

1218C Cellular Gateway Assembly

Installation, Operation, and Maintenance Instructions

The 1218C Cellular Gateway Assembly is an accessory to the 1218C Electronic Tank Gauge. The Cellular Gateway provides a remote access to the 1218C using a private internet connection over a 4G cellular network.

Specifications

Input Power

100 – 240 VAC, 50/60Hz

Operating Temperature

-40°F to 140°F (-40°C to 60°C)

Enclosure Rating

NEMA 4X

Maximum Wiring Distance

Ethernet – 330ft (CAT5e cable recommended)

Installation



WARNINGS

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- You must be trained to install or maintain this Electronic Tank Gauge. **Stop** now if you have not been trained.
- Any modification of this unit beyond what is outlined in this instruction will void product warranty.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- This device is intended to be used as an auxiliary warning to the operator of an abnormal condition of the system, such as a possible overfill situation and should not be the only system in place to prevent an unwanted condition, such as preventing a tank from overfilling. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing maintenance. Vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on tank system.
- Use a damped cloth when cleaning the alarm enclosure to prevent static buildup and discharge.
- In the event of malfunction, contact Morrison Bros. Co. Customer Service.



AVERTISSEMENTS

- **Risque d'incendie** – Un déversement de liquide pourrait entraîner des blessures graves ou la mort.
- Vous devez avoir reçu une formation pour installer cette jauge de réservoir électronique ou en assurer la maintenance. Arrêtez-vous immédiatement si vous n'avez reçu aucune formation à cet effet.
- Toutes les modifications apportées à cette unité autres que celles indiquées dans ces directives engendreront l'annulation de la garantie du produit.
- Pour assurer votre sécurité, il est important de vous conformer à la réglementation locale, d'État, fédérale ou OSHA régissant les travaux à l'intérieur, au-dessus ou autour du réservoir de stockage et de la zone de canalisation. Utilisez tout l'équipement de protection individuelle exigé pour travailler dans l'environnement spécifique.
- Cet appareil est destiné à être utilisé comme mécanisme avertissant l'opérateur d'un état anormal du système tel une situation de remplissage excessif et ne devrait pas être le seul système en place pour empêcher un état indésirable, par exemple, un réservoir qui se remplit trop. L'opérateur a l'entièvre responsabilité de s'assurer continuellement de prévenir tout déversement, quelle que soit la situation.
- Les réservoirs pourraient être sous pression. Des vapeurs pourraient être expulsées des conduits d'aération, des canalisations, des soupapes ou des raccords du réservoir durant la maintenance. Les vapeurs pourraient s'enflammer ou engendrer une explosion. Évitez les étincelles, les flammes nues ou les outils chauds lors de travaux menés dans le système du réservoir.
- Utilisez un linge humide pour nettoyer l'enceinte de l'alarme afin de prévenir l'accumulation d'électricité statique et les décharges.
- En cas de défaillance, communiquez avec le service à la clientèle de Morrison Bros. Co.

WARNING: This device is intended to be installed in an Ordinary Location (Unclassified Location) and be used with other Ordinary Location devices.

Mounting

To maintain the NEMA 4X rating:

- Two openings have been provided in the bottom of the NEMA 4X enclosure for connection and wiring. Only use Thomas & Betts Cat. No. H050GR-TB or H050-TB or equivalent hubs in the two openings for $\frac{1}{2}$ " conduit.
- Mounting tabs have been provided with the product to mount the enclosure; do not make additional holes in this enclosure.
- Ensure that both cover latches are latched at all times.

Failure to follow these instructions voids any assurance that the enclosure is NEMA 4X.

Wiring

The Cellular Gateway must be connected to the 1218C Electronic Tank Gauge console with an Ethernet cable. An Ethernet Switch device such as the 1218C-0171 AS (5-Port) or 1218C-0172 AS (8-Port) can be used to connect the Cellular Gateway to more than one 1218C console. Figure 1 shows the Ethernet connection to the Cellular Gateway.

Figure 1 shows the AC input wiring required for the Cellular Gateway. The AC input voltage must be 100-240 VAC (50/60 Hz). It is recommended to use a dedicated breaker for powering the Cellular Gateway and 1218C console(s), separate from other devices like solenoids, pumps, etc.

