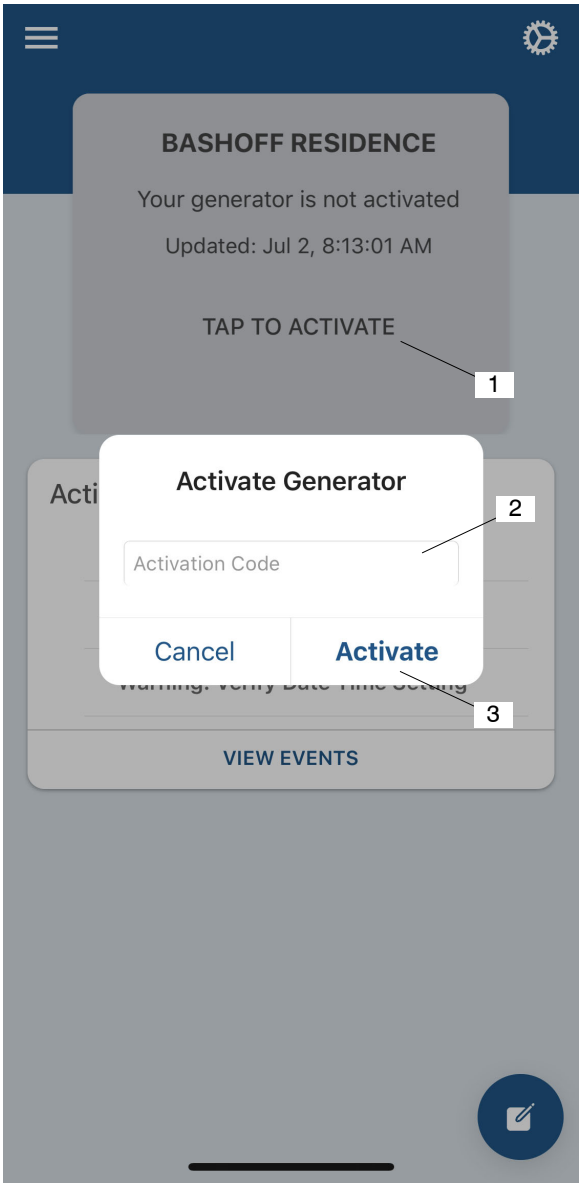
Select TAP TO ACTIVATE. See Figure 2-6. Then type your activation code into the Activate Generator window and click on ACTIVATE. If activation fails, refer to Section 3, Troubleshooting.

Note: If the generator set controller has been replaced and the old controller settings file is not loaded onto the new controller, a new activation code may be required. If a new activation code is needed, contact Kohler at 1-800-544-2444.



1. OnCue activation code

Figure 2-5 OnCue Activation Code Decal



1. Tap to activate
2. Enter activation code from the OnCue decal
3. Tap Activate

Figure 2-6 Activate Your Generator

Notes

3.1 Introduction

This section provides instructions for troubleshooting issues related to connection of the generator to the homeowner's network. Many of these issues and connection problems are caused by incorrect controller or router setup. This section provides instructions to troubleshoot problems with the generator connection to the OnCue® Plus server.

Because of the many different types of network equipment and configurations that are used in the field, this section cannot address every type of setup that is available. Please refer to the documentation provided for the router and contact the customer's Internet Service Provider (ISP), if necessary.

Refer to the generator set service manual when troubleshooting the generator set and connected equipment.

3.2 Generator Set Serial Number

Incorrect serial numbers will prevent connection to the OnCue® Plus server. Compare the genset serial number programmed into the controller with the serial number on the generator set nameplate. See Section 1.8 for instructions to find the serial number in the controller. If the S/Ns do not match, Kohler® SiteTech™ software is required to change the genset serial number programmed in the controller to match the nameplate. SiteTech software is only available to Kohler-authorized distributors and dealers. Contact a Kohler-authorized distributor/dealer for service.

3.3 Verify Power to the Controller

Verify that there is power to the generator set's controller. Check that the controller display is on or at least one LED on the controller is lit.

3.4 Check Controller's Ethernet Connection

RDC2/DC2 or VSC Controller. Check the Ethernet cable and RJ45 inline connector to the controller.

RDC/DC Controller. Make sure that the Ethernet board is installed correctly with the board-to-board connector in place. See TT-1566, Installation Instructions.

Check the firewall on the local router. Verify that router firewall port 5253 is configured to permit an outbound connection. Refer to the instructions provided with the router.

