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Landis+Gyr



# Series 5 Water 520 Mi.Node/IP

Data Sheet

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## Introduction

The Series 5 Water 520 Mi.Node/IP device is a battery-operated radio for automated water-meter data collection. The device reads water consumption data from residential and commercial water meters equipped with encoders or solid-state registers. It contains a two-way radio that is compatible with electric meters, routers, and mesh extenders to relay water consumption data to the utility. It also has a low-power mode for communications to TechStudio field tools.



*Figure 1. Water 520 Mi.Node/IP*

## Federal Communications Commission (FCC) Compliance Notice

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

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 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.
- Consult Landis+Gyr or an experienced radio technician for help



**WARNING: Changes or modifications to this device not expressly approved by Landis+Gyr will void the equipment warranty.**

## Industry Canada (IC) Compliance Notice

This device complies with 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.

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 e 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..

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage adioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

## RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites FCC d'exposition aux radiations définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-implantés ou exploités en conjonction avec une autre antenne ou émetteur.

# Electrical Characteristics

## Battery:

- Battery type: Lithium-Thionyl Chloride
- Nominal voltage: 3.6 V
- Capacity: 19000 mAh

## DC Characteristics:

- Operating Voltage Range: 3.2 V - 3.6 V
- Typical Sleep Current (at 25°C): 4  $\mu$ A

## Radio Characteristics:

- Typical Antenna Gain: 0 dBi
- Frequency Range: 902 MHz - 928 MHz
- Modulation Format: 2-FSK, GFSK
- Transmit Output Power (typical)
  - Single Channel Mode: - 8 dBm
  - Frequency Hopping Mode:
    - High Power: 27 dBm
    - Normal Power: 24 dBm
- Receive sensitivity (typical)
  - 9.6 kbps: -112 dBm
  - 19.2 kbps: -110 dBm
  - 38.4 kbps: -108 dBm
  - 50 kbps: -108 dBm
- Max Input Power, No Damage: 10 dBm

