



# Retriever Wireless Data Module Instruction Manual

P/N 95224 Rev. 7-31-06

**Models:**

**WDM-100**

**WDM-200**

**WDM-300**

**WDM-400**

**WDM-500**

**WDM-600**



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Leaders in Environmental Compliance Products

## Safety Warnings

- The Retriever is not rated intrinsically safe for Class I, Div. I. Therefore, it should be mounted in a well-ventilated area away from sources of combustible gases.
- All precautions normally associated with compressed gas systems should be observed when working with compressed air lines.
- Safety goggles should be worn to protect eyes from any splashing or pressure release.
- Wear chemically resistant rubber gloves, boots and coveralls when handling pumps and fluid discharge lines to avoid skin contact with the fluid.

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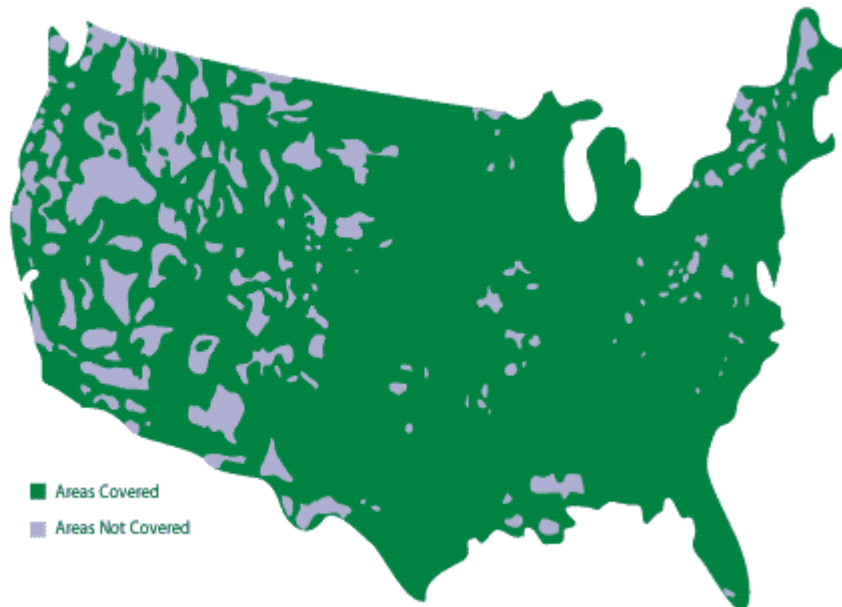
## How the Retriever Works

The Retriever data collector is solar-powered and uses wireless communications, so it can be quickly installed anywhere without having to run power supply or phone lines to it. Here is how it works:

The built in microprocessor takes hourly data readings from the flow, level sensors, and other optional sensors, and stores the data.

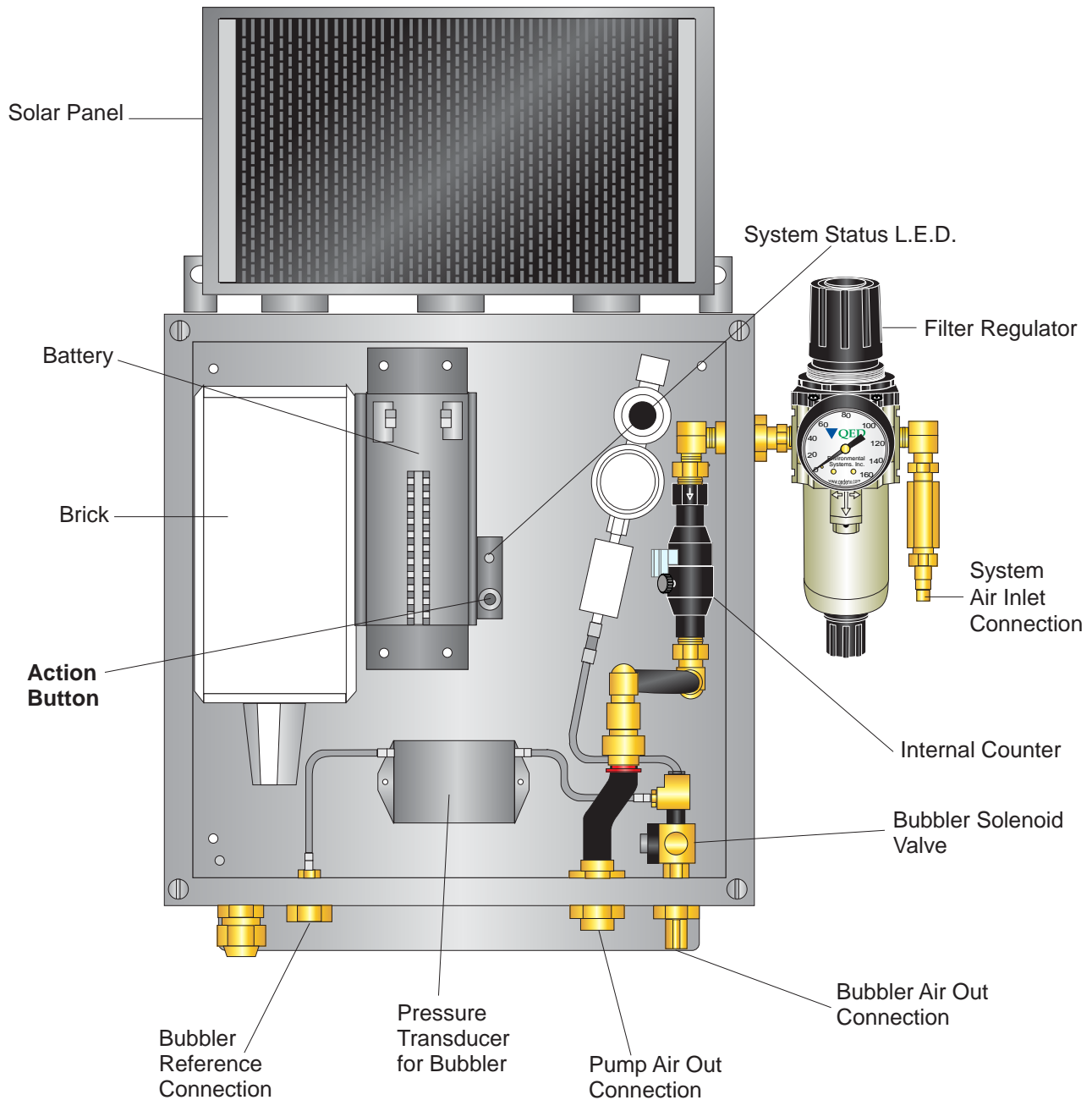
1. Each night, a data packet containing the daily data is sent to your web site via a special, broad coverage cellular communications channel (with over 95% coverage in the continental US; see the coverage map).
2. The Retriever web site stores the data in your own separate, secure location, and displays it in tabular and charted form. The data is backed up and hosted at a specialized Tier-one data center. You can download data to your spreadsheet for further analysis and processing.
3. You can access your data from any internet-connected computer, simply using your web browser - no special software is required. The Retriever web site provides simple but powerful access to the data you want - by date, by module, by site, even managing multiple sites. Without going to the well, you can produce the site reports you need for regulatory or project purposes.

### Coverage Area



## Retriever Components

The Retriever is built specifically to meet your needs and is configured with all the necessary components to fit the application. Your Retriever may or may not have all the components (pictured below).