3.5 Power Cycling the Controller

The four digit password is only communicated to the OnCue® Plus Server when the controller powers up. Power cycle the controller, leaving the Ethernet cable plugged in. Power cycling can be done in one of two ways:

1. Disconnect *all* input power for two minutes (to allow capacitors to discharge):

   a. Battery power: remove the battery negative (-) cable or disconnect P1 from the back of the controller.

   b. Battery charger input power: disconnect the 120 VAC input power supply or disconnect P5 from the back of the controller.

   c. Unplug the USB mini-B connector from the front of the controller (if plugged in).

   d. Wait two minutes, then reconnect power, connecting the battery power (P1) first.

OR:

2. Re-install the controller firmware. This will force a controller reboot.

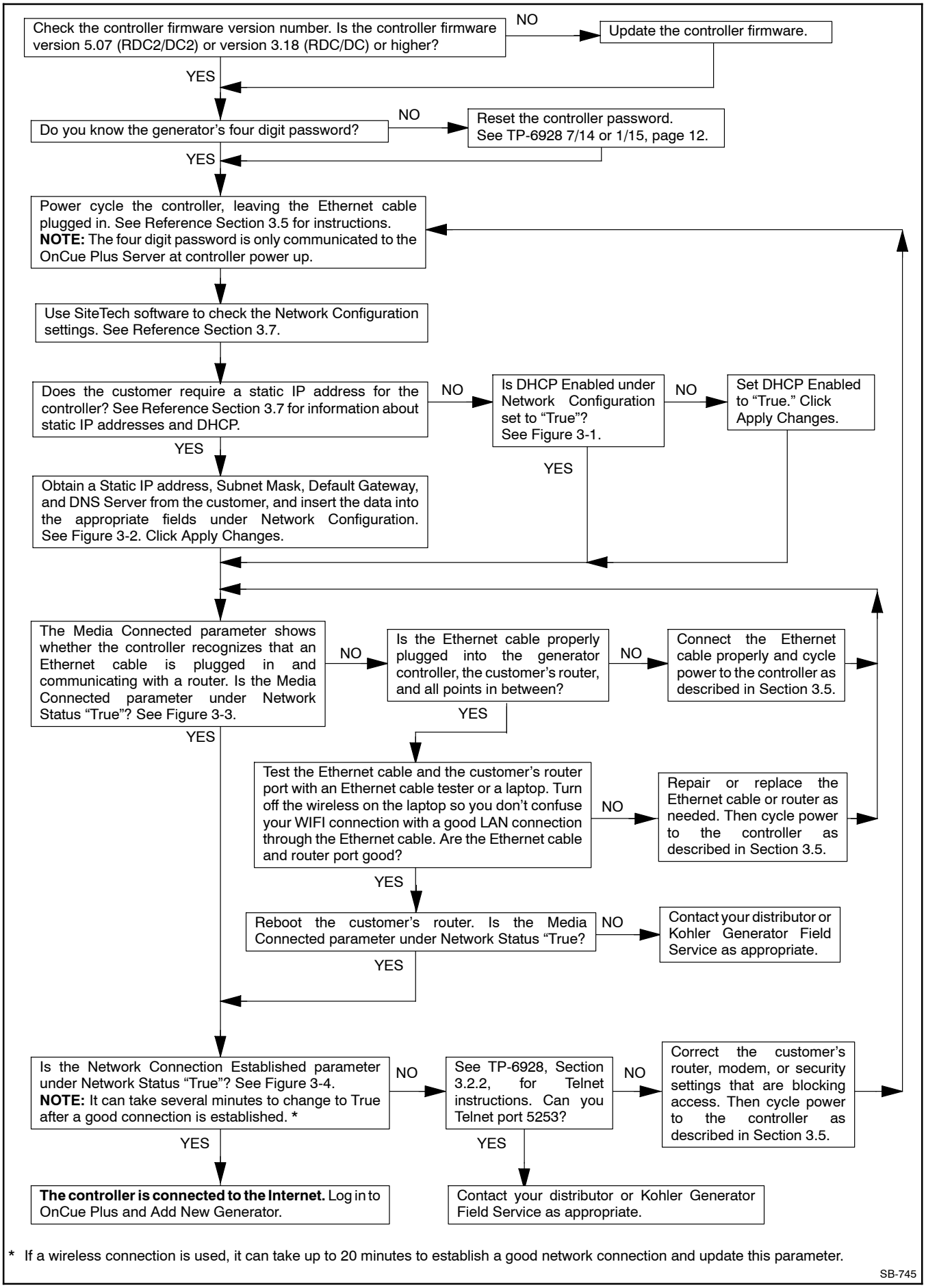
3.6 Troubleshooting Flowchart

Follow the steps in the troubleshooting procedure on the next page.

