

HydraConnect

User's Guide



4/27/2015

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Introduction



Congratulations..... You are moments away from extending Total Water Control to nearly anywhere! In its simplest form, the HydraConnect control panel gives you audible alarms and convenient local operation of valves connected to networked HydraMeters. However, when communicating over our proprietary SecoNet wired and wireless network it becomes a data collection hub for Seco Sys Water Management products, and (via a GSM cellular network) creates almost instantaneous information exchange between our Platform of water management products and our WaterUseOnline web services



This connection to WaterUseOnline brings expanded functionality to an already comprehensive HydraMeter feature set. Among many other offerings, it gives you the ability to program, control and access your HydraMeter or other connected flow sensing devices remotely, receive real time water use data from anywhere, and it puts remote valve control at your fingertips! As your water management needs grow or change, HydraConnects facilitate simple system installation and modification. Get connected and log in to conveniently and effectively manage your water use! (*WaterUseOnline is a cloud based management portal and requires a subscription service to access connected devices. Learn more at www.wateruseonline.com*)

BASIC FEATURES

- Internet Gateway for HydraMeter and HydraPod-N.
- Complete control from www.WaterUseOnline.com
- Employs a proprietary communication network (SecoNet)
- Managed data link for up to 9 HydraMeters.
- Control Panel for local operation of connected devices.
- Local alarm status indicators for connected devices.
- Supplies power over SecoNet for connected HydraMeters.

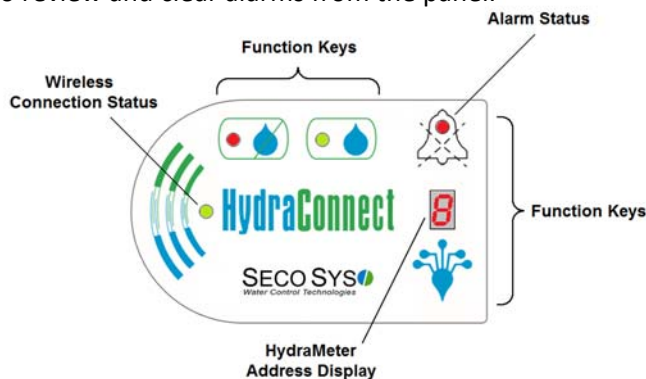


OPERATING FEATURES

- Keypad for convenient operation of field HydraMeters.
- Audible and visual alarm indicators.
- Provides network power and battery charging of HydraMeters.

CONTROL FEATURES

- Function Keys to manually Open or Close connected valves.
- Function Keys to review and clear alarms from the panel.



MECHANICAL SPECIFICATION

- Injection molded UV resistant plastic enclosure
- Color coded LED status indicators
- Audible piezo alarm sounder
- Docking station design for mounting on iDrop access panel.
- Dimension:
4 3/4W x 4 3/4H x 1 1/16D inches
120.65W x 120.65H x 26.98D mm
Shipping weight: 7.0 oz

ELECTRICAL SPECIFICATIONS

- Input power: 12 VDC, 300 mA Max (via iDrop)
- Integrate Cellular GSM Modem
- Integrated SecoNet management

WARRANTY

- 3 year limited warranty
- The HydraConnect is relatively rugged, but should not be mistreated.

Installing the HydraConnect



1. BEFORE YOU INSTALL THE HYDRACONNECT MAKE SURE THAT YOU OR YOUR INSTALLER HAS CHECKED FOR SIGNAL! 2. READ APPENDIX A BEFORE INSTALLATION FOR TIPS ON WHERE TO INSTALL, HOW TO TEST FOR SIGNAL STRENGTH AND OTHER TROUBLE SHOOTING INFORMATION. 3. CONTRACT AN ELECTRICIAN IF YOU HAVE DOUBTS ABOUT WIRING ELECTRONICS OR LOCAL ELECTRICAL INSTALLATION STANDARDS. 4. THE HYDRACONNECT IS NOT WATER TIGHT! IT NEEDS TO BE INDOORS OR IN A PROTECTED ENVIRONMENT.

