

GW-301 GATEWAY

Operation and Installation Manual

1 | Product Review

The NextCentury GW-301 (Cellular Gateway) is a powerful communication device for collecting and syncing meter usage and status data to the NextCentury Cloud. An embedded cellular modem provides an instant data connection right out of the box, making setup fast and easy*. The Gateway user interface can be directly accessed via a simple connection to a compatible Android or iOS device using the NCS mobile app. The GW-301 includes easy to understand LED indicators, providing instant device status. The GW-301 Gateway includes an integrated NextCentury radio for connection to NextCentury Transceivers and Repeaters.

*Monthly data plan is provided by NextCentury. You can easily enable/disable cellular service remotely from the NextCentury web portal. Data is affordably provided with no contracts or hidden fees.

1.1 - GW-301 Hardware



Figure 1 GW-301 Hardware

- | | | |
|-----------------|------------------|------------------------------|
| A 15 VDC Power | C USB Port | E 3 rd Party Port |
| B Ethernet Port | D LED Indicators | F Antenna Connection |

1.2 - Packaging Content

- NextCentury GW-301 Gateway
- NextCentury 15V 1A power supply
- NextCentury mounting plate
- Package of fasteners
- Ethernet cable
- External Cellular Antenna

2 | Specifications

2.1 - Dimensions:

- 205.7 mm x 139.7 mm x 27.9 mm
- 8.1 in x 5.5 in x 1.1 in

2.2 - Operation Environment:

- -28C to 60C
- -20F to 140F
- Up to 90% relative humidity (non-condensing)

2.3 - Power Requirements:

- 120/240 VAC wall transformer (included)

Note: If the Gateway is installed outside where it is directly exposed to the elements, it is recommended to house it in an appropriate NEMA class plastic enclosure. (See [NextCentury NEMA Enclosures](#) document on the NextCentury website.)

2.4 - Certification:

- FCC: Contains 2AB8I-RE-40-214
- FCC: Contains VZFSWN80MA6
- FCC: Contains A8TBM71S2
- IC: Contains 20949-RE40214
- IC: Contains 10609A-SWN80MA6
- IC: Contains 12246A-BM71S2

3 | Installation and Mounting

3.1 - Mount the Gateway

Each Gateway comes with a mounting plate and can be installed using the mounting screws and anchors to secure the Mounting Plate to the wall.

Note: To maintain stability, a minimum of two screws and anchors must be used on the mounting plate (Figure 2-A). Gateway should be secured to the wall using the provided mounting screws and anchors, and should not be mounted with 3M Tape alone.

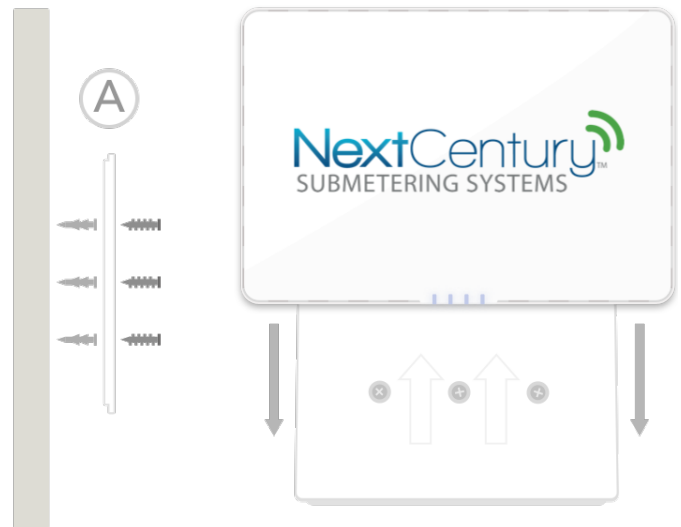


Figure 2 Mount the Gateway

- A Mounting Screws and Anchor
- B Slide the GW-301 on the mounting plate

3.2 – Mount External Cellular Antenna

- Attach magnetic base of cellular antenna to the wall.

3.3 – Power the Gateway

- Plug Power Supply into the 15-volt power port (Figure 1-A).

4 | Direct Connect

4.1 - Connect with Gateway Using Mobile App

When the internet connection being provided to the Gateway requires set parameters (WiFi, network static IP, etc.) then a direct connection can be established with the Gateway using an Android or iOS device and the NCSS mobile app.

1. Your mobile device's Bluetooth must be turned on and within 10 feet proximity to the Gateway.
2. Open the NCSS mobile app and select "Direct Connect" from the menu.
3. Tap the Gateway device as it appears (fig. 3).
4. Tap the Settings icon and adjust the connection parameters as needed.