Equipment Required

The following items are necessary:

- Service laptop computer with Kohler® SiteTech™ software installed. SiteTech software is available to Kohler authorized distributors and dealers.
- USB cable, male USB A to male mini-B.
- Current (or appropriate) version of controller firmware.


Check the controller firmware version number. Is the controller firmware version 5.07 (RDC2/DC2) or version 3.18 (RDC/DC) or higher?
NO
Update the controller firmware.
YES
Do you know the generator's four digit password?
NO
Reset the controller password. See TP-6928 7/14 or 1/15, page 12.
YES
Power cycle the controller, leaving the Ethernet cable plugged in. See Reference Section 3.5 for instructions. NOTE: The four digit password is only communicated to the OnCue Plus Server at controller power up.
Use SiteTech software to check the Network Configuration settings. See Reference Section 3.7.
Does the customer require a static IP address for the controller? See Reference Section 3.7 for information about static IP addresses and DHCP.
NO
Is DHCP Enabled under Network Configuration set to "True"? See Figure 3-1.
NO
Set DHCP Enabled to "True." Click Apply Changes.
YES
YES
Obtain a Static IP address, Subnet Mask, Default Gateway, and DNS Server from the customer, and insert the data into the appropriate fields under Network Configuration. See Figure 3-2. Click Apply Changes.
The Media Connected parameter shows whether the controller recognizes that an Ethernet cable is plugged in and communicating with a router. Is the Media Connected parameter under Network Status "True"? See Figure 3-3.
NO
Is the Ethernet cable properly plugged into the generator controller, the customer's router, and all points in between?
NO
Connect the Ethernet cable properly and cycle power to the controller as described in Section 3.5.
YES
YES
Test the Ethernet cable and the customer's router port with an Ethernet cable tester or a laptop. Turn off the wireless on the laptop so you don't confuse your WIFI connection with a good LAN connection through the Ethernet cable. Are the Ethernet cable and router port good?
NO
Repair or replace the Ethernet cable or router as needed. Then cycle power to the controller as described in Section 3.5.
YES
Reboot the customer's router. Is the Media Connected parameter under Network Status "True?
NO
Contact your distributor or Kohler Generator Field Service as appropriate.
YES
Is the Network Connection Established parameter under Network Status "True"? See Figure 3-4. NOTE: It can take several minutes to change to True after a good connection is established. *
NO
See TP-6928, Section 3.2.2, for Telnet instructions. Can you Telnet port 5253?
NO
Correct the customer's router, modem, or security settings that are blocking access. Then cycle power to the controller as described in Section 3.5.
YES
YES
The controller is connected to the Internet. Log in to OnCue Plus and Add New Generator.
Contact your distributor or Kohler Generator Field Service as appropriate.
* If a wireless connection is used, it can take up to 20 minutes to establish a good network connection and update this parameter.
SB-745

3.7 Network Configuration and Status

When instructed in the procedure, use your laptop and Kohler® SiteTech™ software to check the Network Configuration and Network Status settings shown in Figure 3-1 through Figure 3-4.

Dynamic Host Connection Protocol (DHCP): Most network setups use DHCP, which allows the server to assign an IP address automatically. Some sites require a static IP address that must be requested from the Internet Service Provider (ISP). The customer will know if the controller requires a static IP address. (If the customer doesn't know, he most likely does not require a static IP address.)

If a static IP address is used, obtain the IP address, subnet mask, default gateway, and DNS server from the customer and enter the data into the appropriate fields under Network Configuration. Click Apply Changes after entering the data.

