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User manual
XA00262

HydroRIG

REMOTE INTELLIGENT GATEWAY

Connecting you to your sensors and data

YSI
xylem

HydroRIG
REMOTE INTELLIGENT GATEWAY

The information contained in this manual is subject to change without notice.
Effort has been made to make the information in this manual complete, accurate, and current.
The manufacturer shall not be held responsible for errors or omissions in this manual.
Consult YSI.com for the most up-to-date version of this manual.

Thank you for purchasing a YSI HydroRIG Remote Intelligent Gateway. This manual covers operation and functionality of the HydroRIG.

HydroRIG features include:

- Compatibility with all Xylem and most third-party sensor manufacturer instruments
- Seamless connection to HydroSphere and allows for remote access to your data
- A compact form factor to fit in most data collection platforms
- Telemetry options for any location and budget

Safety information

Please read this entire manual before unpacking, setting, up or operating this equipment. Pay attention to all precautionary statements. Failure to do so could result in serious injury to the operator or damage to the equipment. Do not use or install this equipment in any manner other than that specified in this manual.

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental, and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is solely responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.

Precautionary symbols

NOTE: Information that requires special emphasis.

NOTICE: Indicates a situation which, if not avoided, may cause damage to the instrument.

⚠ *CAUTION: Indicates a potentially hazardous situation that may result in minor or moderate injury.*

⚠ *WARNING: Indicates a potentially hazardous situation which could result in death or serious injury.*

Product components

Carefully unpack the instrument and accessories and inspect for damage. If any parts or materials are damaged, contact YSI at +1 (937) 688-4255, +1 (877) 726-0975 (US), or any authorized YSI distributor.

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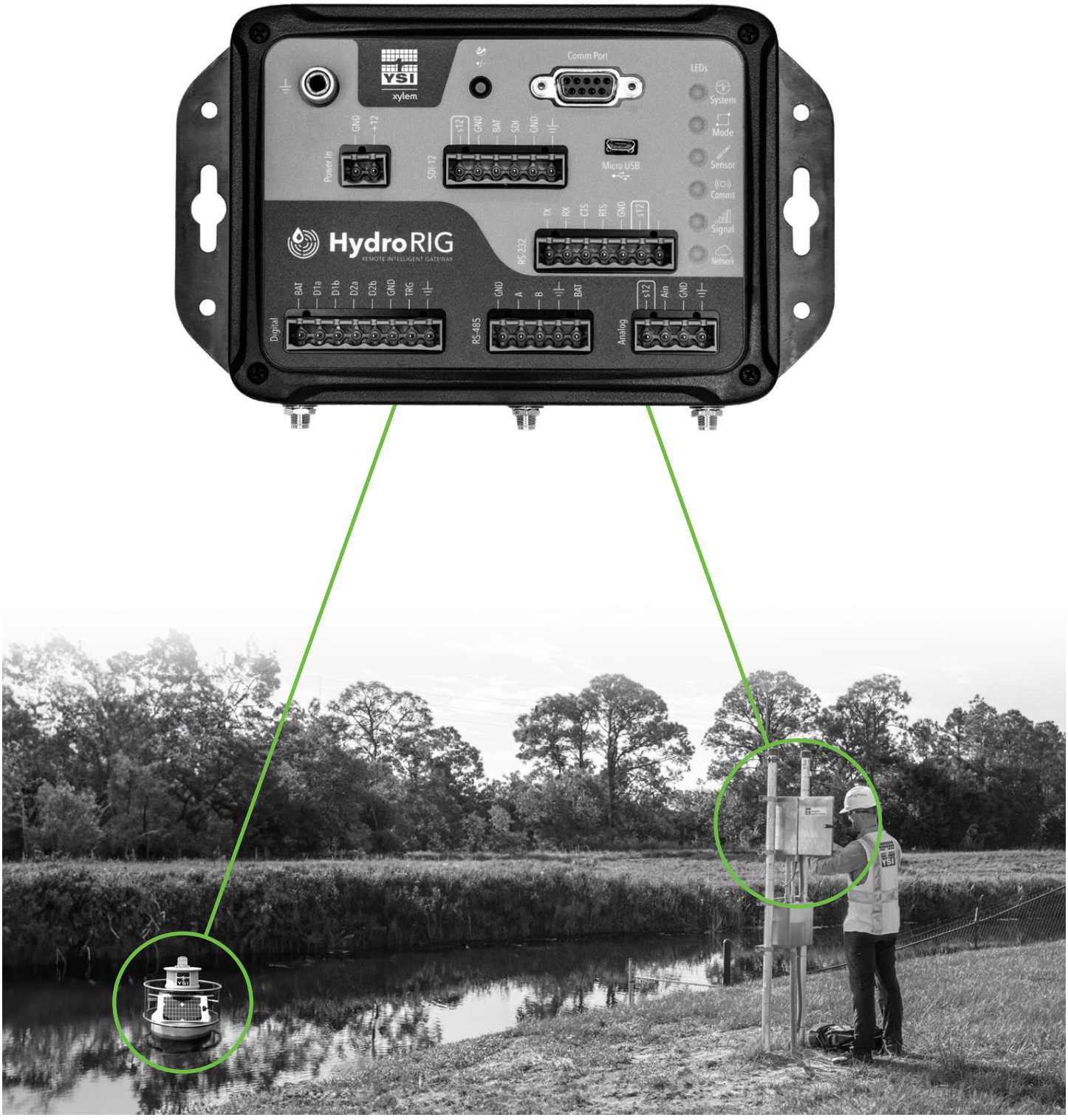
This is an interactive document

