

# SIEMENS



## **Connect Gateway**

## **4G Wireless Setup**

## **Application Guide**

CGG3.X200 / CXG3.X300

## **Edition notice**

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# 1 4G Wireless Setup

Connect gateway supports internet connectivity over either wired or wireless medium. This guide describes the workflow on how to enable internet connectivity over wireless on a Connect X200/X300 device. The images shown are for reference only. The actual product and user interface may vary.

The two solutions to enable internet over wireless on the gateway are

- 4G industrial cellular router, connected to the WAN Ethernet port
- 4G dongle, connected to the USB port



An industrial cellular router is recommended whenever continuous and reliable wireless connectivity is required, applicable for all use cases during the setup phase or continuous operation.

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A dongle is an on-demand solution when wireless connectivity is required temporarily, for example during commissioning and troubleshooting. A dongle has limited capabilities (e.g. bandwidth, ping, reception quality) that usually makes it unsuitable for continuous operation. Continuously operating the X200 or X300 using a 4G USB dongle is done at the customer's own risk.

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## 1.1 4G Industrial Cellular Router

The following devices are supported:

Device type	Frequency band
<b>Teltonika RUT240</b> (Industrial Cellular Router)	<ul style="list-style-type: none"> <li>• <b>4G (LTE):</b> 1/2/3/4/5/7/8/12/13/18/19/20/25/26/ 28/38/40/41 (700/800/850/900/1700/1800/1900/ 2100/2300/2500/2600 MHz)</li> <li>• 3G UMTS: 850/900/2100 MHz</li> <li>• 2G GSM: 900/1800 MHz</li> </ul>
<b>Teltonika RUT241</b> (Industrial Cellular Router)	<ul style="list-style-type: none"> <li>• <b>4G (LTE):</b> 1/3/5/7/8/20/28/40 (700/800/850/900/1800/2100/2300/ 2600 MHz)</li> <li>• 3G UMTS: 850/900/2100 MHz</li> <li>• 2G GSM: 900/1800 MHz</li> </ul>

Only the router hardware is provided by Siemens Building Products. To enable wireless connectivity, the customer has to procure a SIM card and data plan. Potentially available dataplans offered in the context of the Siemens CLIMATIX portfolio are not compatible.

The router is to be connected to the WAN port on the Connect Gateway and needs no further configuration on the Connect Gateway itself.



### NOTICE



#### Non-compatibility of bundled offers

The Climatix offer 4G Router and Wireless Data Bundles (POL90C.30/STD) cannot be used for Teltonika RUT240/RUT241 with Connect Gateway X200/ X300.

## 1.2 4G Dongle

The following devices are supported:

Device type	Frequency band
<b>ZTE MF833U1</b> (4G LTE USB Dongle)	<ul style="list-style-type: none"> <li>• <b>4G (LTE):</b> 1/3/5/7/8/20/28/38/39/40/41 (700/800/850/900/1800/1900/2100/2300/2500/2600 MHz)</li> <li>• 3G UMTS: 850/900/1900/2100 MHz</li> <li>• 2G GSM: 850/900/1800/1900 MHz</li> </ul>
<b>ZTE MF79U-W</b> (4G USB Modem)	<ul style="list-style-type: none"> <li>• <b>4G (LTE):</b> 1/3/7/8/20/38 (800/900/1800/2100/2600 MHz)</li> <li>• 3G UMTS: 900/2100 MHz</li> <li>• 2G GSM: 900/1800 MHz</li> </ul>
<b>Huawei E3372/E3372h-320</b> (High-speed 4G dongle)	<ul style="list-style-type: none"> <li>• <b>4G (LTE):</b> 1/3/7/8/20 (800/900/1800/2100/2600 MHz)</li> <li>• 3G UMTS: 900/2100 MHz</li> <li>• 2G GSM: 850/900/1800/1900 MHz</li> </ul>
<b>Alcatel IK40V-2AALDE1</b> (4G LTE category 4 USB modem)	<ul style="list-style-type: none"> <li>• <b>4G (LTE):</b> 1/3/5/7/8/20 (800/850/900/1800/2100/2600 MHz)</li> <li>• <b>4G (LTE):</b> 800/900/1800/2100/2600 MHz</li> <li>• 3G HSPA+/HSPA/UMTS: 900/1800/2100 MHz</li> </ul>
<b>Verizon USB730L/MC730 USA</b>	<ul style="list-style-type: none"> <li>• <b>4G:</b> LTE - LTE-U, CAT 6 US bands: B13/B4/B2/B5 Global bands: B3 Carrier aggregation: B13+B4, B13+B2, B4+B2, B4+B4, B2+B2, B2+B5, B4+B5</li> <li>• <b>3G and lower:</b> Quad band - GPRS/EDGE Quad band UMTS/HSPA CDMA2000 1xRTT/EvDOa</li> </ul>

### 1.2.1 Installing dongle



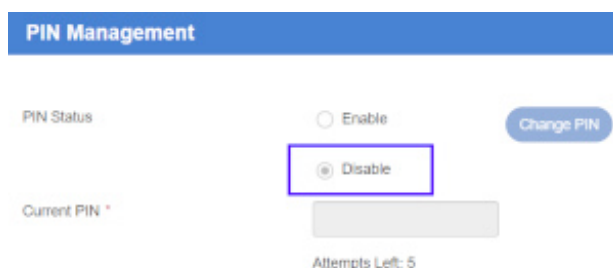
Cybersecurity can only be ensured as long as the latest firmware version is installed. It is recommended to perform firmware updates regularly.