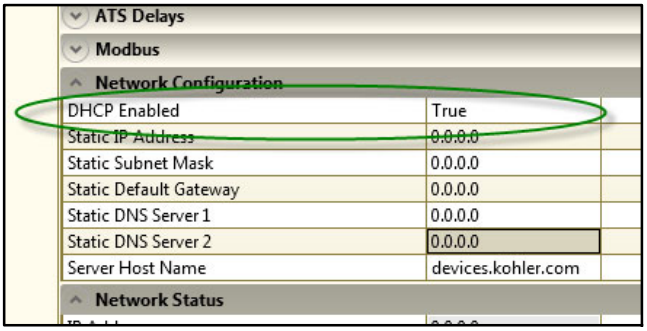


Figure 3-1 DHCP Enabled Setting

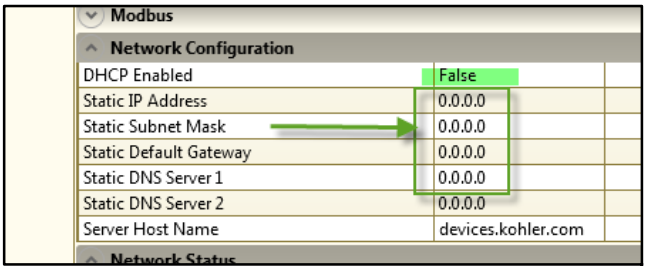


Figure 3-2 Static Settings (enter only if customer has a static IP address)

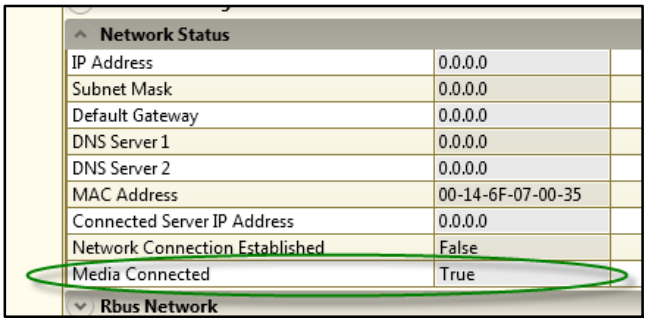


Figure 3-3 Media Connected Status = True if Controller is Connected

Figure 3-4 Network Connection Established (may take several minutes)

3.8 Check for Server Connection

3.8.1 RDC or DC Controllers

Check for a dot in the lower right corner of the RDC or DC controller display to verify that the controller is connected to the Kohler® OnCue® Plus server. See Figure 3-5.

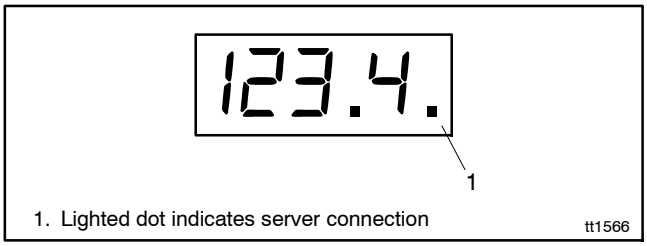


Figure 3-5 Controller Display with Server Connection Indicator

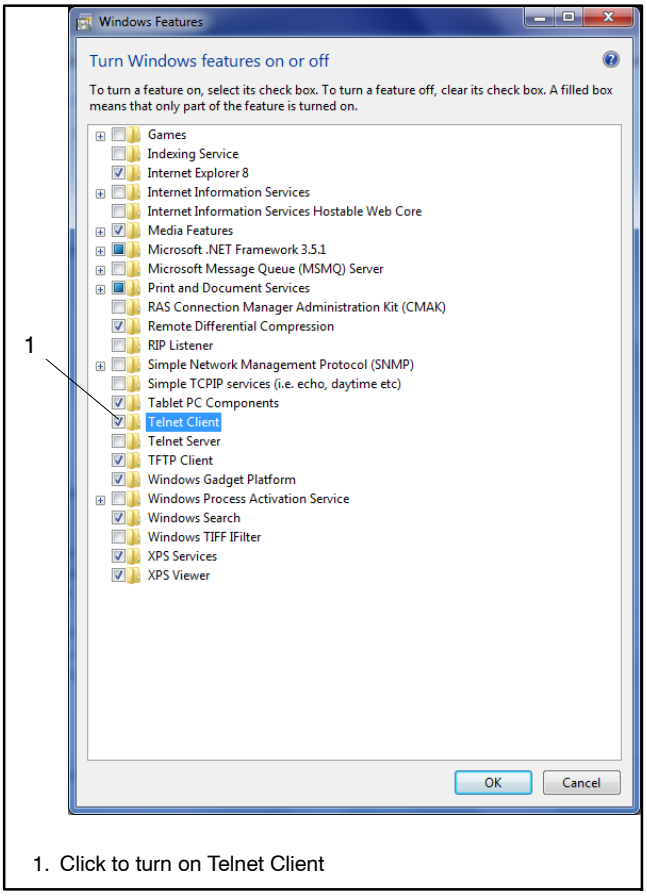
3.8.2 RDC2, DC2, or VSC Controller

If it is necessary to check the server connection to an RDC2, DC2, or VSC controller, use telnet on your PC. See Section 3.9 for instructions.

