ICX35-HWC Industrial Cellular Gateway

What is the ICX35-HWC Industrial Cellular Gateway?

The ICX35-HWC gateway provides secure wireless Ethernet and serial connectivity to remote devices over 4G LTE cellular service with fallback to 3G.

I'm trying to make the most efficient use of my time and money. How can the ICX35-HWC help?

By monitoring and troubleshooting your equipment from anywhere in the world, you can avoid most costly and time-consuming maintenance visits. This also helps minimize unscheduled downtime and increases productivity. The gateway supports SMS messaging, enabling your EtherNet/IP™ controller to send commands to your equipment, ensuring that any issues are handled as soon as possible. In addition, you can monitor all of your gateways through Belden Horizon™, Belden's secure, cloud-native platform for the Industrial Internet of Things. This intuitive Web-based interface can be used anywhere you have access to an Internet connection. You can sign up and take a tour at www.belden.io.

Why is this type of solution better than a wired connection or a radio?

It solves the problem of connecting to remote devices when other means are not possible because of a variety of factors, including: the cost of trenching; obstructions preventing wireless signals that require line of sight; and distance to remote locations.

What are some typical applications that may require an Industrial Cellular Gateway?

Connecting to remote devices for programming, monitoring, and alarms; I/O control (start/stop motors; open and close gates/valves; turning on alarm); and diagnostics are a few applications that benefit from an Industrial Cellular Gateway. The industries served include Oil and Gas, Water/Wastewater, Mining, OEM machine monitoring and control, and many others.

Why should I use a gateway with LTE?

LTE is the latest cellular technology in use today and offers greater application longevity than 3G. Most cellular carriers have phased out 3G networks, leaving 3G-only devices in the dark.

I have an ICX30-HWC. Can its configuration be exported to the ICX35-HWC?

No. The ICX35-HWC takes advantage of newer technology that makes the configuration incompatible with the ICX30-HWC.

Can the ICX35-HWC operate on Verizon networks?

Yes, the ICX35-HWC is now certified for use on Verizon networks.

Do I need a different model of ICX35-HWC to work on Verizon?

No, the ICX35-HWC-A supports Verizon and GSM-based networks like AT&T.

Do I need to configure the ICX35-HWC differently to work on Verizon?

Yes, the ICX35-HWC must have Verizon-specific radio software loaded in order to work on the Verizon network.

Can I order ICX35-HWC gateways with Verizon-specific radio software already loaded?

Yes. There are two ways:

The first option is to order the Verizon conversion option. When placing your order for ICX35-HWC-A gateways, you can also order the Verizon conversion option ICX35-VZW. For each ICX35-VZW option ordered, we will install the Verizon radio software on one of the ICX35-HWC-A units, and add identifying labels to the unit and the package to indicate that it contains the Verizon radio software.

The second option is to order a Verizon activation or data plan through ProSoft Technology. When placing your order for ICX35-HWC-A gateways, you can also order a Verizon 1/2/3 year data plan with a Verizon custom activation. For each data plan and activation ordered, we will preload the Verizon radio software on one ICX35-HWC-A, label the unit and package, and activate your data plan. You do NOT need to add the ICX35-VZW Verizon conversion option in this case. Please contact your local distributor or your sales representative for more information on the cellular data plans.

Can I load the Verizon-specific radio software on my existing ICX35-HWC's?

Yes, the radio software can be updated by the user. See the user manual for details.

What ICX35-HWC firmware level is required?

ICX35-HWC Firmware Version 1.3.0 and later supports Verizon connectivity.

If I decide to switch from Verizon to a GSM based carrier, can I convert my ICX35-HWC back to the GSM version radio software?

Yes. Use the procedure is outlined in the user manual.

I have an ICX30-HWC with Verizon service. What do I need to do to replace the ICX30-HWC with an ICX35-HWC?

The ICX30-HWC is a 3G-only device, and does not use a SIM card when used on the Verizon network. Verizon LTE devices, like the ICX35-HWC, require SIM cards for 3G service. Therefore, you must first obtain a SIM card from your provider, and convert your plan over to that SIM card. If you purchased your data plan through ProSoft Technology, contact ProSoft Technology for details on converting the plan from the ICX30-HWC to the ICX35-HWC.

Is SMS messaging supported on the Verizon network?