Follow the general installation steps below to setup the device. Images shown are based on device type **ZTE MF79U-W**. The user interface may differ depending on the chosen device type.

1. Connect 4G dongle to a local PC.  
⇒ The dongle is displayed as physical drive once connected.



2. Navigate to the local device UI of the dongle.
3. Disable **PIN verification**. On some dongles, it may be necessary to enter an initial PIN, select **change PIN**, and then leave **new PIN** field empty.

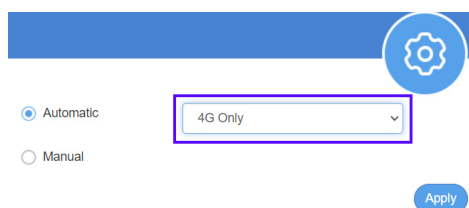


⇒ Default Access Point Name (APN) profile is created automatically.

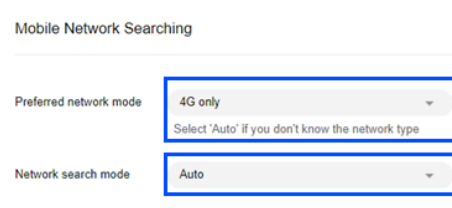
4. Verify APN of your provider. If APN is different from default, enter and save correct details in the profile manually.
5. Check the internet for firmware updates of the respective dongle type.
6. Enable **4G only**, as shown below.
7. Leave **Network search mode: Auto** unchanged. In **Manual** mode you can select preferred network provider.
8. Check all other project specific settings, such as data roaming and auto disconnect interval. It is recommended to set the auto disconnect interval to the maximum time limit.

⇒ The dongle is ready to be used with a Connect gateway device.

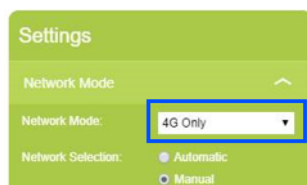
### ZTE MF79U-W



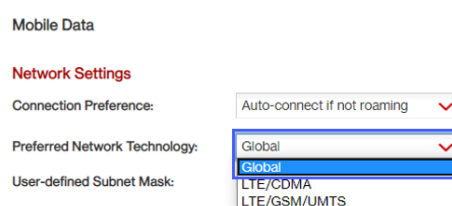
### Huawei E3372/E3372h-320



### Alcatel IK40V-2AALDE1



### Verizon USB730L/MC730 USA



## 1.2.2 Connect dongle to X200



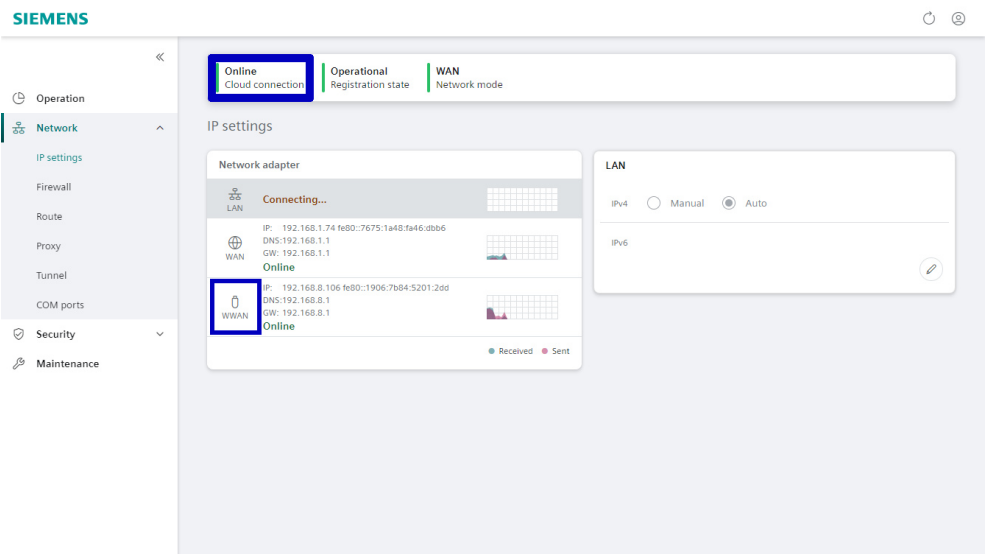
The USB dongle is inserted into the USB port at the top of the gateway. A WAN cable can be plugged in simultaneously: the dongle has higher priority and the communication channel will automatically change to wireless once a connection has been established. When the dongle is removed, the WAN port will be reactivated automatically.