3.9 Using Telnet

Activate Telnet on your computer

Telnet is not activated by default on the Microsoft® Windows® 7 and Windows® 10 operating systems. To activate Telnet on the PC, open the Control Panel, select Programs, and then select Programs and Features. Select Turn Windows Features On or Off. Find the Telnet Client and click on the box so that the box is checked. See Figure 3-6. Click OK and wait while Windows makes the adjustments.



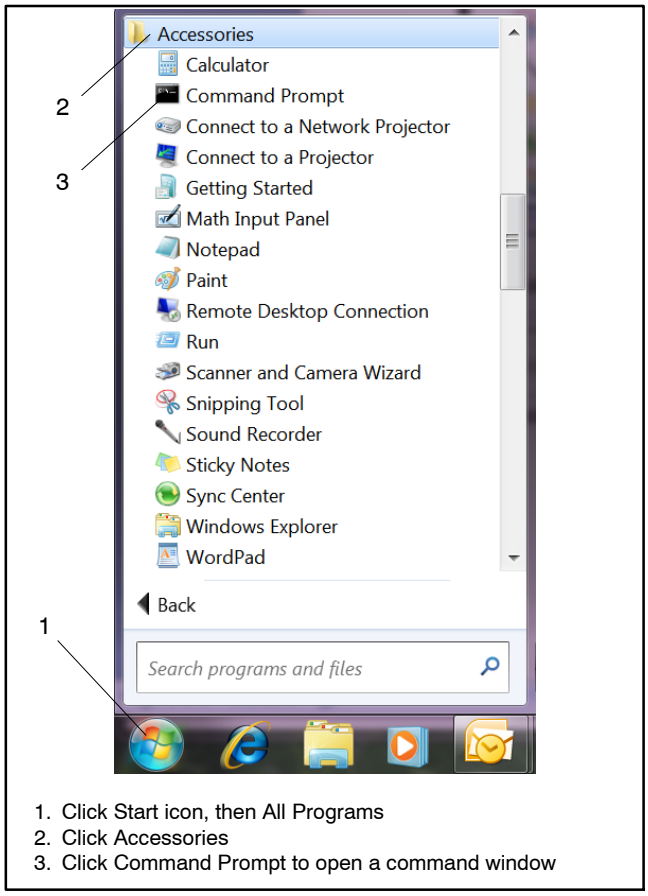
1. Click to turn on Telnet Client

Figure 3-6 Telnet Activation, Microsoft® Windows® 7 (Windows® 10 is similar)

Now use Telnet to check the server connection to OnCue Plus.

Telnet Procedure

1. Open a command prompt window on the PC by selecting Start, All Programs, Accessories, Command Prompt. See Figure 3-7.



1. Click Start icon, then All Programs
2. Click Accessories
3. Click Command Prompt to open a command window

Figure 3-7 Opening a Command Prompt Window

2. Using the command prompt window, try to telnet to the OnCue Plus server by entering the following:

   c:\> telnet devices.kohler.com 5253

3. If the connection was successfully established, you will see the symbols shown in Figure 3-8.

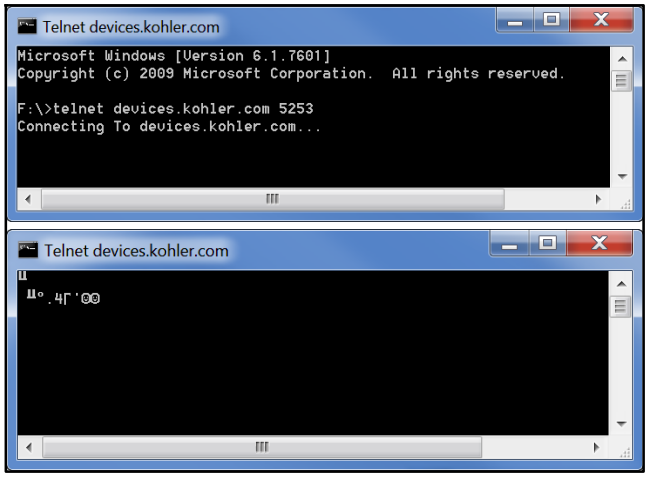


Figure 3-8 Telnet Command to Confirm OnCue® Plus Server Connection

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3.10 Other Issues

Figure 3-9 lists some additional things to check when troubleshooting connection problems.