Step 1: Installing the iDrop

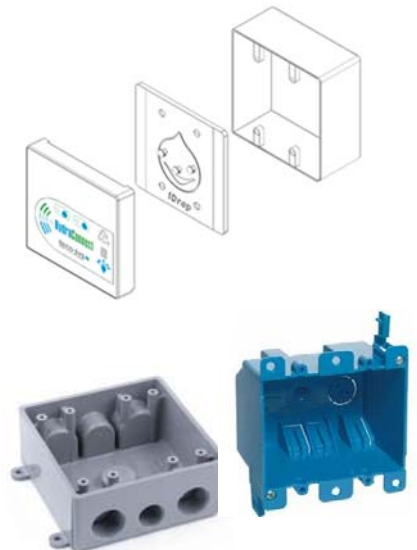


Your HydraConnect comes in a box with an iDrop. iDrops supply power to the HydraConnect, as well as bringing power and network communication to connected HydraMeters. iDrops are designed to be a docking station for Seco Sys water management devices such as the HydraConnect and Reflect display.

If you've already installed your HydraMeter as a stand-alone unit with a power supply, just disconnect the power supply cable from your HydraMeter and follow these instructions.

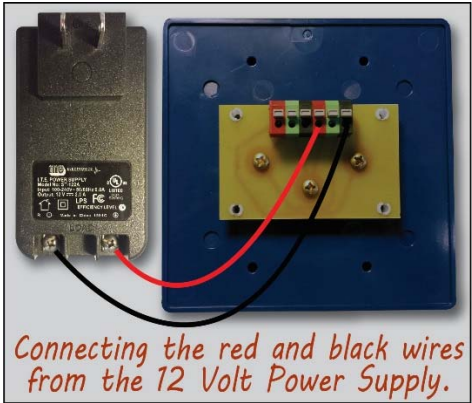
iDrops are installed into conventional dual gang electrical junction boxes. Since these boxes come in a variety installation and service types, the box that best suits the environment should be used. For example, if an iDrop is to be installed into an existing wall, a conventional wall type box is suggested. If the iDrop is to be installed outdoors, a weather-proof box is appropriate. **Remember, the iDrop and HydraConnect are not water tight and as such need to be indoors or in a protected environment.**

If mounted inside of a weatherproof box, the box must be non-metallic for the wireless signal to penetrate.



NOTE: Along with distributing power for HydraConnects and HydraMeters, “special function” iDrops provide a docking station for specialized Seco Sys water management devices. A special function iDrop will have connectors labeled “Pulse Flow” and “RS 232” which are reserved for interfacing with compatible third party equipment. This feature permits the sharing of relevant information with other devices or systems such as irrigation controllers, well monitoring devices or supervisory control and data acquisition (SCADA) systems.

Step 2: Wiring the iDrop

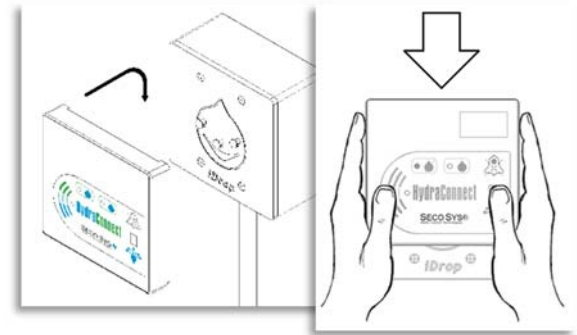


Power is brought into the iDrop using a Seco Sys provided AC power supply with an output rating of 12 volts DC. On the back of the iDrop are connectors with colored terminals similar to those found on the HydraMeter. Connect the red positive wire from the power supply to the right hand red terminal on the iDrop connector. The black negative wire from the power supply is to be connected to the right hand black terminal. The green will be empty. Please refer to the HydraMeter installation guide for more information on how to wire the HydraMeter to the iDrop.



Step 3: Docking Your HydraConnect

Once your iDrop is installed, you will be able to “Dock” the HydraConnect onto it. Starting with the HydraConnect one inch above the iDrop, line-up the three “Keyholes” in the back of the HydraConnect with the “Eyes” of the iDrop and slide the HydraConnect down until it comes to rest fully docked on the “Eyes.”