When viewing this document as an Adobe® PDF hovering your cursor over certain phrases will bring up the finger-point icon. Clicking elements of the table of contents, website URLs, or references to certain sections will take you automatically to those locations.

HydroRIG is compact and adaptable to fixed or floating applications



1. Introduction

HydroRIG is a compact and secure remote intelligent gateway that connects you to your sensors. Built with an integrated modem, this convenient device replaces both a traditional data logger and modem. HydroRIG can communicate with any Xylem sensor and most third-party sensors. Utilizing cutting edge technology and security protocols, you can rest easy knowing your data is safe and secure. HydroRIG is fully integrated with HydroSphere, allowing you to access your data from your computer or cellular device.

Top features:

- Compact design
- Rugged enclosure
- Integrated mounting hardware
- Easy accessible SIM card
- Detailed LED matrix
- Simple wake/pair

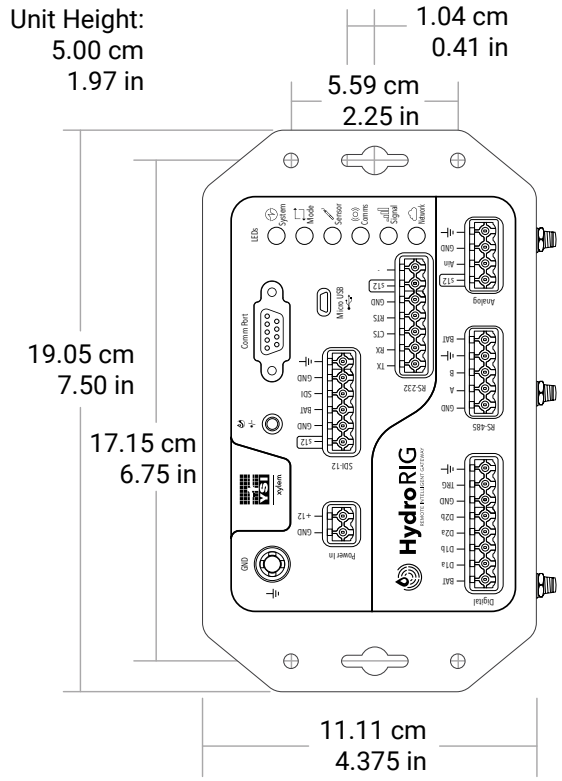
Available modem types

- CAT-1 (PN: 615531)
  - FCC ID: R17LE910CXWWX
  - IC: 5131A-LE910CXWWX
- CAT-M1 (PN: 615530)
  - FCC ID: RI7ME910G1WW
  - IC: 5131A-ME910G1WW

Power options

- 9 to 16 VDC Input

HydroRIG	Dimensions
Length	19.05 cm (7.5 in)
Width	11.11 cm (4.375 in)
Depth	5.00 cm (1.97 in)
Weight	0.45 kg (1 lb)



1.1 — Included hardware & accessories

HydroRIG

CAT-1 (PN: 615531)
CAT-M1 (PN: 615530)

Cellular antenna

(PN: 615552)
CAT-1 models will have two antennas for the cellular and diversity ports.