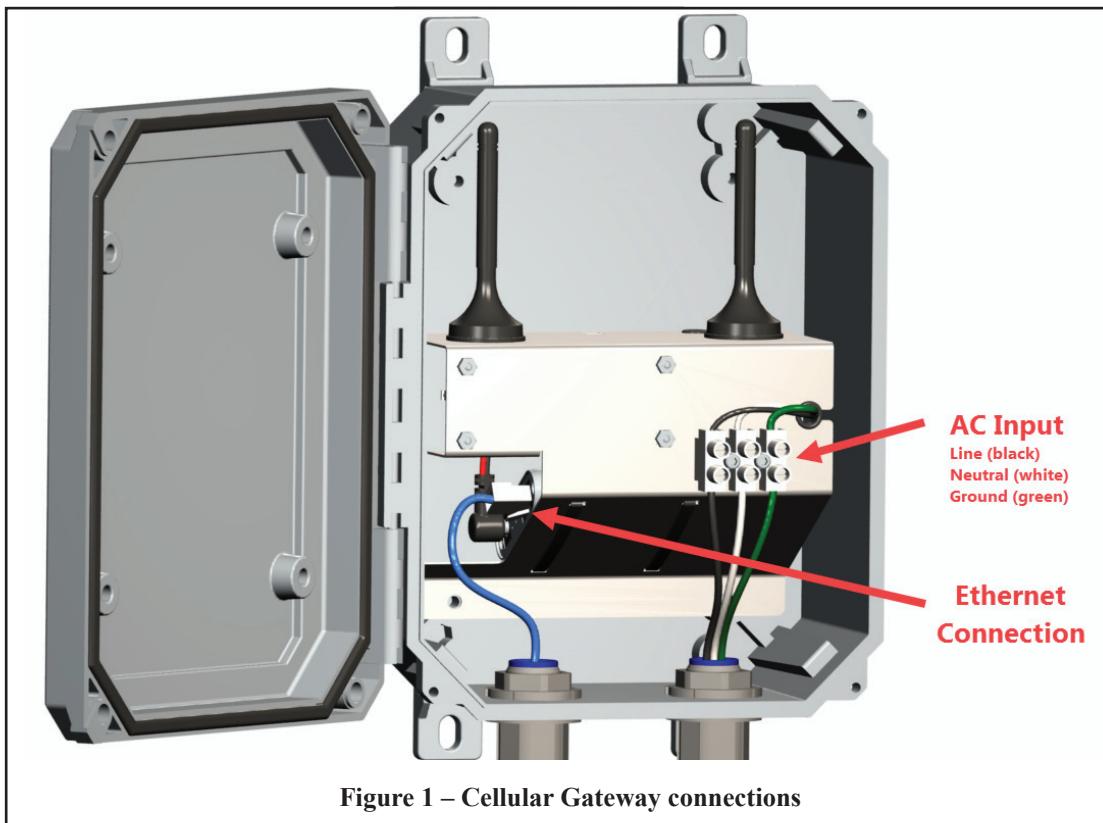


Figure 1 – Cellular Gateway connections

Operation



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Configuration

To enable remote access to the 1218C Electronic Tank Gauge console(s) through the Cellular Gateway, each console must be configured to use a unique static IP address. The network settings of each console must be configured per the network settings below. Refer to ‘Configuring Your 1218C’ of the ‘Steps to Configure the 1218C’ section in the ‘1218C Electronic Tank Gauge Installation, Operation, and Maintenance Instructions’ for details on configuring the network settings.

IP Address:	192.168.1.11 – 192.168.1.15
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.90
Primary DNS:	192.168.1.90
Secondary DNS:	8.8.8.8
Port:	443

To test the operation of the Cellular Gateway, start by powering on the device. After 10-60 seconds ensure the middle LED next to the Ethernet port is on or flashing. Next you will need to call OptConnect support (1-877-678-3343) to activate device and get VPN credentials. Document the credentials below for future reference.

Username: _____
Password: _____

Go to <https://dashboard.optconnect.com> to register and login to the portal. Once logged into the portal check the signal strength and signal quality of the unit. You will also need to document the IP address of the gateway.