## Retriever Installation Quick-Guide

**Warning: Reading the entire manual is recommended.**

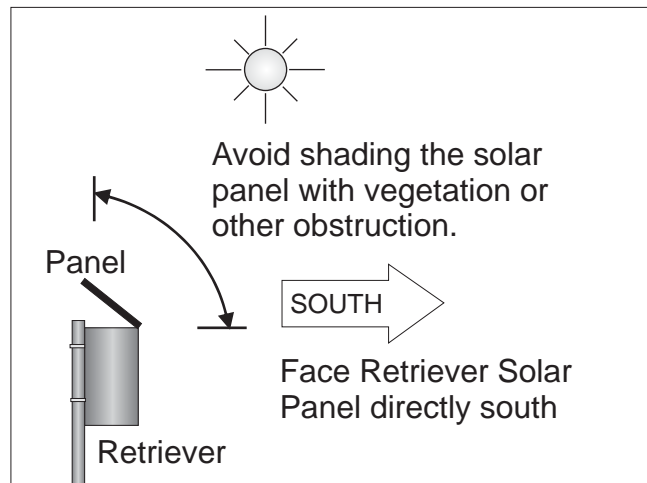
1. Mount the Retriever enclosure box with the solar panel facing due south, with unobstructed exposure to the sun.
2. Connect tubing for compressed air supply, bubbler liquid level measurement and pump operation. Install the bubbler tube in the well if included.
3. Open enclosure box and connect battery inside. Unit is shipped with the battery disconnected.
4. "Briefly" push the action button once to initialize, and watch for the number of blinks to verify normal startup (see chart on page 11).
5. Measure and record the liquid level in the well with a portable meter.
6. Push and hold the action button for 5 seconds to initiate water level calibration.
7. Reinstall the box cover.
8. E-mail your water level reference measurement to [info@water-to-web.com](mailto:info@water-to-web.com).



## Locating the Retriever

The Retriever is powered by a rechargeable battery system charged by the external solar panel. Therefore, you should position the Retriever to allow the solar panel maximum sun exposure (due South). Sunlight to the solar panel should be unobstructed by trees and brush. The surface of the solar panel should be kept free of snow, debris, etc.

When selecting the proper mounting location, take into consideration well head location and supply air location. You will want to position the Retriever to allow for easy access to the well head, pump discharge line and supply air.



## Mounting Hardware

The Retriever is designed to allow for mounting flexibility. It comes with two horizontal Unistrut bars attached. The Retriever can be mounted directly to the well casing or to an optional pole.

Mounting hardware kit # 39597 consists of Unistrut brackets, nuts and bolts to mount the Retriever to a 6" well casing.

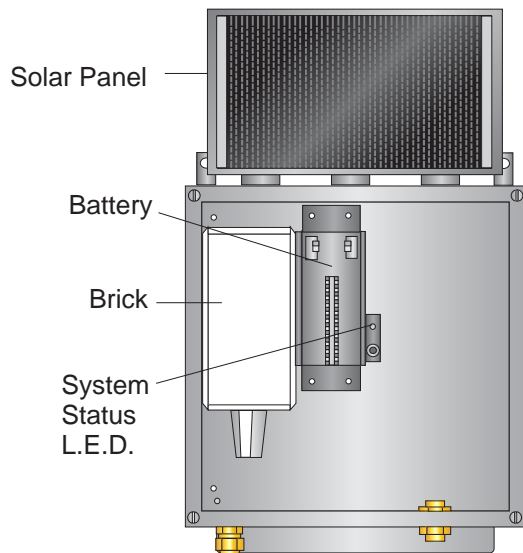
Mounting hardware kit # 39598 includes all the hardware to mount the Retriever to an 8" casing.

If a mounting pole is required, mounting hardware kit # 39850 comes complete with a mounting pole (with auger and auger handle), Unistrut brackets, nuts and bolts to mount the Retriever to the mounting pole. The pole should be sunk 48" into the ground to allow for a stable and secure mount.

## Installation

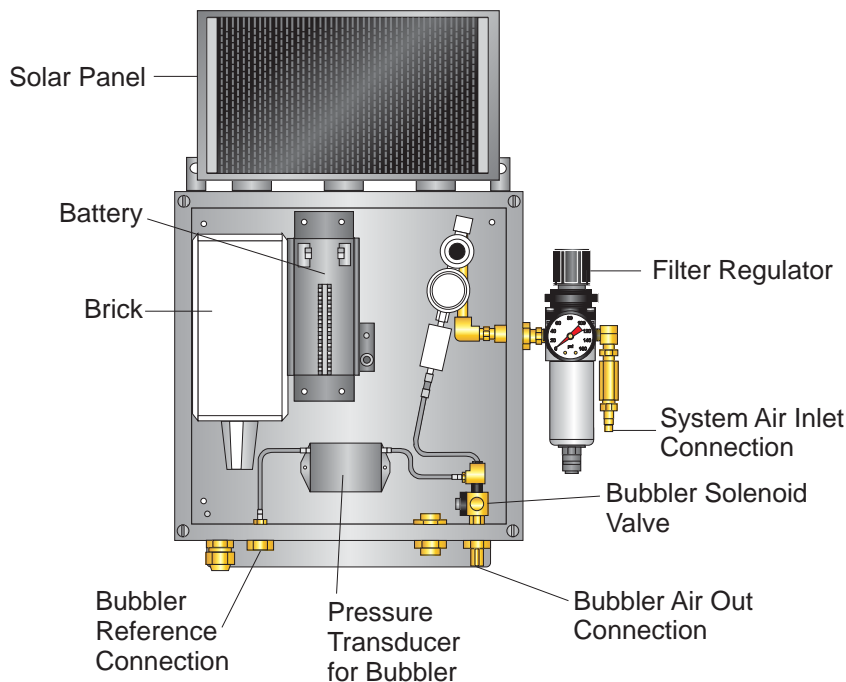
Once the Retriever is securely mounted, the well tubing needs to be attached. Tubing attachment will vary depending on Retriever model and component options:

### WDM 100 Retriever base model

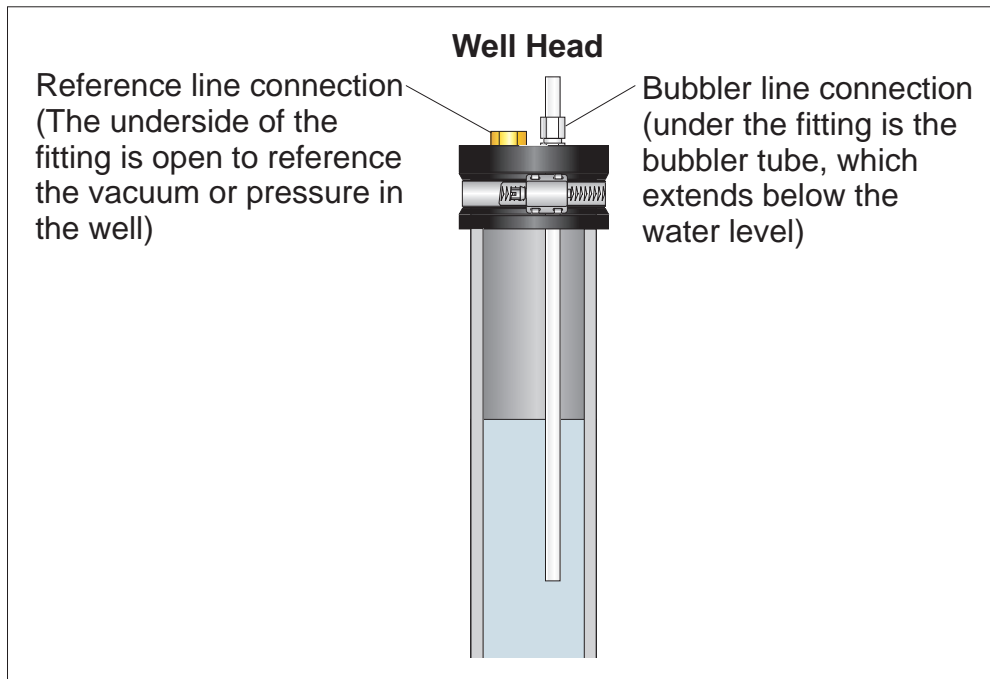


1. The WDM 100 base model is designed to allow for the installation and usage of optional 0-5v or 4-20 mA sensors.
2. Install selected, optional sensors, according to the instructions included with the sensor.

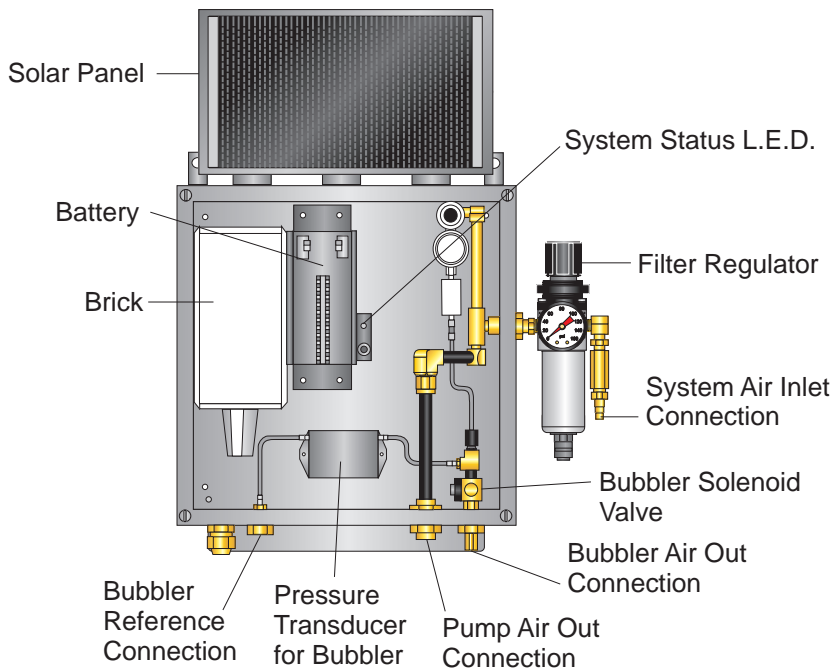
### WDM 200 Retriever base model, supply air in, level sensing



1. Install the 1/4" bubbler line downwell at the desired depth. It is recommended that the end of the bubbler be placed one foot lower than the lowest anticipated water level.
2. Attach bubbler line to the bubbler "out" connector on the bottom of the Retriever.
3. Connect a 5/16" line to the reference connector on the Retriever and connect the other end of the line to the reference connector (if the well is under vacuum) at the wellhead.
4. Attach the supply air to the filter regulator input.
5. Turn the air on and adjust the pressure according to pump manual.



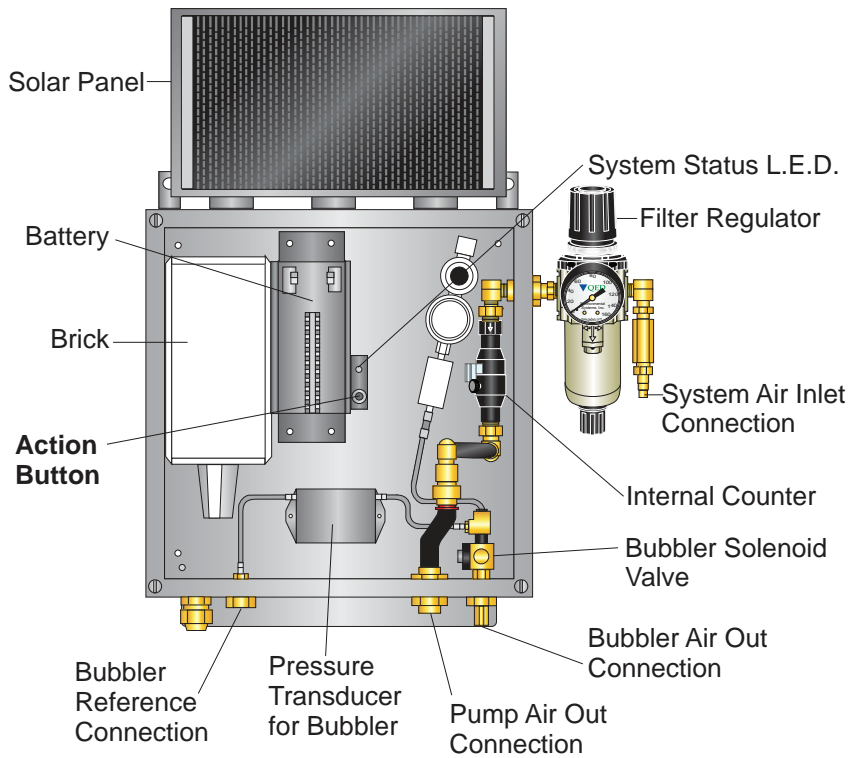
**WDM 300** Retriever base, supply air in, level sensing, pump air out.



1. Install the 1/4" bubbler line downwell at the desired depth.
2. Attach bubbler line to the bubbler "out" connector on the bottom of the Retriever.
3. Install a 5/16" line to the reference connector on the Retriever and route into the well.
4. Attach air supply tubing from pump to the Retriever pump air out connector.
5. Attach the supply air to the filter regulator input.
6. Turn the air on and adjust the air pressure according to pump manual.