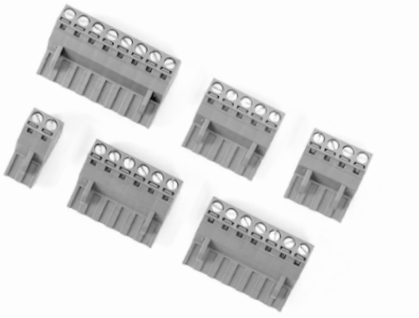
USB cable

(PN: 626991)

Screwdriver

(PN: 615659)

Screw hardware
(PN: 360533)
Flat washers
(PN: 002580)



Terminal plugs (x6)
(PN: 615550)

2 Pin (PN: 615575-01)
4 Pin (PN: 615575-10)
5 Pin (PN: 615575-03)
6 Pin (PN: 615575-04)
7 Pin (PN: 615575-11)
8 Pin (PN: 615575-05)

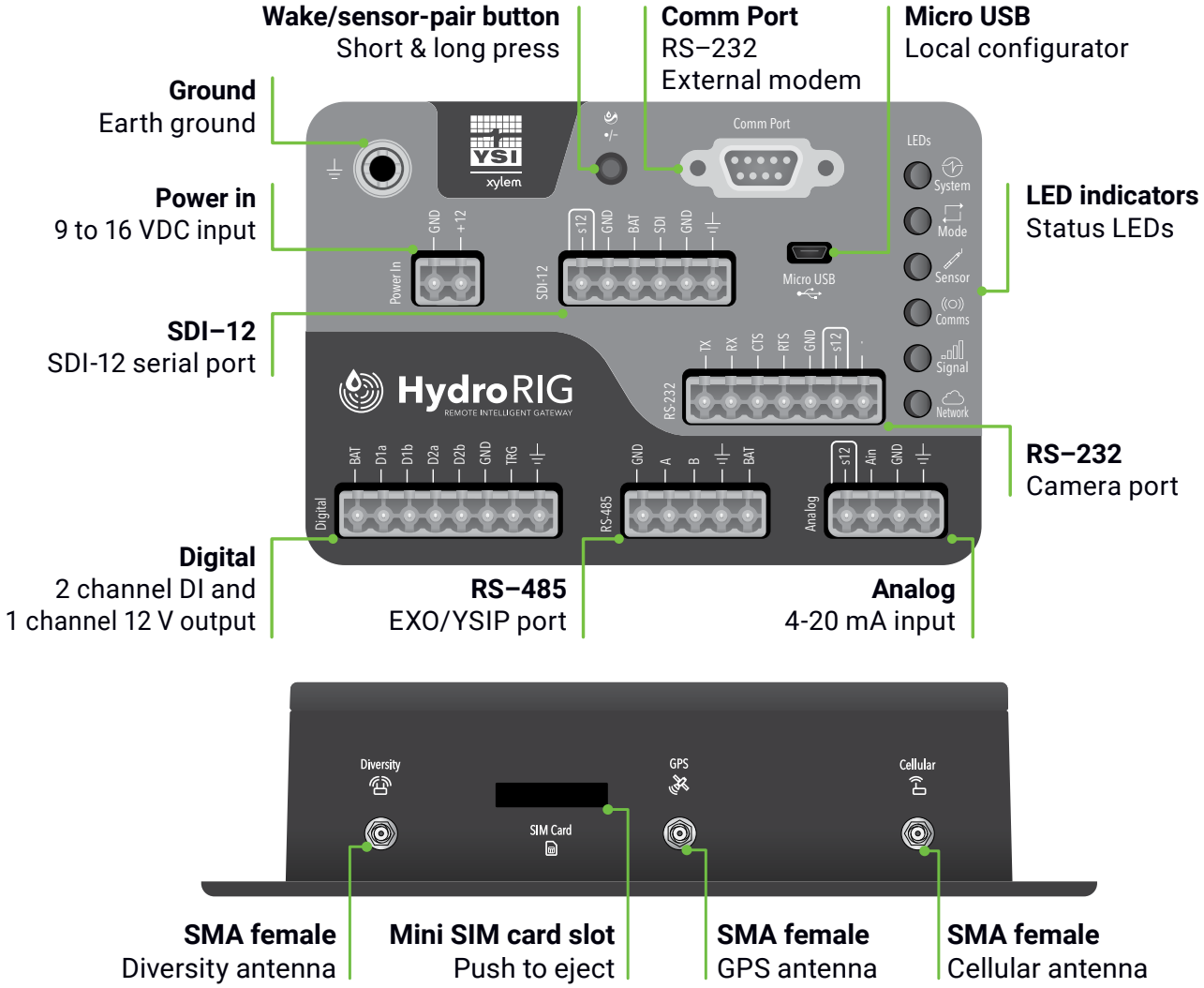
Setup card

(PN: 615551)