Yes, the SMS messaging function in the ICX35-HWC is supported with the Verizon LTE network. Note, the data plan must include SMS service. Many LTE data-only plans do not include SMS, so be sure to specify if you need SMS. Data plans provided by ProSoft Technology include unlimited SMS.

I will use my ICX35-HWC in the U.S. and other countries. Can I use Verizon in this case?

ProSoft Technology does not recommend using Verizon in this case, as you will need to convert the radio software when you leave the U.S. In this case, it is better to use a GSM-based network like AT&T.

What is the difference between "radio software" and "ICX35-HWC firmware"?

The ICX35-HWC firmware is the core firmware running on the ICX35-HWC, and applies to all radio types. This firmware can be updated through the ICX35-HWC web server interface, or through Belden Horizon. The radio software applies only to the radio module within the ICX35-HWC and defines how the radio module interacts with the cellular tower. This software can only be updated through the ICX35-HWC web server interface, according to the directions in the user manual.

Why would I select Verizon over AT&T or other carriers?

In the U.S., there are multiple cellular service options available. The choice of carrier depends on several factors, including strength of coverage in the intended use area and availability of corporate rate plans. The ICX35-HWC now supports both CDMA-based carriers like Verizon and GSM-based carriers like AT&T, so you are free to choose the best carrier for your specific needs.

Will the ICX35-HWC work on a Verizon private network?

Yes, the ICX35-HWC is compatible with Verizon private networks. Note that private networks do not provide internet access for the mobile device. To reach the internet, the ICX35-HWC must be configured to use your corporate network's internet gateway. If you intend to use Belden Horizon™ for device management or secure remote access, the ICX35-HWC must be able to reach the internet using SSL (HTTPS). Check with your IT department to determine if internet access can be configured in this case.

Does the ICX35-HWC come with an antenna?

No. The proper antenna depends on the application. ProSoft Technology can help you choose the best antenna for your application.

What antenna options do you offer for the ICX35-HWC?

We currently have four LTE antenna options for the ICX35-HWC:

Part Number	Description	When to use
A072703S-OA	3dBi direct-mount articulating "stub" antenna	Use when ICX35-HWC is mounted in the open. **Do NOT use** if ICX35-HWC is mounted in a metal control cabinet.
A072703S-OBH	3dBi Bulkhead Mount Omni antenna with 5' lead	Use when ICX35-HWC is mounted in a control cabinet. The antenna mounts to the outside of cabinet, with a 5-foot (1.5 meter) lead to run to the ICX35-HWC.
A072706NJ-OC	6/7dBi Omni mast-mounted collinear antenna with N type connector	Use when location has poor signal strength. This option requires additional cables and connectors, so have a wireless field application engineer review.
A072710NJ-DS	10/11dBi Directional mast-mounted antenna with N type connector	Use when location has poor signal strength. The directional antenna points to a specific cellular tower to improve signal. This option requires additional cables and connectors, so have a wireless field application engineer review.

What other items might be needed for an ICX35-HWC application?

If the antenna is mounted outdoors, we offer a weather-proofing kit to protect all connections from corrosion. We also recommend the use of a lightning protector in outdoor applications. For some antenna and mounting options, extension cables are required. Contact a wireless field application engineer to review the requirements.

Can I use an antenna from another vendor with the ICX35-HWC?

Yes. The ICX35-HWC has a Reverse Polarity SMA (RP-SMA) connector for its antenna connections. Any 4G LTE antenna with a RP-SMA connector should work. Note that 3G antennas may work, but may not cover all LTE frequencies. Therefore, we recommend replacing 3G antennas with 4G LTE antennas.

Can I use my own data plan?

Yes. The ICX35-HWC works with any 4G LTE data service. Follow the steps in the User Manual to configure the ICX35-HWC for your service. You will need a Mini-SIM (2FF) card, and some information from your cellular provider to complete the activation. (Note – some carriers like Verizon in the U.S. do not use SIM cards for 3G service. The ICX35-HWC requires a SIM. In these cases, contact your cellular provider and obtain a SIM for the ICX35-HWC.)

Can I use a pre-paid data plan with the ICX35-HWC?

Pre-paid data plans generally work with the ICX35-HWC. These can be a good low-cost option for certain applications. It is important for the user to monitor the balance and keep these plans "topped up" to avoid service disruptions. We recommend using one of the ProSoft Technology plans or a standard monthly data plan to avoid service disruptions.