Possible Cause of Connection Problem	Suggested Solution
Internet service is down	Verify that Internet service is available by navigating to www.KOHLERPower.com or any website.
No power to controller	Verify power to the generator set controller by checking that the controller display is on or one LED is illuminated or flashing on the controller. Check the connection to the generator set's engine starting battery. **RDC/DC controller.** Check the condition of the controller's F3 fuse, and replace the fuse if necessary.
No connection to the server	**RDC2/DC2/VSC controller.** Test server connection using telnet. See Section 3.8.2. **RDC/DC controller.** Check that the server connection indicating LED on the controller is lit. See Sections 3.3 and 3.8.
Cable or modem/router problem	**Note: RDC2/DC2/VSC controller.** Disconnect the utility power to the generator set before disconnecting the Ethernet cable. Follow the safety precautions in this document and in the generator set service manual. **Note: RDC/DC controller.** Remove the controller's F3 fuse and disconnect power to the generator set before disconnecting the Ethernet cable. Follow the safety precautions in this document and in the generator set service manual. See TT-1566, Ethernet Board Installation Instructions, for connection details. Isolate the problem by disconnecting the Ethernet cable from the generator controller and plugging it into a laptop PC. Disable wireless on the laptop. Check Internet access by trying to connect to www.KOHLERPower.com or any website. • If no connection, try to connect the laptop PC to the modem/router using a different cable. • If there is no connection with either cable, the problem may be with the modem/router. Contact your Internet Server Provider for assistance.
Long network cables may cause excessive signal loss	If the network cable is longer than 100 meters (328 ft.), install a repeater or switch.
Password error	Reset the password at the controller, if necessary, and enter the new password in OnCue Plus. See Section 2.5.
Generator set serial number mismatch	See Section 3.2.
Firewall blocking access	On the generator set side, configure the router firewall to open port 5253 to permit an outbound connection. Contact your system administrator or Internet service provider for assistance, if necessary.
Other	Contact your Internet Server Provider for assistance.

Figure 3-9 Other Possible Causes of Connection Problems

Notes

Appendix A Abbreviations

The following list contains abbreviations that may appear in this publication.