Quick start guide
(PN: 615658)
Claim code card
(PN: 615683)

1.2 — Connector diagram & LED indicators

Connector diagram & communication ports



LED indicator reference chart

LEDs	Blink slow green	Blink fast green	Solid green	Solid amber	Blink slow red	Solid red	Sleeping	Boot up	Wake button short press
System	No HydroSphere connection		HydroSphere connected				Off	Sequencing (LEDs flash, after reset or when powered on)	Sequencing (LEDs flash, after a short press of wake button)
Mode		Configuring	Deployed						
Sensor			All sensors ok		Error				
Communications			No faults on gateway		Faults on gateway				
Signal			Signal good	Signal marginal		Signal poor			
Network			Active connection to server	Attempting to connect to server	Problem detected				

1.3 — Warnings & considerations

CAUTION: When working with the HydroRIG, ensure all components are dry and that you are not working in hazardous weather conditions when making electrical connections to avoid electric shock.

1. When installed in the field using a battery or solar panel, the device must be fully grounded by connecting the supplied grounding lug to earth ground. HydroRIG must be installed in a weatherproof housing.
2. To set up your device for the first time, you must have access to an administrator account in HydroSphere.
3. Automatic firmware updates will be pushed to all powered and connected devices. These updates will make new features and improvements immediately available.
4. Ensure that you keep the device claim code card for your records.

   NOTE: The claim code card will be attached to the quick start guide that shipped with your device.

NOTE: Your HydroRIG claim code card will look similar to the image above.

2. Communications setup

2.1 — Cellular service provided by YSI

Did you purchase a cellular service with your device?

If so, the device will automatically register with your account when powered on.
If you do have any questions or need assistance, please contact YSI customer service to setup your cellular account.

YSI Customer Service
Tel +1 937-688-4255
Tel +1 877-726-0975 (US)
Email ysi.info@xylem.com

2.2 — Bring your own cellular service

Xylem/YSI recommends only using Mobile Network Operators (MNOs) vs. Mobile Virtual Network Operators (MVNOs)

North America

Xylem/YSI is currently certified on:

- AT&T

Pending certification:

- Verizon

Europe

Xylem/YSI suggests:

- Deutsche Telekom
- Orange
- Vodafone
- Telenor
- Telefonica
- O2
- EE
- Three

Other MNOs may also be applicable

Specify with carrier your HydroRIG's radio technology (refer to the serial number label on your HydroRIG)

- CAT-1
- CAT-M1

NOTE: This is critical to insuring the proper cellular SIM card provisioning and cellular rate plan.

NOTE: In the case you are using Verizon CAT-M1 radio you MUST specify full featured CAT-M1 SIM card.

NOTICE: Contact your organization's cellular provider with any technical questions or support.

NOTICE: Use only one SIM card per HydroRIG. The SIM card activated for your device (by YSI or otherwise) should be kept with the same device throughout its use to prevent disruption in communication.

2.3 — Install your SIM card

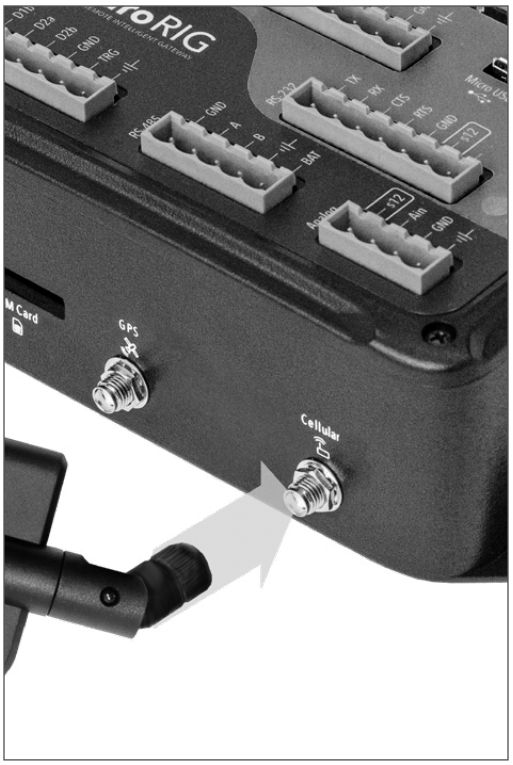
Insert your SIM Card into the designated slot on the side of the housing. It will be fully seated when it clicks into place.