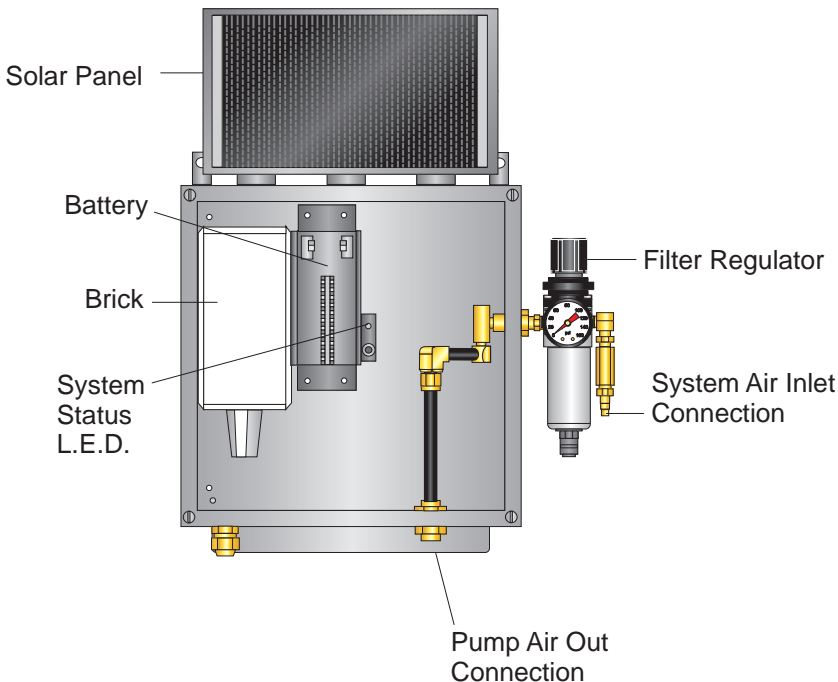


**WDM 400** Retriever base, supply air in, level sensing, Cycle Counter, pump air out.



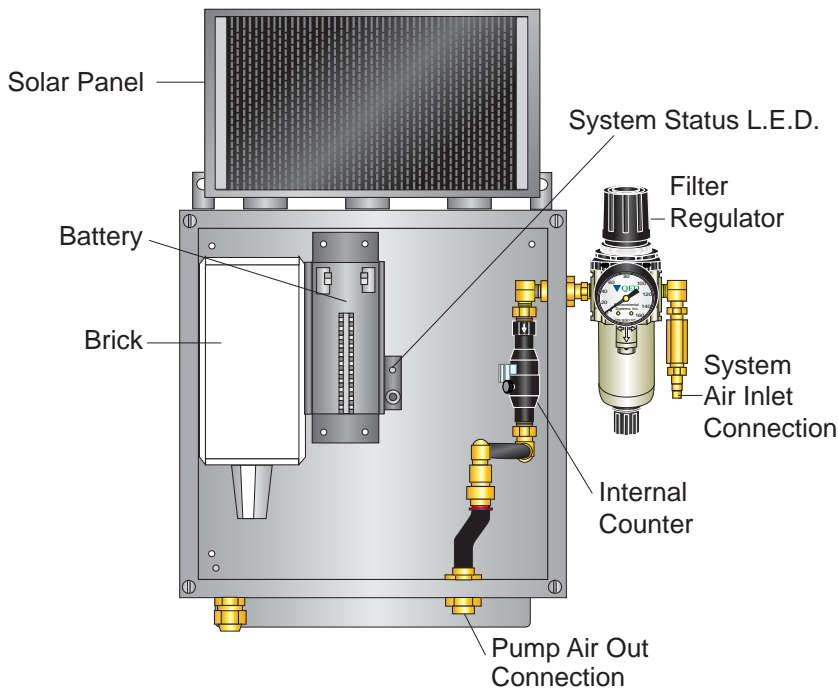
1. Install the 1/4" bubbler line down-well at the desired depth.
2. Attach bubbler line to the bubbler "out" connector on the bottom of the Retriever..
3. Install a 5/16" line to the reference connector on the Retriever and route into the well.
4. Attach air supply tubing from pump to the Retriever pump air out connector.
5. Attach the supply air to the filter regulator input.
6. Turn the air on and adjust the air pressure (according to pump manual).
7. Set pump cycle counter (see counter instructions).

**WDM 500** Retriever base, supply air in, pump air out



1. Attach air supply tubing from pump to the Retriever pump air "out" connector.
2. Attach the supply air to the filter regulator input.
3. Turn the air on and adjust the air pressure (according to pump manual).

## WDM 600 - Retriever base, supply air in, Cycle Counter, pump air out.



1. Attach air supply tubing from pump to the Retriever pump air "out" connector.
2. Attach the supply air to the filter regulator input.
3. Turn the air on and adjust the air pressure (according to the pump manual).
4. Set pump cycle counter (see counter instructions).

### Signal Strength Mode

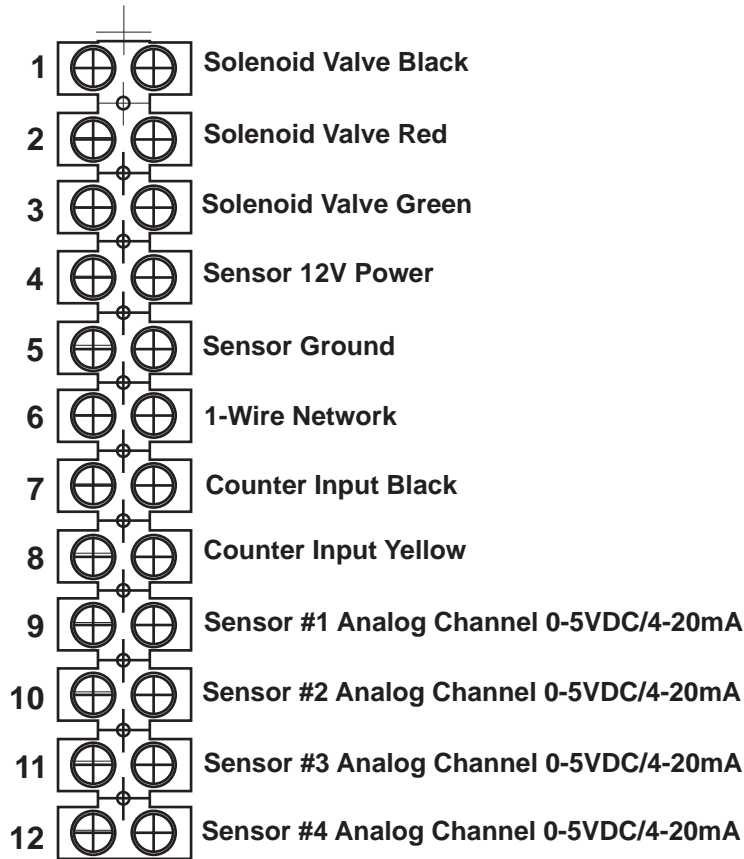
Summary a module may be put into Signal Strength mode by jumpering the 12V (+) battery terminal to the Sensor #2 voltage input port (terminal 10, see figure 1) and pushing the test button. Once in this mode the unit will blink with a frequency related to signal strength. The blinking cycles over about a 3-second period. This mode is terminated by removing the jumper. Once removed the LED will blink out the final strength reading (0-9 blinks) before exiting the mode. The signal strength mode can be useful in determining the following performance related factors; optimum location for the Retriever, the need for an optional Yagi (directional) antenna, and the optimum direction of the Yagi antenna, if needed.

### How-To

1. Jumper the 12V (+) battery to the Sensor #2 voltage input port (terminal 10, see figure 1) using the supplied wire. Place the wire end in the terminal strip at the connector labeled with a red dot. Temporarily remove any sensor lead on this connector if applicable. Slip connector onto tab of the + lead of the battery connector (leave the main power connected).
2. Push the test button. The LED will light up and will stay lit for a few seconds, then will start blinking.
3. Observe the LED blinks while slowly moving the Retriever, or rotating the optional Yagi antenna across a 360 degree sweep. The strongest signal direction (position) occurs when the LED blinks most frequently. Mount the Retriever in the location, or the antenna in the direction corresponding to the strongest signal found. **Note:** Signal strength can sometimes be improved by changing the location of the Retriever relative to metal objects. Be sure the Retriever's solar panel always faces directly south.
4. Disconnect the jumper from the 12V (+) battery terminal. Observe the number of LED blinks. The number of blinks after the jumper wire is removed corresponds to the signal strength on a 0-9 scale (0=no signal, 9=strongest signal possible). If you are still unable to find a sufficient strength direction for the unit, call QED Service.
5. If applicable, reconnect sensor wire to Port 2 input.

