# User Manual

# StealthNet 1928™

**Part #77-7900**
**Part #77-7910**
**Part #77-7920**
**Part #77-7930**

## Table of Contents

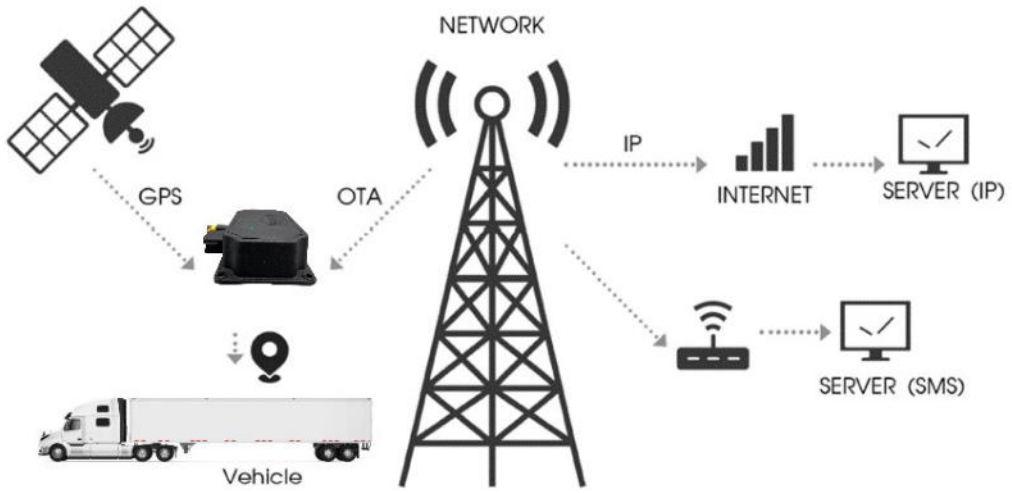
## 1. INTRODUCTION

The StealthNet 1928™ 4G LTE Asset Tracking Gateway from Phillips Connect is a vehicle tracking device that combines GPS location with LTE and Bluetooth. StealthNet 1928 monitors vehicle and asset functions and collects data for tracking and analysis.

The StealthNet 1928 Gateway appears to the user of a server application as a single endpoint device. It can be queried, updated, and configured either through a serial connection or an over-the air (OTA) LTE IP connection. StealthNet 1928 presents itself over the connections as an enhanced cellular modem with attached functional elements. These elements include:

- GPS location engine
- PCTBus™ proprietary communication over TIA-485-A
- CAN Communication
- BLE 5.2
- General Purpose Bidirectional I/O (GPIO) pins

The following is a typical application scenario:



## 2. HARDWARE FEATURES

The StealthNet 1928 Gateway ships from the factory pre-configured for a specific set of functions and can be configured and commissioned in the field, while providing support for external control through a Phillips Connect proprietary set of commands. Supported features include the following:

### Solution Highlights

- Manage and view your assets in the cloud-based Remote Listening System
- Real-time visibility and simple geofencing
- Automated alerts configurable in the Remote Listening System
- Scalable Bluetooth Connectivity - Easily add sensors as they become available
- Up to 6 months of reporting (on fully charged battery, stationary asset)
- Flawless operation in the harshest temperatures
- 5-minute reporting when in motion
- 2 reports per day when parked

### Powerful Cost Saving Tools

- Do more with fewer trailers
- Optimize trailer pool management
- Automate yard checks
- Covert installations help eliminate trailer theft and cargo loss
- Improve driver satisfaction
- Manage detention billing

## 3. TECHNICAL SPECIFICATIONS

**CELLULAR SUPPORT**

LTE-FDD: Bands B2/B4/B12

WCDMA: Bands B2/B4/B5

**GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)**

Supported Satellite Systems:

- GPS
- GLONASS
- BeiDou (COMPASS)
- Galileo
- QZSS

Accuracy: Circular probable error (CEP-50) with Open Sky, <2.5 meters

Additional Features: Assisted GPS; WAAS Support

**SENSOR DATA INTERFACES**

Bluetooth 5.2

TIA-485-A

- Protocol: PCTBUS

CANBus 2.0B

- SAE J1939
- ISO 14229

GPIO: 1 Channel

**ELECTRICAL / POWER MANAGEMENT**

Operating Voltage: 10V – 32VDC

Peak current draw from tractor: 1.65A @ 12V

- Battery charger draw: 1A
- Sensor draw: 500 mA
- Telematics draw: 150 mA

Power supply to sensors: 12V/500 mA

Battery Type: Li-ion, rechargeable

- Nominal Capacity: 19.2 Ah
- Nominal Voltage: 4.2V
- Cell Cycle Life: ≥1000 cycles; ≥80% retention

Power management modes: Normal (Full power), Listen, Stealth

**ENVIRONMENTAL**

Ingress Protection Ratings: IP67; IP69K
Operating Temperature: -40°F to 149°F (-40°C to 65°C)
Storage Temperature: -40°F to 113°F (-40°C to 45°C)
Battery Charging Temperature: -4°F to 131°F (-20°C to +55°C)
Operating Humidity: 20% to 90% (non-condensing)
Storage Humidity: 10% to 95% (non-condensing)