NOTICE: HydroRIG utilizes a 'Mini' size SIM card.

3. Hardware setup

Installing the antenna(s):

HydroRIG comes with a swivel paddle antenna that is plugged into the cellular port(s) in the side of the housing to enable communication. The CAT-1 model features two cellular ports, ‘Cellular’ and ‘Diversity,’ and ships with two antennas. The CAT-M1 model features one cellular port, ‘Cellular,’ and ships with one antenna. The included antenna specifications are: 600-6000 MHz; 50%+ efficiency; 3dBi+ peak gain; 4G/5G bands.



The paddle antennas are sufficient for sites with strong network coverage and will still be able to communicate from within certain types of field enclosures, such as plastic housing. However, if you will be using a metal enclosure or have poor signal strength and require an externally mounted antenna, the cellular ports are standard and can accept other antennas. Be sure to thoroughly test communications when using an independently acquired antenna.

To install your paddle or external antenna, insert the antenna pin into the port and hand tighten until snug. Do not overtighten. The paddle antenna pivots for easy maneuvering.

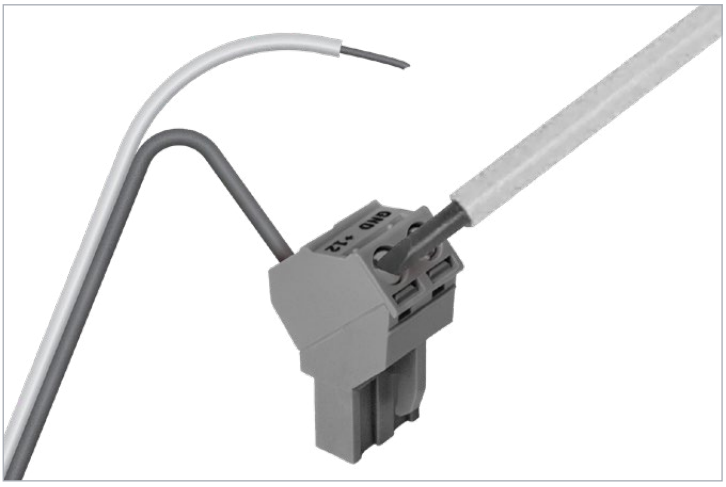
To mount the HydroRIG inside a data collection platform or other surface, utilize the mounting holes on the HydroRIG housing. Screw hardware is included with your device.

NOTE: HydroRIG can be mounted horizontally or vertically.

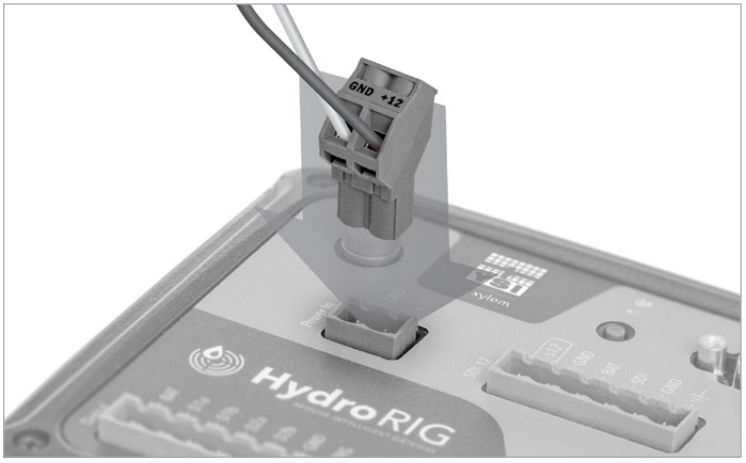
NOTICE: Do not over tighten screws when attaching the HydroRIG to a surface or enclosure.

3.1. Connecting power

Utilize the supplied two pin terminal block connector to wire your 9-16 VDC power supply or 12 V battery.