A, amp	ampere
ABDC	after bottom dead center
AC	alternating current
A/D	analog to digital
ADC	advanced digital control; analog to digital converter
adj.	adjust, adjustment
ADV	advertising dimensional drawing
Ah	amp-hour
AHWT	anticipatory high water temperature
AISI	American Iron and Steel Institute
ALOP	anticipatory low oil pressure
alt.	alternator
Al	aluminum
ANSI	American National Standards Institute (formerly American Standards Association, ASA)
AO	anticipatory only
APDC	Air Pollution Control District
API	American Petroleum Institute
approx.	approximate, approximately
APU	Auxiliary Power Unit
AQMD	Air Quality Management District
AR	as required, as requested
AS	as supplied, as stated, as suggested
ASE	American Society of Engineers
ASME	American Society of Mechanical Engineers
assy.	assembly
ASTM	American Society for Testing Materials
ATDC	after top dead center
ATS	automatic transfer switch
auto.	automatic
aux.	auxiliary
avg.	average
AVR	automatic voltage regulator
AWG	American Wire Gauge
AWM	appliance wiring material
bat.	battery
BBDC	before bottom dead center
BC	battery charger, battery charging
BCA	battery charging alternator
BCI	Battery Council International
BDC	before dead center
BHP	brake horsepower
blk.	black (paint color), block (engine)
blk. htr.	block heater
BMEP	brake mean effective pressure
bps	bits per second
br.	brass
BTDC	before top dead center
Btu	British thermal unit
Btu/min.	British thermal units per minute
C	Celsius, centigrade
cal.	calorie
CAN	controller area network
CARB	California Air Resources Board
CAT5	Category 5 (network cable)
CB	circuit breaker
CC	crank cycle
cc	cubic centimeter
CCA	cold cranking amps
ccw.	counterclockwise
CEC	Canadian Electrical Code
cert.	certificate, certification, certified
cfh	cubic feet per hour
cfm	cubic feet per minute
CG	center of gravity
CID	cubic inch displacement
CL	centerline
cm	centimeter
CMOS	complementary metal oxide substrate (semiconductor)
com	communications (port)
coml	commercial
Coml/Rec	Commercial/Recreational
conn.	connection
cont.	continued
CPVC	chlorinated polyvinyl chloride
crit.	critical
CSA	Canadian Standards Association
CT	current transformer
Cu	copper
cUL	Canadian Underwriter's Laboratories
CUL	Canadian Underwriter's Laboratories
cu. in.	cubic inch
cw.	clockwise
CWC	city water-cooled
cyl.	cylinder
D/A	digital to analog
DAC	digital to analog converter
dB	decibel
dB(A)	decibel (A weighted)
DC	direct current
DCR	direct current resistance
deg., °	degree
dept.	department
dia.	diameter
DI/EO	dual inlet/end outlet
DIN	Deutsches Institut fur Normung e. V. (also Deutsche Industrie Normenausschuss)
DIP	dual inline package
DPDT	double-pole, double-throw
DPST	double-pole, single-throw
DS	disconnect switch
DVR	digital voltage regulator
E^2PROM, EEPROM	electrically-erasable programmable read-only memory
E, emer.	emergency (power source)
ECM	electronic control module, engine control module
EDI	electronic data interchange
EFR	emergency frequency relay
e.g.	for example (*exempli gratia)*
EG	electronic governor
EGSA	Electrical Generating Systems Association
EIA	Electronic Industries Association
EI/EO	end inlet/end outlet
EMI	electromagnetic interference
emiss.	emission
eng.	engine
EPA	Environmental Protection Agency
EPS	emergency power system
ER	emergency relay
ES	engineering special, engineered special
ESD	electrostatic discharge
est.	estimated
E-Stop	emergency stop
etc.	et cetera (and so forth)
exh.	exhaust
ext.	external
F	Fahrenheit, female
FHM	flat head machine (screw)
fl. oz.	fluid ounce
flex.	flexible
freq.	frequency
FS	full scale
ft.	foot, feet
ft. lb.	foot pounds (torque)
ft./min.	feet per minute
ftp	file transfer protocol
g	gram
ga.	gauge (meters, wire size)
gal.	gallon
gen.	generator
genset	generator set
GFI	ground fault interrupter
GND, ⏚	ground
gov.	governor
gph	gallons per hour
gpm	gallons per minute
gr.	grade, gross
GRD	equipment ground
gr. wt.	gross weight
H x W x D	height by width by depth
HC	hex cap
HCHT	high cylinder head temperature
HD	heavy duty
HET	high exhaust temp., high engine temp.
hex	hexagon
Hg	mercury (element)
HH	hex head
HHC	hex head cap
HP	horsepower
hr.	hour
HS	heat shrink
hsg.	housing
HVAC	heating, ventilation, and air conditioning
HWT	high water temperature
Hz	hertz (cycles per second)
IBC	International Building Code
IC	integrated circuit
ID	inside diameter, identification
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IMS	improved motor starting
in.	inch
in. H_2O	inches of water
in. Hg	inches of mercury
in. lb.	inch pounds
Inc.	incorporated
ind.	industrial
int.	internal
int./ext.	internal/external
I/O	input/output
IP	internet protocol
ISO	International Organization for Standardization
J	joule
JIS	Japanese Industry Standard
k	kilo (1000)
K	kelvin
kA	kiloampere
KB	kilobyte (2^{10} bytes)
KBus	Kohler communication protocol
kg	kilogram