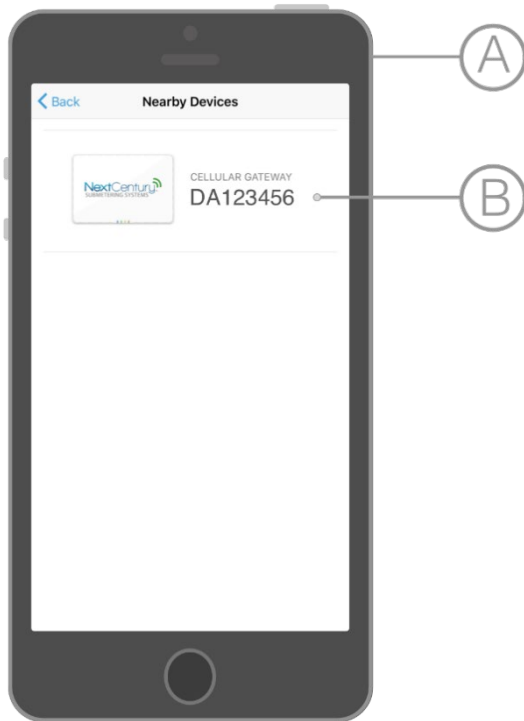


Figure 3 Viewing Nearby GW-301 Using NCSS Mobile App

- A** The NCSS mobile app is available for Android or iOS devices.
- B** Nearby devices can be selected in order to establish a direct connection.

5 | Data Connection Options

Determine your preferred internet connection type to establish NextCentury Cloud connectivity.

Option 1: Integrated Cellular

1. Enable cellular data plan for the Gateway by navigating to the property settings using the NCSS mobile app or by navigating to the NextCentury web portal on your browser.

Note: The data plan is available on a month-to-month basis and can be canceled at any time. Cellular can also be turned on remotely at any time through the web portal.

Option 2: Internet

1. Plug Ethernet cable into the Ethernet port (Figure 1-B).
2. If the property network requires a static IP, or other configuration parameters, then use the "Direct Connect" feature available from the NCSS mobile app (section 4).

Note: The Gateway does not need a static IP address unless required by the network configuration. It can be placed on either a WAN or LAN network and use a DHCP address.

Option 3: WiFi

1. Using the "Direct Connect" feature on the NCSS mobile app to select a nearby GW-301 (section 4).
2. Tap on the "Settings" icon to access network settings.
3. Tap "Find Network" under the WiFi section and then select from the available WiFi networks. A password can then be entered.

Note: On unrestricted networks the Gateway will automatically connect to the NextCentury Cloud. If the Gateway does not connect, please be sure that the network does not require proxy login information and that TCP traffic is not blocked. If a proxy login or firewall is present on the network, a whitelist policy will need to be created by the IT manager for the property.

6 | Gateway LED Operation

The GW-301 Gateway comes equipped with four LED lights on the front/side edge.

Power Indicator

LED Pattern	Description
Solid Green	Powered on but NOT connected to NextCentury Cloud
Solid Blue	Powered on and connected to NextCentury Cloud
Solid Red	Power has been disconnected and the unit is running on backup power
No Light	Power is off

Setup Indicator

LED Pattern	Description
Solid Green	Programmed to a property
Green Blinks	Programmed to a property: Mobile App directly connected to Gateway
Yellow Blinks	Not programmed to a property: Mobile App directly connected to Gateway
No Light	Not programmed to a property

RF Activity Indicator

LED Pattern	Description
Green Flash	Unprogrammed NCSS device communicating
Yellow Flash	Programmed 3 rd party device communicating
Blue Flash	Programmed NCSS device communicating
Red Flash	Unprogrammed 3 rd Party devices communicating
No Light	No Real-time RF activity

3G/LTE Indicator

LED Pattern	Description
Solid Green	Good Cellular Signal
Green Breathing	Cellular enabled, Good Cellular Signal
Solid Yellow	Fair Cellular signal
Yellow Breathing	Cellular enabled, Fair Cellular Signal
Solid Red	Poor Cellular Signal (Not recommended)
Red Breathing	Cellular enabled, Poor Cellular Signal (Not recommended)
No Light	No Cellular Signal

*Note: If the Cellular Indicator is on (red, yellow or green) then the Gateway has a cellular signal and is actively able to ping (communicate with) the NextCentury Servers.

Table 1 LED Indicator Key

6.1 - Power Indicator

- When the Gateway is plugged in, the Power Indicator LED (Table 1) will be solid green indicating the device is powered on but not connected with the NextCentury Cloud. A *solid blue* Power Indicator LED signifies the device is powered on and has connected with the NextCentury Cloud. The Power Indicator will turn *red* if a loss of power occurs. If the Gateway is being reset, the Power Indicator LED will *blink red one time*.