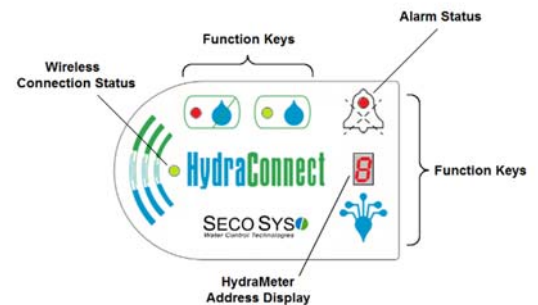
What Happens Now?

The HydraConnect initializes with a “power-on” beep and the Wireless Connection Status LED light (left of the HydraConnect logo) will be RED. If it does not light up, check the connections.

The Wireless Connection Status light will be red until it connects. In the HydraMeter Address Display you will see a dash that flashes as it initializes and searches for signal. It might take a few minutes to connect.

- GREEN LED = Cellular Connection Successful.
- RED LED = Cellular Connection is Unsuccessful.
- A “0” in the Address Display = SecoNet is ready but has not detected a HydraMeter.
- If you have a HydraMeter wired to the iDrop, the Address Display should read “1.”

If the unit fails to connect, please see Appendix A for trouble shooting tips. Occasionally a low cost exterior antenna might be used to better access a weak signal. The HydraConnect has built-in connections to accommodate exterior antennas.

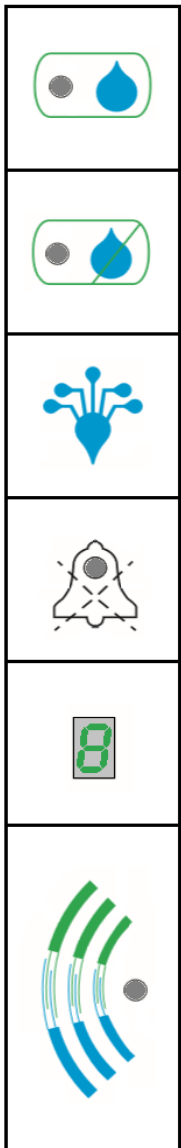
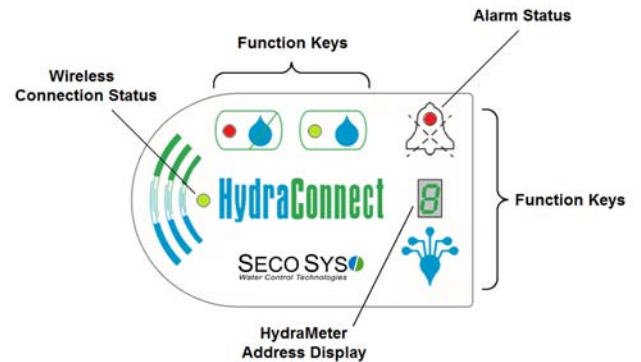


NOTE: Didn’t connect? All is not lost! We have successfully installed units after a large cell carrier’s field engineers pronounced the cell signal “non-existent.” A small exterior antenna was added, and “Insto-Presto!” Rock Solid Connection! Refer to Appendix A for tips.

HydraConnect Control Panel

The HydraConnect provides a way to centrally monitor the status of connected HydraMeters, view and clear alarms, operate the connected valves and pass wireless data to our WaterUseOnline web services to further enhance your water management capabilities.

The control panel has integrated LED lights and a segmented display to identify status of specific HydraMeters. Up to 9 HydraMeters with or without valves can be “daisy chained” through Seco Net onto one HydraConnect. Each is assigned a number (1-9) that will appear in the Address Display to indicate which HydraMeter the HydraConnect is currently controlling. *For Special Function iDrops, these numbers will refer to other hardware connected to the iDrop such as well monitoring equipment, SCADA systems or irrigation controllers.*



WATER ON: This key is used to open the valve associated to the HydraMeter Address that appears in the Address Display. A RED LED light on this key indicates a “Forced Open” condition, meaning it can only be closed by the person who remotely “Forced” it open. A GREEN LED light on this key indicates a normal open condition.