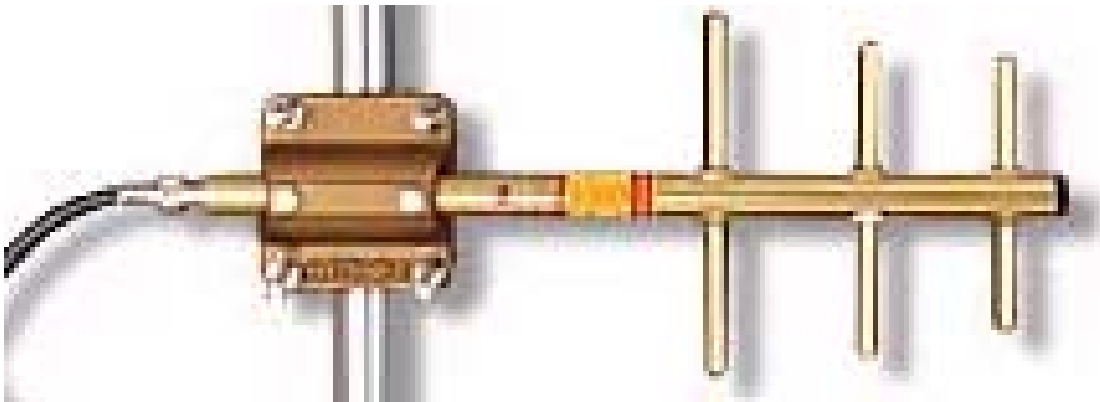
Figure 1

Retriever Terminal Block Diagram



**(Optional) Yagi Antenna Installation**

If signal strength is questionable, QED offers an external Yagi Antenna (shown below) kit to improve overall signal strength. Follow the installation instructions included with the Yagi Antenna Kit for antenna installation.



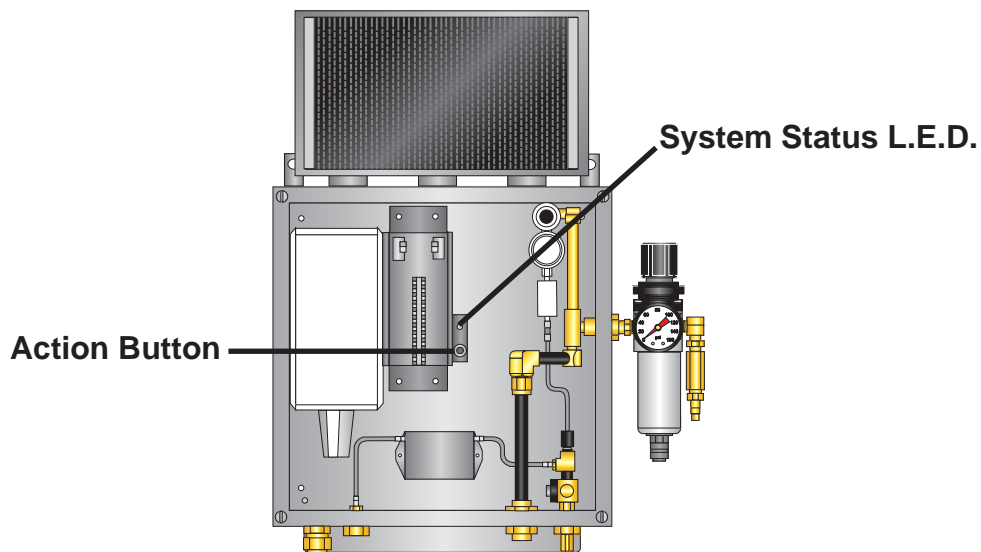
## Setting up the Retriever for operation

### Internal battery connection

The Retriever is shipped with the battery disconnected. Once the Retriever is mounted and ready for operation, attach the positive battery lead wire to the positive terminal of the battery. This will supply the needed power to the Retriever for operation. The Retriever uses a 12v 7Ah sealed lead-acid battery for power. The battery will be completely charged for immediate operation when received and will continue to operate utilizing the external solar panel for continual battery charge. If unit is not installed within 1 week after delivery the 12V battery may need to be charged

### Initial Power-Up (LED indicator)

When power is first connected the LED will come on when the system is going through its startup mode, it should go off after it is finished. The Retriever device has a momentary action push button and LED that provides a basic user interface. The Retriever is designed to provide a signal to indicate operating status. The signaling is a sequence of LED blinks (Shown Below), the number of blinks indicate Retriever status (See Table Below).



Table

<b>3 Blinks</b>	<b>Normal Operation</b>
<b>4 Blinks</b>	<b>Battery below 10.8v (low battery)</b>
<b>5 Blinks</b>	<b>Cellular signal strength below -95dB (weak signal)</b>
<b>6 Blinks</b>	<b>Both battery &lt;10.8v and -95dB</b>
<b>7 Blinks</b>	<b>Message not available</b>
<b>Solid</b>	<b>Device Busy</b>

Once the battery is connected the device should be allowed about 1 minute to fully initialize. After a minute, **briefly** push the action button (less than 2-3 seconds) the LED should blink 3 times indicating that the self check was successful. The unit is now in the normal operation state.

### Calibration / Self-Test request

After the Retriever has responded successfully with 3-blinks the unit is in a normal operating state, it is recommended to perform a Calibration / Self-test. The Calibration / Self-test transmits the current state of operation to your web-site, including a date and Real Time Clock (RTC) time-stamp to reference set-up conditions (See Table Below).

**Table**

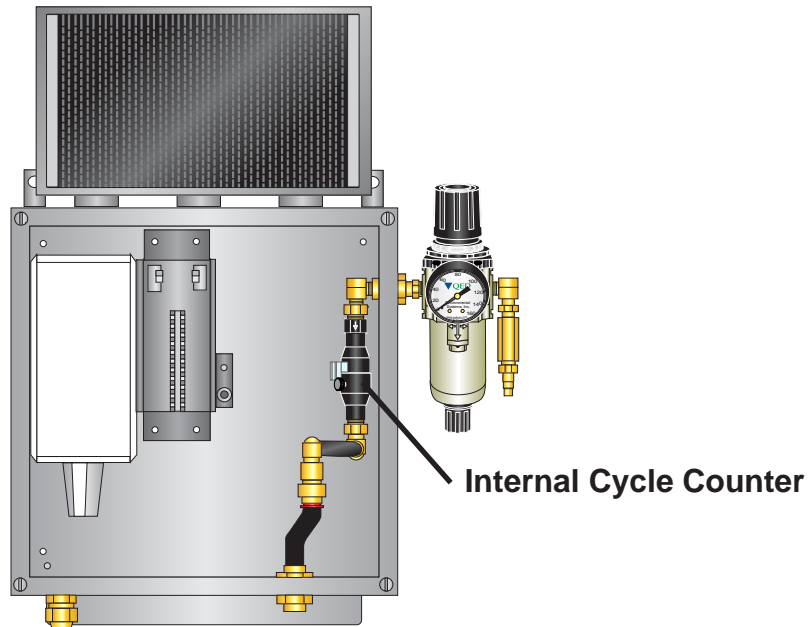
01/23/2004	Calibration: January 23, 2004 13:57:33 P1: 35,9 Battery voltage 12.4	Date / Time Stamp Liquid Level Battery Voltage (Vdc)
01/23/2004	Test=OK: Signal=4/9-normal signal	Signal Strength Operating Conditions

To assure liquid level accuracy, prior to performing the Retriever calibration / self-test measure the liquid level in the well with a portable water level meter and record the reading. This reading will be the benchmark and will need to be **e-mailed** to the QED Retriever administrative group @ [www.water-to-web.com](http://www.water-to-web.com), for web data calibration. Please include the depth to water measurement and well identification. If you have more than one Retriever on-site, please include all liquid level measurements along with the associated well identification information. Once the reading has been documented, proceed with performing the calibration / self-test.