1. Connect a PC over a LAN cable to port 1A or 1B on Connect X200.
2. Connect the dongle to USB port to the USB port.
  - ⇒ The **WWAN0** interface will be created if an internet connection exists. If 4G connection fails and the WAN port is connected to a wired network, the system will try to connect via **WAN0**.
3. To ensure a proper connection, check the following indicators:
  - On Connect X200, the CLOUD LED is steady blue when an internet connection to the cloud has been established. If LED status changes from steady blue to flashing, an error has occurred.
  - On the local device UI, the interface **WWAN0** is displayed as **WWAN** under **Network > Route**.



- The cloud connectivity state **Connected** is displayed.



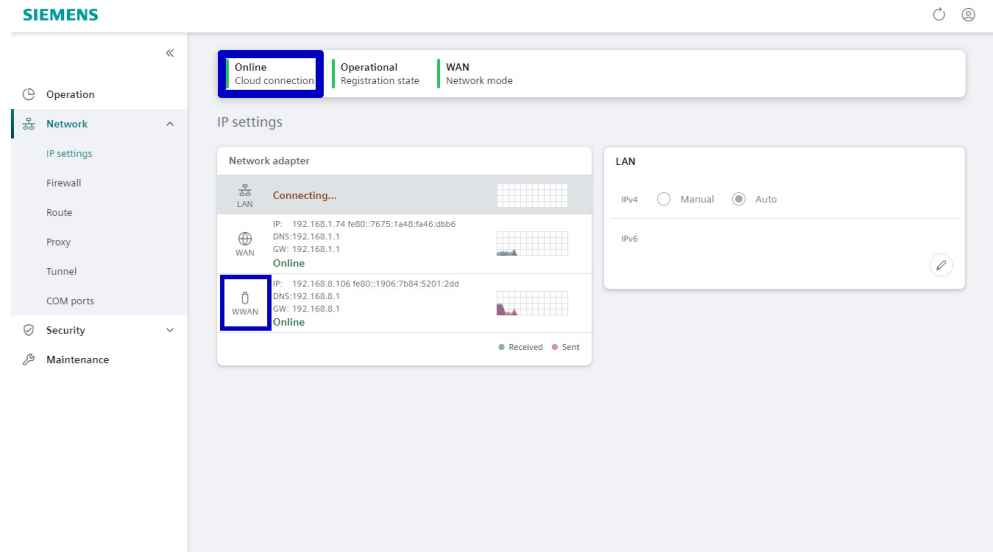
### 1.2.3 Connect dongle to X300



The USB dongle can be plugged into any of the USB ports, but port X60 is recommended. A WAN cable can be plugged in simultaneously: the dongle has higher priority and the communication channel will automatically change to wireless once a connection has been established. When the dongle is removed, the WAN port will be reactivated automatically.



1. Connect a PC over a LAN cable to port X1P1 on Connect X300.
2. Connect the dongle to USB port X60.
  - ⇒ The **WWAN0** interface will be created if an internet connection exists. If the wireless connection fails and the WAN port X2P1 is connected to a wired network, the system will try to connect via **WAN0**.
3. To ensure a proper connection, check the following indicators:
  - On Connect X300, the L2 - ERROR LED is blinking orange during connection set-up and steady orange when the connection has been established. If the LED remains blinking, an error has occurred.
  - On the local device UI, the interface **WWAN0** is displayed as **WWAN** under **Network > Route**.
  - The cloud connectivity state **Connected** is displayed.



## 1.2.4 Troubleshooting

### Avoid IP address conflicts

The USB dongles have a static IP address within a predefined IP address range. It is not possible to change the IP address of the dongle. Make sure to avoid an IP address conflict with the IP address assigned to WAN or LAN port.

**Examples:**

Device	Dongle IP address	Default gateway
ZTE	192.168.0.1	192.168.0.xxx
Huawei	192.168.8.1	192.168.8.xxx
Alcatel	192.168.1.1	192.168.1.xxx

### Use 4G dongle for troubleshooting

In case of any network issues in WAN networks, it is recommended to set up a temporary cloud connection with a 4G dongle for troubleshooting.

An automatic switch from WAN to WWAN interface is used internally for a mobile internet connection through the 4G dongle. To ensure a temporary connection via one of the supported 4G dongles, the proxy must be disabled.

1. Go to **Network > Proxy**.
2. Disable **Proxy**.
3. Click **Save**.
4. Reboot the Connect gateway device.



After unplugging the USB dongle, make sure that the proxy is enabled again in case the device is operating through the default WAN interface.



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