WATER OFF: This key is used to close the valve associated to the HydraMeter Address that appears in the Address Display. A RED LED light on this key indicates a “Forced Closed” condition, meaning it can only be opened by the person who remotely “Forced” it closed. A GREEN LED light on this key indicates a normal closed condition.

ADDRESS SELECT: This key is used to advance through and then select a specific HydraMeter Address in order to view its status or to control the connected valve (using the Water On or Water Off keys).

ALARM STATUS: This key is used to silence a sounding alarm **without clearing the state of the alarm**. This permits the operator to address the cause of the alarm without the nuisance of the sounder. A RED LED light indicates that there is an active alarm for the HydraMeter whose address that appears in the Address Display.

HYDRAMETER ADDRESS DISPLAY: This display will show the SecoNet address of the HydraMeter that is connected to the HydraConnect. The display will show “0” if no HydraMeter is connected and will sequence (1-9) if multiple HydraMeters are connected.

RADIO SIGNAL: This LED light indicates if the HydraConnect is powered and has obtained a cellular signal. If the LED is RED, then the HydraConnect is powered but has not acquired a cellular signal. If the LED light is GREEN, then the HydraConnect is powered and has acquired a cellular signal. No LED light indicates no power to the HydraConnect (check power supply and connections).

APPENDIX A

Where to Install

Selecting an appropriate location for the HydraConnect is important to ensure a strong cellular signal for the internal cellular modem. GSM signal doesn't require the same strength as a cell phone and will often work when a cell can't get signal, however, locations that are known to be problematic with cell phones or other radio devices should be avoided. The HydraConnect does best when placed away from electrical devices such as computers, refrigerators, power tools or wiring and positioned to minimize the effect of obstructions such as trees and buildings.

IT IS CRITICAL TO TEST THE SELECTED LOCATION PRIOR TO INSTALLATION TO ENSURE ADEQUATE SIGNAL STRENGTH IS AVAILABLE. THIS WILL AVOID CUTTING HOLES IN WALLS OR RUNNING WIRE UNNECESSARILY. TO DO THIS, SETUP A TEMPORARY ASSEMBLY FROM THE MATERIALS USED FOR NORMAL INSTALLATION.

To test the signal in the site you have chosen for installation follow the steps below:

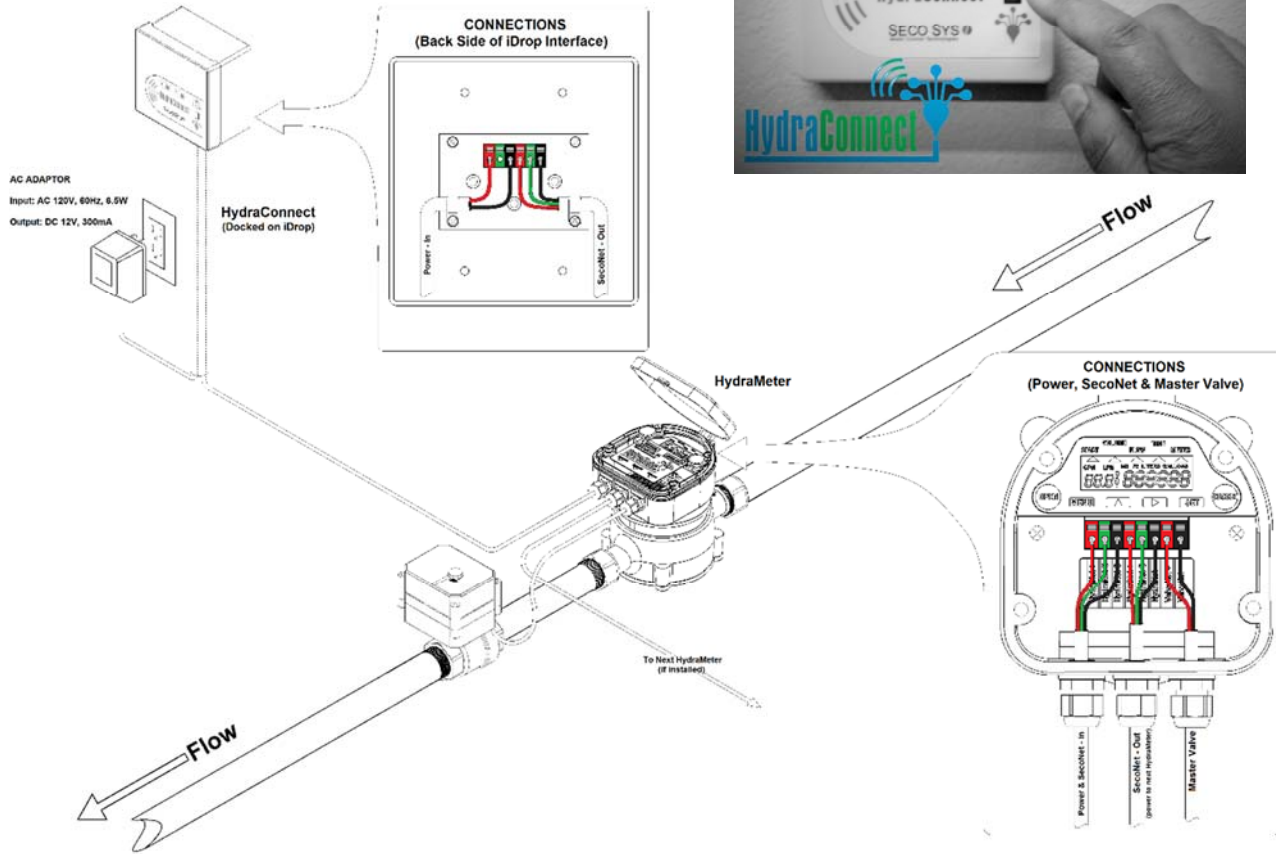
- Connect the 12vdc power supply to the iDrop power terminals.
- Slide the HydraConnect onto the iDrop docking panel.
- Plug the 12vdc power supply in to the nearest AC outlet. Use an extension cord if necessary.
- Confirm the HydraConnect initializes with a "power-on" beep and the LED light, left of the HydraConnect logo is RED. If not check the connections.
- Confirm the LED light changes to GREEN and the display segments show "0".
- GREEN LED = Cellular Connection Successful.
- RED LED = Cellular Connection is Unsuccessful.
- A "0" in the display segment = SecoNet is ready but has not detected a HydraMeter.