To complete the calibration / self-test press and **hold** the action push button for a period of 5-seconds. This will signal the Retriever to send a Calibration / Self-test message to your web-page, detailing status of your equipment upon start-up. Once a Calibration / Self-test command has been performed, allow the Retriever 5-minutes to process prior to initiating any other commands.

## Optional Cycle Counter

The optional Cycle Counter (Shown Below) works in a piston-like action sensing air flow to the pump. The internally located magnet shuttle moves forward (in the direction of the air flow) during the pump “discharge” cycle and returns to the seated position in the pump “refill” cycle. The display senses the air pulse movement and records the cycle, increasing one digit every cycle. The amount of liquid volume pumped per cycle will depend on the pump model being used, and to a lesser extent on variable site conditions, such as air supply pressure and discharge head. Exact volume can be determined by a bucket test at the well.



To assure accuracy, adjustment of the counter is required after the Retriever is installed and the pump is in operation. Refer to the Cycle Counter instructional manual for proper set-up and adjustment.

## Operation

### Transmission of data

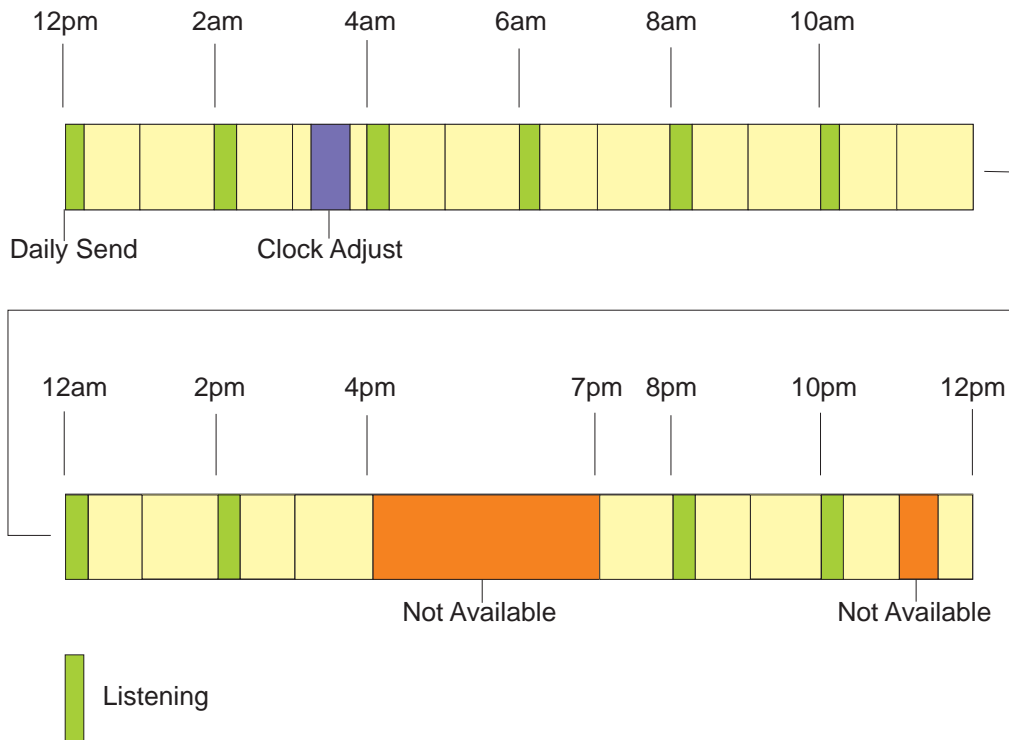
The Retriever automatically collects and transmits data to your customized web page for convenient access. The Retriever's typical daily transmission activities are as follows:

- \*1. The Retriever wakes each hour and takes a water level reading (this involves driving a solenoid air valve into an open position so a click is heard at the top of each hour, followed by a second click about a minute later when the valve closes)
- \*\*2. Monitors and records pulses coming from a flow meter.
3. Sends a data message to the web site at around midnight each day.
4. Sends a Status message to the web site every 10 days.
5. Listens for paging requests for five minutes every two hours.
6. Listens for one half hour late at night for a real time clock adjustment message (3:15-3:45 local time); as required.
7. Listens for 15 minutes at night for a carrier command (23:00-23:15 local time).
8. The Retriever does not listen or send between (16:00 19:00 local time) each day due to signaling regulations.

*\*Applies to Retriever models that have Level Sensing capability*

*\*\*Applies to Retriever models with Pulse Cycle Counters.*

### Transmission Chart



## **Pneumatic Pulse Cycle Counter**

The optional pneumatic Pulse Cycle Counter works in a piston-like action sensing air flow to the pump. The internally located magnet shuttle moves forward (in the direction of the air flow) during the pump “discharge” cycle and returns to the seated position in the pump “refill” cycle. The display senses the air pulse movement and records the cycle, increasing one digit every cycle. The amount of liquid volume pumped per cycle will depend on the pump model being used, and to a lesser extent on variable site conditions, such as air supply pressure and discharge head. Exact volume per cycle can be determined by a bucket test at the well.



## Web-Page Introduction

In order to meet its goals of simplicity and affordability, Retriever is not intended to replace custom-developed remote data systems that have been available for years. Retriever delivers the data most projects really need - daily data reports and summaries in plain language, not streams of raw data that you have to sort out later. The Retriever web site does all of the tedious work of intermediate calculations. You can review your data on line by selecting the date range of interest and selecting and displaying it in graphical and/or tabular form.

### Web-Page

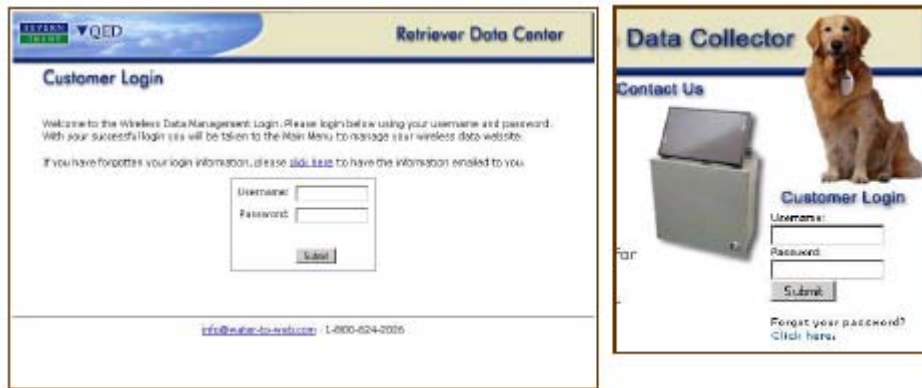
To access your Retriever information go to the “Water-to-web” home page at: <http://www.water-to-web.com>



### Retriever Web Page Tutorial

For your convenience, a detailed Web-based tutorial has been created to introduce all of the features and benefits unique to the Retriever Web-based service. The tutorial also includes instructions on web-page access, set-up, navigation and usage, as well as detailed information on the report data and layout.