Plug the wired two-pin connector into the **Power In** port on the HydroRIG, and connect the cellular antenna and optional GPS antenna, if applicable.



NOTICE: Utilize the grounding lug to connect your system to earth ground.

Additional power notes & best practices

While in operation, HydroRIG incorporates a cellular modem that emits non-ionizing radiation at low levels, which is considered safe according to current scientific knowledge.

- Use cable loom wraps or zip ties to organize cables when connecting sensors or for any wires.
- Incorporate lightning and surge protection into your system when configuring.
- Utilize heavy gauge (8 AWG) copper wire and copper grounding pole to ground your system to earth ground.
- Utilize the optional DIN rail mounting system for cabinet installations.
- Power can be provided by the optional power brick supplied by YSI (PN: 615561), or by external power.

If utilizing a solar powered battery configuration, these considerations should be made:

- Solar panels should be connected to a solar regulator.
- The regulator should be connected to a 12 VDC battery.
- The 12 VDC battery supply should be fused with a 2 AMP slow blow fuse on the positive wire (+).

3.2 — General wiring

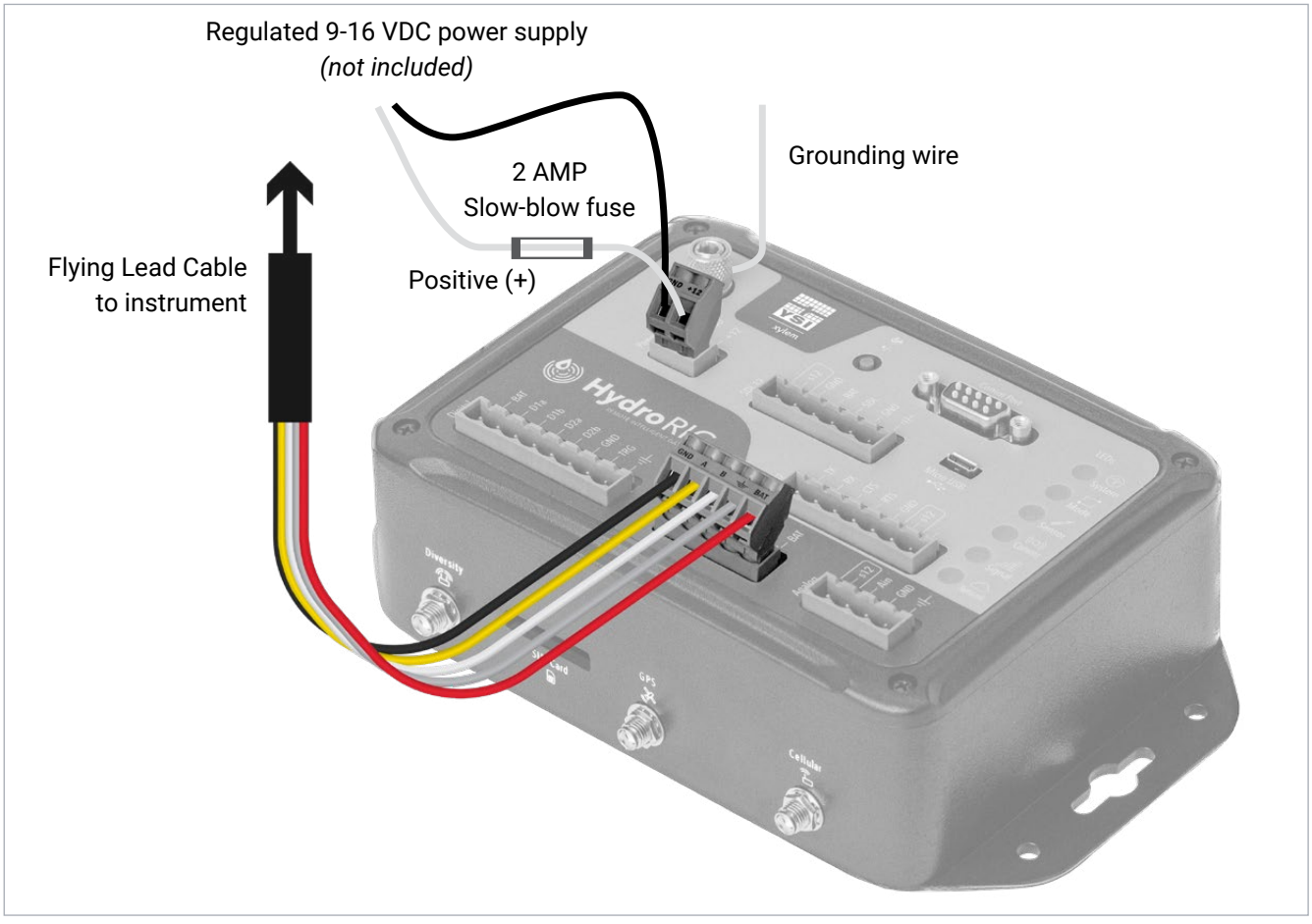
⚠ *WARNING: Remember to power down your system prior to connecting any sensors. Miswiring of power or sensors may cause the release of airborne smoke, fumes, and potential fire.*