6.2 - Setup Indicator

- When the Gateway has been programmed to a property, the Setup LED indicator (Table 1) is *solid green*. If the LED is *blinking green* then the Gateway is programmed to a property AND the Mobile App is directly connected to the Gateway. If the LED is not on after the device has powered on, then the unit has not yet been programmed to a property. If the LED is *blinking yellow* then the Gateway has not been programmed to a property but the Mobile App is directly connected to the gateway. or been able to sync with the NextCentury Cloud.

6.3 – RF Activity Indicator

- This LED will be off when the Gateway does not detect any real-time RF activity (if the Gateway is not sending or receiving messages from any repeater or transceiver onsite).
- 3rd Party Device Transmissions: The LED will *briefly flash red* when the Gateway is communicating (sending or receiving messages) with an unprogrammed 3rd party device. The LED will *briefly flash yellow* when the Gateway is communicating with a programmed 3rd party device.
- Next Century (NCSS) Device Transmissions: The LED will *briefly flash green* when the Gateway is communicating (sending or receiving messages) with an unprogrammed NCSS device (RE-201 Repeater or TR-201 Transceiver). The LED will *briefly flash blue* when the Gateway is communicating with a programmed NCSS device.

6.4 - 3G/LTE Indicator

- The 3G/LTE indicator will be red, yellow, or green depending on the available signal strength. *Red* is an

indication of poor signal strength, *yellow* is fair, and *green* is a good cellular signal. The indicator will *breathe red, yellow or green* (to indicate poor, fair, good signal strength respectively) if the cellular connection is currently active/enabled.

7|Television and Radio Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

8|FCC Part 15 and Industry Canada Compliance

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This portable equipment with its antenna complies with FCC's and IC's RF radiation exposure limits set forth for an uncontrolled environment. Users are advised to maintain a separation distance of 20cm (this will be generated from our MPE report) to comply with FCC and IC RF exposure limits.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet équipement portable avec son antenne se conforme aux limites d'exposition aux radiations RF du FCC et du IC, énoncées pour un environnement non contrôlé. Les utilisateurs sont conseillé de maintenir une distance de séparation de 20 cm (ceci sera généré depuis notre rapport de MPE) pour se conformer aux limites d'exposition RF du FCC et du IC.

9|Warranty/Disclaimer

Scope of Warranty

NextCentury warrants that all communication equipment manufactured by NextCentury will be free from defects in materials and workmanship under normal use and in accordance with NextCentury's documented installation and operating procedures for a period of three (3) years from the date of manufacture.

Products not manufactured by NextCentury including without limitation, accessories, attachments, or batteries used in conjunction with NextCentury equipment are warranted, if at all, only by the original manufacturer. NextCentury's warranties do not include replacement of batteries used to power NextCentury products.

Limits of Liability

This warranty only applies to Read Management System components produced by NextCentury, and does not cover any products which have been damaged by misconduct, negligence, vandalism, acts of God, excessive operating conditions, or unauthorized attachments or modifications. This warranty will be nullified and voided if products are placed in non-recommended installation application/fashion, or are converted, altered, or treated by other than NextCentury recommended procedures and instructions, or are read by equipment not approved by NextCentury.

NextCentury's liability and customer's exclusive remedy under this warranty is expressly limited to repair or replacement of the product at NextCentury's option, and is conditioned upon the customer returning the product(s) to the location designated by NextCentury within the warranty periods or limits stated herein and pre-paying the freight costs both to and from specified location. In no event shall NextCentury be liable for costs or expenses associated with the removal or installation of products under this warranty.

NextCentury shall have no liability or responsibility to the purchaser or any third party for any loss, cost, expense, damage, or liability, whether direct or indirect, or for special, incidental, indirect, or consequential damages of any kind, regardless of whether such liability is based on breach of contract, tort, strict liability, breach of warranties, or otherwise, and even if advised of the likelihood of such damages. Incidental and consequential damages include, but are not limited to, lost revenue, loss of profits, data, business, or goodwill. In addition, damages resulting from negligence on the part of the customer including, but not limited to, the care and maintenance of NextCentury products, or damages resulting from negligence regarding periodic testing of the product's performance, are not covered under this guarantee.

CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY NEXTCENTURY MAY VOID THIS WARRANTY AND THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THE FOREGOING WARRANTY IS THE SOLE AND EXCLUSIVE REMEDY AVAILABLE TO THE PURCHASER AND IS IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, OR REMEDIES, WHETHER WRITTEN OR

ORAL, EXPRESSED, OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH NEXTCENTURY HEREBY EXPRESSLY DISCLAIMS.

Due to updated regulations and product improvements, NextCentury Submetering Systems, LLC reserves the right to change the product specifications without notice.

10|NextCentury Submetering System

Contact Information

If there are any questions or concerns related to these guidelines, please contact NextCentury Submetering Systems Product Support:

- Phone: (844) 538.8203 opt. 2
- Email: support@nextcenturymeters.com