Cellular Endpoint

What is the cellular endpoint?

The Neptune cellular endpoint is a meter interface unit that utilizes a cellular network to transmit data to Neptune® 360™. A network infrastructure is not required, eliminating the operational and capital burden that can come with having a traditional RF fixed network. The cellular endpoint supports targeted or full-scale deployments, providing a solution that can be tailored to each utility's unique needs.

What network supports the cellular endpoint?

The cellular endpoint is supported by the FirstNet® cellular network to ensure robust coverage and secure, reliable delivery of AMI data.

What is FirstNet®?

FirstNet is the nationwide public safety broadband network built with and for First Responders (Primary) and those who support them (Extended Primary). Water utilities and their suppliers, such as Neptune Technology Group, are classified as Extended Primary.

What are the benefits of FirstNet?

FirstNet data is routed through a separate, core network apart from commercial traffic allowing for:

- Data prioritization over commercial traffic
- Enhanced cybersecurity
- Protection from network congestion

FirstNet also provides augmented coverage with dedicated network resources and mobile cellular units that can be dispatched during disaster recovery to support agencies and organizations on FirstNet.

How do I know whether I have FirstNet service in my area?

A coverage map can be used to identify service locations and is available on the FirstNet website: https://www.firstnet.com/coverage.html.

Does the cellular endpoint require any programming?

No, the cellular endpoint auto-detects the type of encoded register it is connected to and only requires a magnet swipe along the endpoint housing to be activated.

With what encoder registers will the cellular endpoint function?

The cellular endpoint is part of the Neptune R900® System and is compatible with the following encoder registers: Neptune® ARB® V, ProRead™, ProCoder™, E-CODER®, MACH 10®, KROHNE WATERFLUX 3070, Sensus (Invensys) ECR II, ECR III, ICE, iPerl, Electronic Register, OMNI, Hersey/Mueller Translator, Badger ADE, HR E|LCD, E-Series.

Please refer to the latest product sheet for any updates to the compatibility list.

If I change the register attached to the cellular endpoint do I need to wait to get an updated reading?

No, magnet swiping the endpoint will force it to interrogate the register and initiate network transmits of the data. Any subsequent readings after the magnet swipe will contain the latest reading from the new register.

How often is data sent from the cellular endpoint to Neptune 360?

The endpoint interrogates the meter register every 15 minutes. This data is stored in the cellular endpoint data log and is transmitted via the FirstNet network to Neptune 360 four times per day/once every six hours.

Does the cellular endpoint support a local data unload of the endpoints data log?

No, the endpoint does not support a local data log unload. Instead, usage profile information can be accessed remotely from Neptune 360. Additionally, the endpoint stores up to 96 days of data to backfill readings into Neptune 360 in the event of a cellular network interruption. Once communication is restored, any readings that are stored and have not been transmitted will be queued and transferred via the cellular network, so that there are no missed readings.

Does the cellular endpoint support mobile messages?

Yes, the cellular endpoint will transmit a mobile message every 30 seconds after 72 consecutive hours of unsuccessful cellular transmission. After a successful cellular transmission, the endpoint will stop transmitting the mobile message every 30 seconds.

How is the cellular endpoint activated?

The endpoint is shipped in a "sleep" mode and requires a magnet swipe along the top left corner to activate and begin transmitting meter reading data.

Is the battery replaceable on the cellular endpoint?

No, the cellular endpoint is fully potted for field reliability and there is no mechanism for field replacement of the battery.

How can I distinguish the cellular endpoint from other R900 System endpoints?

The cellular endpoint can be distinguished from other R900 System endpoints in the following ways:

- Pit units with an internal antenna have a distinct mounting arm with a circular hole through it that extends from the side of the endpoint's housing.
- Wall units and pit units with an external antenna have "R900 CELLULAR" printed on the cover of the unit.
- The label on the endpoint housing for all units includes "R900 cellular endpoint" along with a black box that indicates it is FirstNet enabled.

Can the cellular endpoint be connected to two separate encoded registers?

No, the cellular endpoint does not support networking and can only be connected to a single encoded register.

How do I verify that the cellular endpoint is connected to the cellular network once installed?

Connectivity can be verified by using the Neptune® 360™ Field Manager app. The Field Manager app will display information regarding the endpoint's cellular network status and meter reading from the connected register. This displayed information can be used to verify that you have properly wired the endpoint to the register along with a verification of cellular signal strength at the installation location.

How do I download and install the Field Manager to my iOS or Android device?

Contact Neptune Customer Support to obtain a license key and directions for installing the application to your device.

Is the Field Manager app required for installation?

No, the Field Manager app is not required for endpoint installation, but it is useful to verify a valid meter reading and good cellular network connectivity at the installation location.

Why is the cellular endpoint transmitting all colons (:::::::::)?

The endpoint is not detecting an encoder register. Check all wiring connections and magnet swipe the endpoint to force a register interrogation.

What head-end software is supported by the cellular endpoint?

The cellular endpoint is supported by Neptune 360 only.

Does the cellular endpoint support remote firmware updates?

Yes, the endpoint supports remote firmware upgrades, initiated from Neptune 360, for future enhancements and bug-fixes.

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