Configure your sensor output settings, including measurement units, data averaging, SDI-12 address, etc. before connecting the sensor to HydroRIG. Using the provided terminal blocks and screwdriver, wire in your sensors to the appropriate port based on the communication protocols. The wiring diagrams provided in this section are examples; the sensor's manual should always be followed to determine the correct wiring.

Once the wiring is completed, install the terminal blocks and power on your system.

NOTE: RS–232 input (camera port) and DB-9 connector port (external modem) are not currently supported.

NOTE: For all sensor connections, you may choose to connect the cable shield, if available, to the earth ground terminal (⏚).

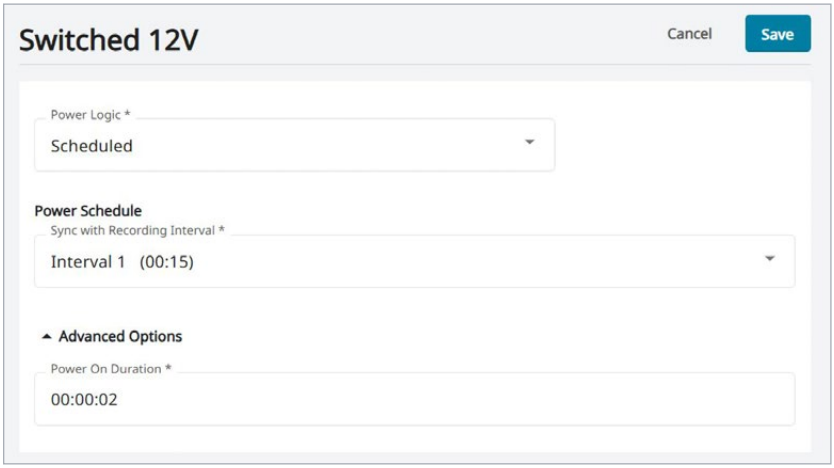


3.2.1 — Sensor power options

There are three options for powering sensors connected to HydroRIG. A sensor can be powered by the ‘BAT’ terminal on HydroRIG which provides constant power, by the ‘s12’ terminal for switched power, or by an external power source.

Some sensors, like the YSI EXO Multiparameter Sonde, feature low power modes to reduce power consumption and enter a sleep state between sampling intervals; however not all sensors have this ability.

The s12 terminal can be used to lower sensor power consumption by turning off power between data collection intervals. Select “Scheduled” in the **Power Logic dropdown** of the **Switched 12V** menu within the configuration file in HydroSphere. The sensor will be powered at the chosen recording interval.



Please see the HydroSphere User Manual for more information.

3.2.2 — RS–485 wiring

HydroRIG features one RS–485 port for connecting an EXO Multiparameter Sonde directly to HydroRIG without the use of a signal output adapter by using the EXO’s proprietary output signal, YSIP. The EXO can be connected to the RS–485 port using the EXO Flying Lead Cable (PN: 599008-x) or EXO Vented Flying Lead Cable (599210-x; for use with vented level EXO1 or EXO2).