Cellular Gateway IP Address: _____

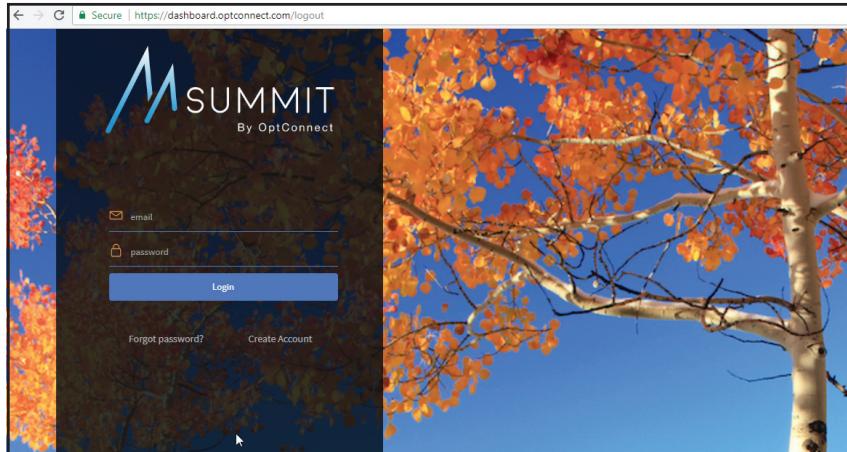


Figure 2 – OptConnect Portal Login Page

The image shows a screenshot of the Morrison Bros. Co.-OC device management interface. The background is a photograph of a tree with orange autumn leaves. The interface displays a table of device information. One row is selected, showing '1218C_Gateway' with serial number '309750181' and last check-in time '03/05/2018 11:46'. The table has columns for 'YOUR DEVICE ID', 'SERIAL', 'STATUS', 'LAST CHECK-IN', 'LAST REBOOT', 'IP', and 'DESCRIPTION'. Below the table, there are buttons for 'Export All Devices' and 'View OptReboot Enabled Devices'. At the bottom right, there are navigation buttons for 'First', 'Previous', '1', 'Next', and 'Last'.

Figure 3 – Cellular Gateway IP Address

Next, go to <https://vpn.optconnect.com> and login using the VPN credentials. Here you will find a link to download the VPN software to your computer. Downloads are provided for various operating systems, select the appropriate link.

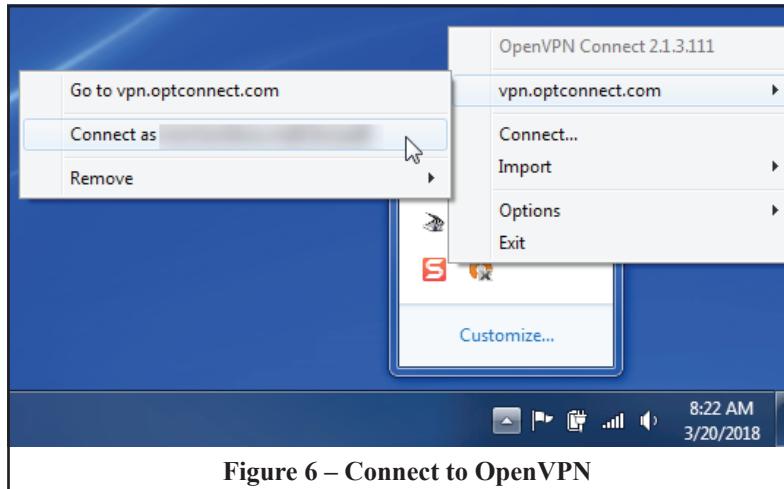
The image shows the OptConnect VPN download page. The header features the OptConnect logo and 'MANAGED WIRELESS SOLUTIONS'. Below the header, there are two buttons: 'Connect' and 'Logout'. A message instructs users to choose a platform to download the OpenVPN Connect app. A list of platforms is provided, including 'OpenVPN Connect for Windows', 'OpenVPN Connect for Mac OS X', 'OpenVPN Connect for Android', 'OpenVPN Connect for iOS', and 'OpenVPN for Linux'. Another section lists connection profiles for 'Yourself (user-locked profile)' and 'Yourself (autologin profile)'. At the bottom, there is a note about connection profiles.

Figure 4 – VPN Download Page

The image shows the OptConnect VPN login page. The header features the OptConnect logo and 'MANAGED WIRELESS SOLUTIONS'. Below the header, there are fields for 'Username' and 'Password'. To the right of the 'Password' field is a red arrow pointing towards the 'Login' button. There is also a 'Go' button next to the 'Login' button. The 'Login' button has a dropdown arrow next to it.

Figure 5 – VPN Login Page

After downloading and installing the VPN, you will need to login and connect to the VPN. An OpenVPN icon will be added to the System Tray in Windows after installation. Open the System Tray, click on the OpenVPN icon and connect as shown in Figure 6.



To access the webpage of a 1218C console, you will need to use the IP address of the Cellular Gateway (documented above) and the port number of the console you are trying to access. Table 1 provides a list of web addresses required to access each device on the cellular gateway network. Substitute the Cellular Gateway IP Address for “[cellular_gateway_ip_address]” and omit the brackets (e.g. https://100.10.10.10:1443). Open a web browser and enter the web address of the device and go to the page. Your internet browser will display a security warning for the device webpage which you will need to confirm and proceed through. You will then be prompted to enter the username and password for the 1218C console (default username: **admin**, default password: **admin**). It is recommended to change the password at this time.

Device IP Address	WAN Port	Web Address
192.168.1.11	1443	https://[cellular_gateway_ip_address]:1443
192.168.1.12	2443	https://[cellular_gateway_ip_address]:2443
192.168.1.13	3443	https://[cellular_gateway_ip_address]:3443
192.168.1.14	4443	https://[cellular_gateway_ip_address]:4443
192.168.1.15	5443	https://[cellular_gateway_ip_address]:5443

Table 1 – Web Addresses of Devices