To access the Retriever Web Page Tutorial go to the Retriever water-to-web home page, <http://www.water-to-web.com>, and log in using your user name and pass word (Shown Below).



Once you have successfully logged into the water-to-web site, simply click on the tutorial guide icon. The guide is extremely useful and informative on all aspects of the benefits, features and operation of the web based reporting system.

# Troubleshooting

## Troubleshooting chart

Symptom	Action
<p>Retriever system status LED will not illuminate after action button is depressed</p> <p>Retriever system status LED is illuminated "solid", not responding, (blinking) when the action button is depressed</p>	<p>Confirm internal battery is hooked up</p> <p>Check the transmission time schedule chart on page 13 of this manual. If the Retriever is in a "listening" or "sleep" mode the unit will not respond to the action push button command. LED indicator will go off after "listening/" "sleeping" period is complete</p>
<p><b>After depressing the action push button</b></p> <p>Retriever LED blinks <b>4</b> times indicating low battery voltage</p> <p>Retriever LED blinks <b>5</b> times indicating insufficient signal strength</p> <p>Retriever LED blinks <b>6</b> times indicating both low battery voltage and insufficient signal strength</p> <p>Retriever LED blinks <b>7</b> times indicating message not available</p>	<p>Confirm Retriever solar panel is positioned for maximum sun exposure. Allow Retriever ample time to recharge the internal battery. Battery charging requires a minimum of 8-hours of direct sunlight. Re-attempt initialization by briefly pushing the action button.</p> <p>Contact the STL-QED repair and troubleshooting department for assistance. An optional external antenna is available to increase signal strength.</p> <p>Refer to the actions detailed above for addressing both the 4 and 5 blinks from the LED.</p> <p>Wait 10 minutes and retry. If unit still responds with 7 blinks from the LED, Contact STL-QED for further assistance.</p>
<p><b>Level Accuracy</b></p> <p>Liquid Level reading is inaccurate on web-based report</p>	<ol style="list-style-type: none"> <li>1. Confirm bubbler tube is securely attached to the Retriever bubbler air out connection and deployed and positioned to the desired depth down well.</li> <li>2. Confirm actual level by using a portable level meter.</li> <li>3. Confirm bubbler reference is routed into the well.</li> <li>4. Confirm web calibration settings with STL-QED.</li> </ol>
<p><b>Down Well Transducer</b></p>	<p>Check wire connection</p>
<p><b>Cycle Counter</b></p> <p>Mechanical counter is not counting and/or double counting</p>	<p>Adjust the counter valve according to the counter instruction manual.</p>

## Retriever Specifications

### Available Sensors

<b>Vacuum / Pressure:</b>	Vacuum - 100 psi (9.8 bar)
<b>Liquid Level Reading:</b>	0-12 ft. H <sub>2</sub> O ± 1%* (0-3.7m H <sub>2</sub> O ± 1%) * Other level ranges and accuracy are available
<b>Flow (QED Pulse Counter):</b>	0.10-20 gpm (0.04-75.7 lpm)

Contact STL-QED for other sensor options

### Specifications

<b>Dimensions:</b>	27"H x 8"D x 15"W (686mm H x 203mm D x 381mm W)
<b>Enclosure:</b>	All-weather wall and/or post mount NEMA type 4x
<b>Weight:</b>	47 lb. (21.3 kg.)
<b>Tier-1 Data Center:</b>	<ul style="list-style-type: none"><li>• Multiple levels of security</li><li>• Network protection</li><li>• Redundant load balancers</li><li>• Redundant infrastructure network &amp; server monitoring</li><li>• Redundant uninterruptible power supplies</li><li>• Redundant backbone</li><li>• Video surveillance</li><li>• Back-up generators</li></ul>
<b>Power Supply:</b>	<ul style="list-style-type: none"><li>• Solar powered</li><li>• 15 day power back-up</li><li>• Fully charged with 3 hours of sunlight</li></ul>
<b>Wireless Communication:</b>	Cellular network
<b>Data Access Requirements:</b>	Computer with internet access Web browser (Internet Explorer, Netscape, Mozilla, etc.)

## Warranty

QED ENVIRONMENTAL SYSTEMS, INC ("QED") warrants to the original purchaser of its products that, subject to the limitations and conditions provided below, the products, materials and/or workmanship shall reasonably conform to descriptions of the products and shall be free of defects in materials and workmanship. Any failure of the products to conform to this warranty will be remedied by QED in the manner provided herein.

This warranty shall be limited to the duration and the conditions set forth below. Warranty duration is calculated from the original date of purchase.

1. The Retriever - is warranted for one year from the date of purchase. This warranty does not apply to the internal battery and does not cover products damaged by improper installation, or application, misuse, abuse, neglect or accident.

Buyer's exclusive remedy for breach of said warranty shall be as follows: if, and only if, QED is notified in writing within the applicable warranty period of the existence of any such defect in the said products, and QED upon examination of any such defects, shall find the same to be within the term of and covered by the warranty running from QED to Buyer, QED will, at its option, as soon as reasonably possible, replace or repair any such product, without charge to Buyer. If QED for any reason, cannot complete the repair of the product, then QED's sole responsibility shall be, at its option, either to replace the defective product with a comparable new unit at no charge to the Buyer, or to refund the full purchase price. In no event shall such allegedly defective products be returned to QED without its consent, and QED's obligations of repair, replacement or refund are conditioned upon the Buyer's return of the defective product to QED.

IN NO EVENT SHALL QED ENVIRONMENTAL SYSTEMS, INC. BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF SAID WARRANTY.

The foregoing warranty does not apply to major sub-assemblies and other equipment, accessories, and parts manufactured by others, and such other parts, accessories, and equipment are subject only to the warranties if any, supplied by the respective manufacturers. QED makes no warranty concerning products or accessories not manufactured by QED. In the event of failure of any such product accessory, QED will give reasonable assistance to Buyer in obtaining from the respective manufacturer whatever adjustments are reasonable in light of the manufacturer's own warranty.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY (INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE). WHICH OTHER WARRANTIES ARE EXPRESSLY EXCLUDED HEREBY, and of any other obligations or liabilities on the part of QED, and QED neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the said products, materials and/or workmanship.

It is understood and agreed that QED shall in no event be liable for incidental or consequential damages resulting from its breach of any of the terms of this agreement, not for special damages, nor for improper selection of any product described or referred to for a particular application.

This warranty will be void in the event of unauthorized disassembly of component assemblies. Defects in any equipment that result from abuse, operation in any manner outside the recommended procedures, use and applications other than for intended use, or exposure to chemical or physical environmental beyond the designated limits of materials and construction will also void this warranty. QED shall be released from all obligations under all warranties if any product covered hereby is repaired or modified by persons other than QED's service personnel unless such repair by others is made with the written consent of QED.