kg/cm^2	kilograms per square centimeter
kgm	kilogram-meter
kg/m^3	kilograms per cubic meter
kHz	kilohertz
kJ	kilojoule
km	kilometer
kOhm, kΩ	kilo-ohm
kPa	kilopascal
kph	kilometers per hour
kV	kilovolt
kVA	kilovolt ampere
kVAR	kilovolt ampere reactive
kW	kilowatt
kWh	kilowatt-hour
kWm	kilowatt mechanical
kWth	kilowatt-thermal
L	liter
LAN	local area network
L x W x H	length by width by height
lb.	pound, pounds
lbm/ft^3	pounds mass per cubic feet
LCB	line circuit breaker
LCD	liquid crystal display
LED	light emitting diode
Lph	liters per hour
Lpm	liters per minute
LOP	low oil pressure
LP	liquefied petroleum
LPG	liquefied petroleum gas
LS	left side
L_{wa}	sound power level, A weighted
LWL	low water level
LWT	low water temperature
m	meter, milli (1/1000)
M	mega (10^6 when used with SI units), male
m^3	cubic meter
$m^3/hr.$	cubic meters per hour
$m^3/min.$	cubic meters per minute
mA	milliampere
man.	manual
max.	maximum
MB	megabyte (2^{20} bytes)
MCCB	molded-case circuit breaker
MCM	one thousand circular mils
meggar	megohmmeter
MHz	megahertz
mi.	mile
mil	one one-thousandth of an inch
min.	minimum, minute
misc.	miscellaneous
MJ	megajoule
mJ	millijoule
mm	millimeter
mOhm, mΩ	milliohm
MOhm, MΩ	megohm
MOV	metal oxide varistor
MPa	megapascal
mpg	miles per gallon
mph	miles per hour
MS	military standard
ms	millisecond
m/sec.	meters per second
mtg.	mounting
MTU	Motoren-und Turbinen-Union
MW	megawatt
mW	milliwatt
μF	microfarad
N, norm.	normal (power source)
NA	not available, not applicable
nat. gas	natural gas
NBS	National Bureau of Standards
NC	normally closed
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
Nm	newton meter
NO	normally open
no., nos.	number, numbers
NPS	National Pipe, Straight
NPSC	National Pipe, Straight-coupling
NPT	National Standard taper pipe thread per general use
NPTF	National Pipe, Taper-Fine
NR	not required, normal relay
ns	nanosecond
OC	overcrank
OD	outside diameter
OEM	original equipment manufacturer
OF	overfrequency
opt.	option, optional
OS	oversize, overspeed
OSHA	Occupational Safety and Health Administration
OV	overvoltage
oz.	ounce
p., pp.	page, pages
PC	personal computer
PCB	printed circuit board
pF	picofarad
PF	power factor
ph., ∅	phase
PHC	Phillips® head Crimptite® (screw)
PHH	Phillips® hex head (screw)
PHM	pan head machine (screw)
PLC	programmable logic control
PMG	permanent magnet generator
pot	potentiometer, potential
ppm	parts per million
PROM	programmable read-only memory
psi	pounds per square inch
psig	pounds per square inch gauge
pt.	pint
PTC	positive temperature coefficient
PTO	power takeoff
PVC	polyvinyl chloride
qt.	quart, quarts
qty.	quantity
R	replacement (emergency) power source
rad.	radiator, radius
RAM	random access memory
RBUS	RS-485 proprietary communications
RDO	relay driver output
ref.	reference
rem.	remote
Res/Coml	Residential/Commercial
RFI	radio frequency interference
RH	round head
RHM	round head machine (screw)
rly.	relay
rms	root mean square
rnd.	round
RO	read only
ROM	read only memory
rot.	rotate, rotating
rpm	revolutions per minute
RS	right side
RTDs	Resistance Temperature Detectors
RTU	remote terminal unit
RTV	room temperature vulcanization
RW	read/write
SAE	Society of Automotive Engineers
scfm	standard cubic feet per minute
SCR	silicon controlled rectifier
s, sec.	second
SI	*Systeme international d'unites,* International System of Units
SI/EO	side in/end out
sil.	silencer
SMTP	simple mail transfer protocol
SN	serial number
SNMP	simple network management protocol
SPDT	single-pole, double-throw
SPST	single-pole, single-throw
spec	specification
specs	specification(s)
sq.	square
sq. cm	square centimeter
sq. in.	square inch
SMS	short message service
SS	stainless steel
std.	standard
stl.	steel
tach.	tachometer
TB	terminal block
TCP	transmission control protocol
TD	time delay
TDC	top dead center
TDEC	time delay engine cooldown
TDEN	time delay emergency to normal
TDES	time delay engine start
TDNE	time delay normal to emergency
TDOE	time delay off to emergency
TDON	time delay off to normal
temp.	temperature
term.	terminal
THD	total harmonic distortion
TIF	telephone influence factor
tol.	tolerance
turbo.	turbocharger
typ.	typical (same in multiple locations)
UF	underfrequency
UHF	ultrahigh frequency
UIF	user interface
UL	Underwriter's Laboratories, Inc.
UNC	unified coarse thread (was NC)
UNF	unified fine thread (was NF)
univ.	universal
URL	uniform resource locator (web address)
US	undersize, underspeed
UV	ultraviolet, undervoltage
V	volt
VAC	volts alternating current
VAR	voltampere reactive
VDC	volts direct current
VFD	vacuum fluorescent display
VGA	video graphics adapter
VHF	very high frequency
W	watt
WCR	withstand and closing rating
w/	with
WO	write only
w/o	without
wt.	weight
xfmr	transformer

Notes

Notes

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