If the Connection Fails

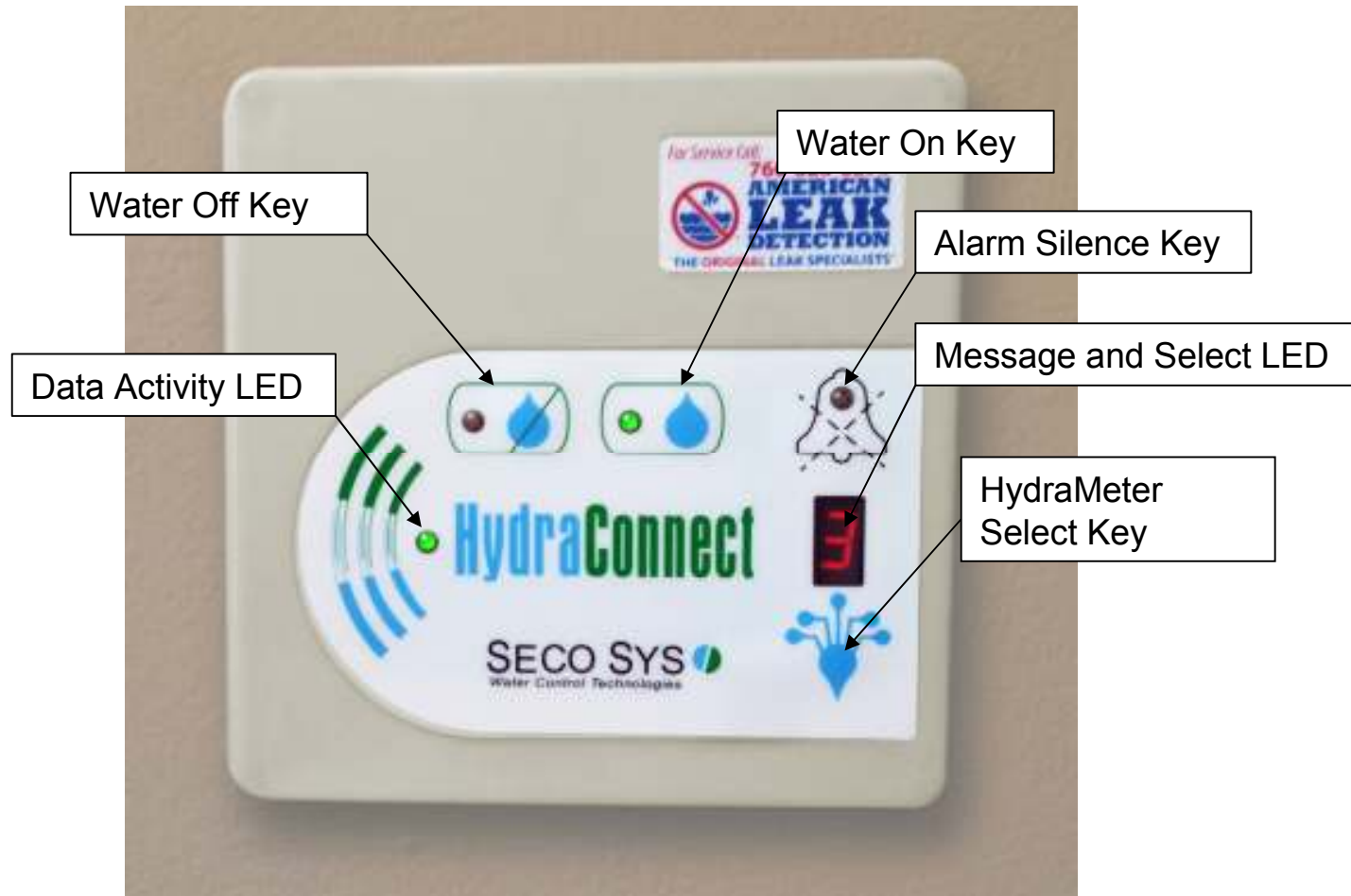
- The HydraConnect does best when placed away from electrical devices such as computers, refrigerators, power tools or wiring and positioned to minimize the effect of obstructions such as trees and buildings.
- Check the signal in other nearby areas. Sometimes different parts of a single room can have large variations in signal strength.
- Signal strength can vary greatly in different environments such as built up, wooded or hilly areas. Weak signals are more susceptible to interference. In some areas an external antenna may be required for good connection.
- Check for sources of interference: Try switching off all electrical appliances one by one to identify what might be causing the problem. If this is unsuccessful, try turning off main circuits one at a time to see if the problem is on a particular circuit.
- If the interference is caused by something in the building you may want to contact a local electrician or technician who may be able to resolve the problem.
- Interference can also be caused by nearby power lines, particularly if they are not regularly maintained. If you think this is the case, contact the local electricity supply authority listed in the White Pages.
- If you are having trouble installing your HydraConnect in an industrial steel building, check the signal outside to help determine if you need to run an antenna outside or on the roof.
- For more trouble shooting advice, input on low cost exterior antennas or satellite systems contact your dealer or Seco Sys directly.

APPENDIX B

Installation Overview



HydraConnect Keypad Operation



Operatation

- To select a connected HydraMeter toggle the HydraMeter Select key until the desired meter address is displayed.
- Press Water Off Key to close a valve. The water off led will turn Red. The Water On Key LED will turn off
- Press the Water On Key to Open the Valve the Water On Key will turn Green. The Water Off Key LED will turn Off
- If a setpoint is reached the Alarm will sound. Press the Alarm Key to silence the alarm.

Operation

- The LED will show the Hydrameter that is in Alarm and the Alarm will indicate as follows
 - H for High flow
 - C for excess volume (consumption Limit)
 - d for duration limit
 - L for leak detected
- To check RF signal strength press and hold the Alarm Key then press the HydraMeter Key
- When connected to the Cell tower the Data Activity Key will be green
- When Disconnected from the cell tower the Data Activity key is red
- When data is being transmitted or received the LED flashed green