If any product covered hereby is actually defective with the terms of this warranty, Purchaser must contact QED for determination of warranty coverage. If the return of the component is determined to be necessary, QED will authorize the return of the component, at owner's expense. If the product proves not to be defective within the terms of this warranty, then all costs and expenses in connection with the processing of the Purchaser's claim and all costs for repair, parts and labor as authorized by owner hereunder shall be borne by the Purchaser.

## Warranty

### RESPONSIBILITY OF THE PURCHASER

The original Purchaser's sole responsibility in the instance of a warranty claim shall be to notify QED of the defect, malfunction, or other manner in which the terms of this warranty are believed to be violated. You may secure performance of obligations hereunder by contacting the Customer Service Department of QED and:

1. Identifying the product involved (by model or serial number or other sufficient description that will allow QED to determine which product is defective).
2. Specifying where, when and from whom the product was purchased.
3. Describing the nature of the defect or malfunction covered by this warranty.
4. Sending the malfunction component, after authorization by QED to:

QED Environmental Systems Inc.  
6155 Jackson Rd.  
Ann Arbor, MI. 48103  
(800) 624-2026  
(734) 995-2547  
[www.qedenv.com](http://www.qedenv.com)  
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### Supplemental Terms & Conditions For Retriever Equipment & Data Collection Services

These Supplemental Terms and Conditions are made a part of the contract between QED Environmental Systems, Inc. ("QED") and Customer ("Subscriber") for any orders which include Retriever remote data collection equipment and subscription services. No contrary or additional terms and conditions expressed in a Customer's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by QED in writing.

The Retriever system includes a solar powered data collector ("Equipment") which uses wireless communications (via "Participating Carriers") to transmit data (via "Data Router") to an internet-accessible site hosted by QED and its vendors ("Data Center").

1. QED and Subscriber agree that upon Subscriber's payment of the quoted subscription fees and continued timely payments as agreed, QED will provide access to a secure web-site location where Subscriber's data, as transmitted by the Retriever equipment, will be displayed and available for downloading to Subscriber's computer.
2. Where the Retriever equipment is installed by Subscriber, QED makes no warranty that the equipment is properly connected to monitor the measurements of interest to the Subscriber. Subscriber is responsible for maintaining the Retriever equipment in good working order. QED makes no warranty that the services will meet Subscriber's requirements.
3. Subscriber acknowledges that the service provided by QED hereunder is based upon data routing services furnished to QED by Data Router, and utilizes cellular telephone service that is furnished to QED by one or more Participating Carriers pursuant to agreements between QED and such vendors and is subject to the terms, conditions and limitations therein set forth. SUBSCRIBER FURTHER ACKNOWLEDGES THAT PARTICIPATING CARRIERS DISCLAIM ALL LIABILITY OF ANY NATURE TO BUYER, WHETHER DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL, ARISING OUT OF SUBSCRIBER'S USE OF RETRIEVER SERVICE, AND SUBSCRIBER AGREES THAT SUBSCRIBER SHALL HAVE NO CLAIMS AGAINST PARTICIPATING CARRIERS OF ANY KIND WITH RESPECT THERETO.
4. The parties acknowledge that the Internet is neither owned or controlled by any one entity; therefore, QED can make no guarantee that any customer or given viewer shall be able to access the Retriever Data Center at any given time.

**LIABILITY DISCLAIMER:** QED AND/OR ITS RESPECTIVE VENDORS MAKE NO REPRESENTATIONS ABOUT THE SUITABILITY, RELIABILITY, AVAILABILITY, TIMELINESS, AND ACCURACY OF THE INFORMATION, SOFTWARE, PRODUCTS, SERVICES AND RELATED GRAPHICS CONTAINED ON OR OBTAINED THROUGH THE RETRIEVER SERVICES FOR ANY PURPOSE. ALL SUCH INFORMATION, SOFTWARE, PRODUCTS, SERVICES AND RELATED GRAPHICS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. QED AND/OR ITS RESPECTIVE VENDORS HEREBY DISCLAIM ALL WARRANTIES AND CONDITIONS WITH REGARD TO THIS INFORMATION, SOFTWARE, PRODUCTS, SERVICES AND RELATED GRAPHICS, INCLUDING ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT.

## Warranty

IN NO EVENT SHALL QED AND/OR ITS VENDORS BE LIABLE FOR ANY DIRECT, INDIRECT, PUNITIVE, INCIDENTAL, SPECIAL, CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF USE, DATA OR PROFITS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE USE OR PERFORMANCE OF THE RETRIEVER SERVICES, WITH THE DELAY OR INABILITY TO USE THE RETRIEVER SERVICES, THE PROVISION OF OR FAILURE TO PROVIDE SERVICES, OR FOR ANY INFORMATION, SOFTWARE, PRODUCTS, OR SERVICES OBTAINED THROUGH THE RETRIEVER SERVICES, OR OTHERWISE ARISING OUT OF THE USE OF THE RETRIEVER SERVICES, WHETHER BASED ON CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, EVEN IF QED OR ANY OF ITS VENDORS HAS BEEN ADVISED OF THE POSSIBILITY OF DAMAGES.

- 1. Indemnification:** QED and Subscriber shall indemnify, defend, and hold each other, Data Router and each Participating Carrier, harmless from damages, liabilities, claims, costs and expenses (including reasonable attorney's fees) (hereinafter "claims") to the extent arising out of or resulting from the negligence or willful misconduct of the indemnifying party. If the indemnifying party shall, within 30 days after notice, fail to accept defense, the party seeking indemnification shall have the right, but not the obligation, to undertake the defense of, and to compromise or settle any claims on behalf of, for the account of, and at the risk of the indemnifying party. If the claims cannot by their nature be defended solely by one party, the other party shall make available all information and assistance that may reasonably be requested, regardless of any obligation to indemnify hereunder. Where such claims are the result of the joint negligence or misconduct of any party, the indemnifying party's duty of indemnification shall be in proportion to its allocable share of such joint negligence or misconduct. In no event shall any party be liable for special, indirect, incidental or consequential damages howsoever arising, including without limitation, lost revenues or profits.
- 2. Patent Indemnity:** QED warrants that the Retriever service does not infringe any patent or copyright as deployed to Subscriber. Subscriber shall defend, any suit or proceeding against QED, Data Router or any Participating Carrier for the infringement of any patent or copyright by any services, systems, products or parts deployed by or on behalf of Subscriber in combination and/or in connection with the Retriever service, where the Retriever service would not be infringing without such combination or connection, and shall pay all damages and costs finally awarded against QED, Data Router or any Participating Carrier because of the infringement.

This Agreement may be terminated without prior notice, at the option of QED in the event of the following: (a) the QED Data Center is destroyed by fire or other catastrophe, or damaged so that it is impractical to continue service, (b) cellular coverage through Participating Carriers is unavailable or becomes unavailable or agreements with Participating Carriers are terminated, (c) lack of or failure of message routing services by Data Routers or agreements with Data Routers are terminated, (d) lack of or failure of phone lines or other equipment, (e) Subscriber's account is past due, (f) Subscriber does not make timely payment for the Retriever Services or does not make timely payment under the Terms and Conditions of Sale, and (g) the inability of QED to provide Retriever Services through no fault of QED. QED shall have no liability whatsoever to Subscriber for terminating this Agreement in accordance with above.

Contact Information

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