**MECHANICAL**

Dimensions: 7.50” (L) x 4.44” (W) x 2.44” (H) (164mm x 80mm x 39mm)
Weight: 1.48 lbs. (669g)

**HARNESS OPTIONS**

Application dependent

**CERTIFICATIONS**

FCC / IC
PTCRB Cellular

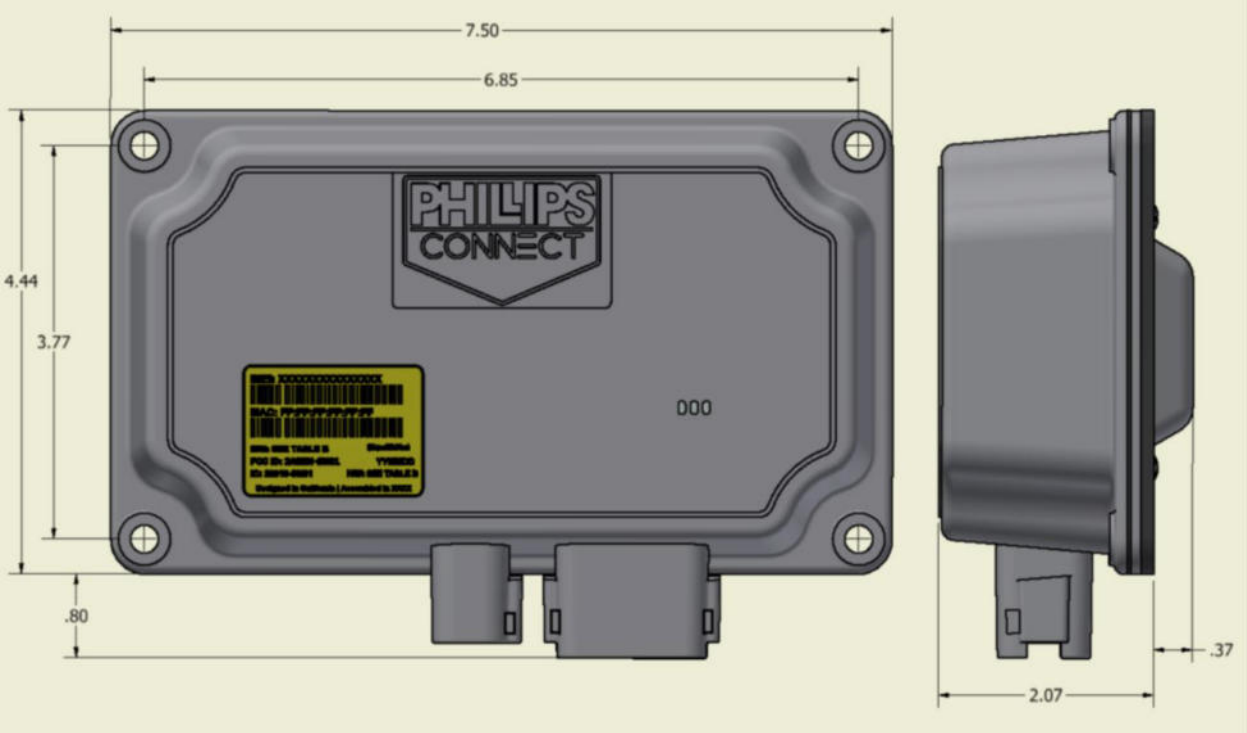
**INTEGRATED: GATEWAY SENSORS**

- Orientation
- Vibration
- Temperature
- Battery Voltage
- Primary Input Voltage
- Secondary Input Voltage
- GNSS Location
- GNSS Odometer
- Device Time via GNSS and NITZ

## 4. MECHANICAL DETAILS

### 4.1 TOP/SIDE DIMENSIONS

All measurements are in inches.



## FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT

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 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.

**FCC Caution**: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

IMPORTANT NOTE: FCC Radiation Exposure Statement
This equipment complies with the FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## INDUSTRY CANADA STATEMENT

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). operation is subject to the following two conditions:

(1) This device may not cause interference
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetterur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicable aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) L'appareil ne doit pas produire de brouillage;
(2) L'appareil doit accepter tout brouillage radioélectrique sub, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radiation Exposure Statement:
This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

## 5. COMPANY INFORMATION

# Technology that moves us forward

**Phillips Connect Technologies LLC**

***5231 California Ave. Suite 110***
***Irvine, CA 92617***

**Technical Support**

1-833-213-5839
Support@Phillips-Connect.com

**Sales**

1-833-213-5839
PCT-Sales@Phillips-Connect.com

## FCC Statement

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.

—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.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

## ISED Warning statements

This device complies with Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(l) 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 présentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitationestautorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de

l'appareildoit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be

installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparationd'aumoins 20 cm doitêtremaintenue

entre l'antenne de cetappareilettoutes les personnes.

This Class B digital apparatus complies with Canadian ICES-003.

Cetappareilnumeriquede la classe B estconforme a la norme NMB-003 du Canada.