RS–485 terminal pin descriptions

Pin label	Description	Notes
GND	Ground	Connect sensor ground wire
A	Data (A)	Connect sensor RS–485 Data A wire
B	Data (B)	Connect sensor RS–485 Data B wire
⏚	Earth ground	Connect bare/shield wire
BAT	+12 V out power	Powered port; active any time power is applied to the unit; connect to sensor power wire

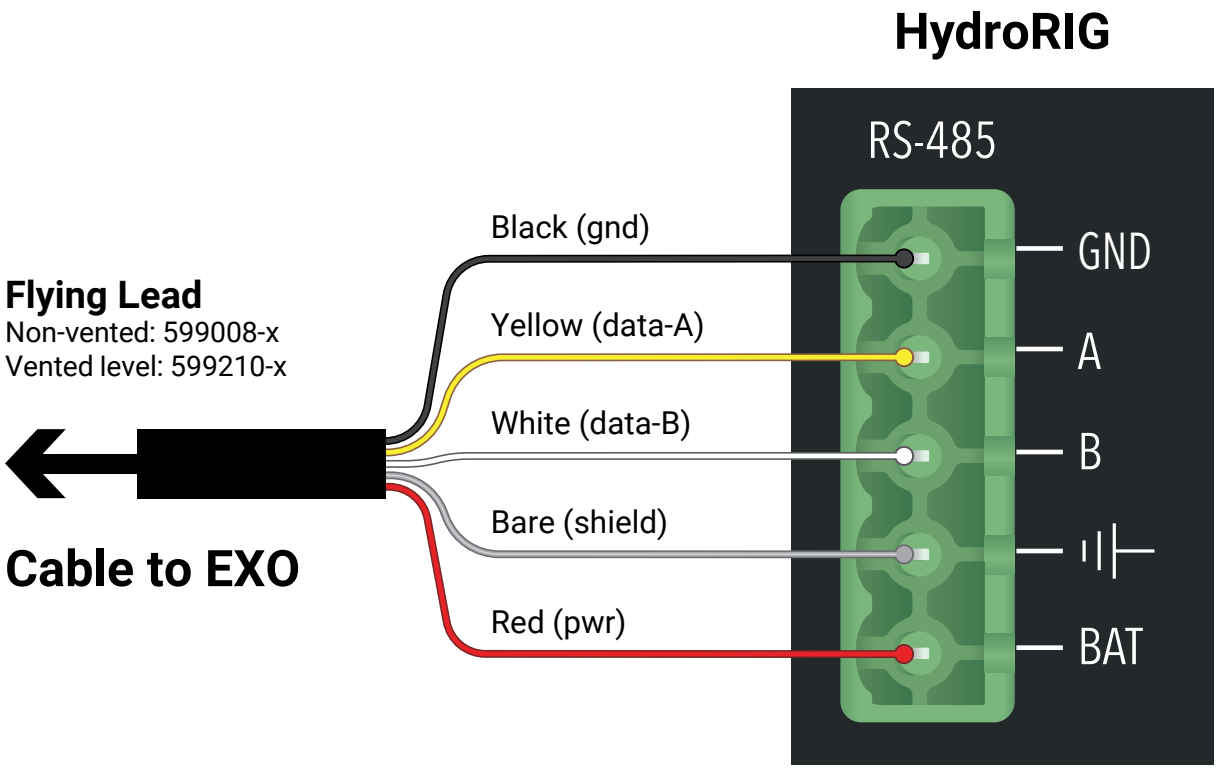
3.2.2 — RS–485 wiring (continued)

Configure the sensor settings and output before connecting to HydroRIG. If configuring an EXO Sonde, use Kor Software, Kor Mobile, or the handheld display to configure the sonde deployment.

*NOTE: When configuring your EXO Sonde in Kor, be sure to set your logging mode to **Sample and Hold**.*

NOTE: When connected via RS-485 (native YSIP signal), all available sonde parameters will be reported, and you will need to select the desired parameters to display in HydroSphere in the instrument configuration file. See Section 4.3 and the HydroSphere User Manual for more information.

Use the provided terminal blocks to wire in your sensors using the following wiring diagram:



Once the wiring is completed, install the terminal blocks and proceed with wiring other sensors as needed.

3.2.3 — SDI-12 wiring

HydroRIG features one SDI-12 port for connecting external sensors. Configure the sensor settings, parameter output, and SDI-12 address before connecting to HydroRIG. The SDI-12 address must be an integer 0-9.

NOTE: HydroRIG can connect up to 10 SDI-12 sensors. For easy wire management of multiple sensors, consider using a terminal strip.

The EXO Sonde can also be connected to HydroRIG via SDI-12, but all sondes except the EXO3 and EXO3^{S} require a DCP signal output adapter (SOA, PN: 599820).

Configure the EXO sonde deployment settings, SDI-12 parameter output, and SDI-12 address via Kor Software, Kor Mobile, or the handheld display. See the EXO User Manual for more information.

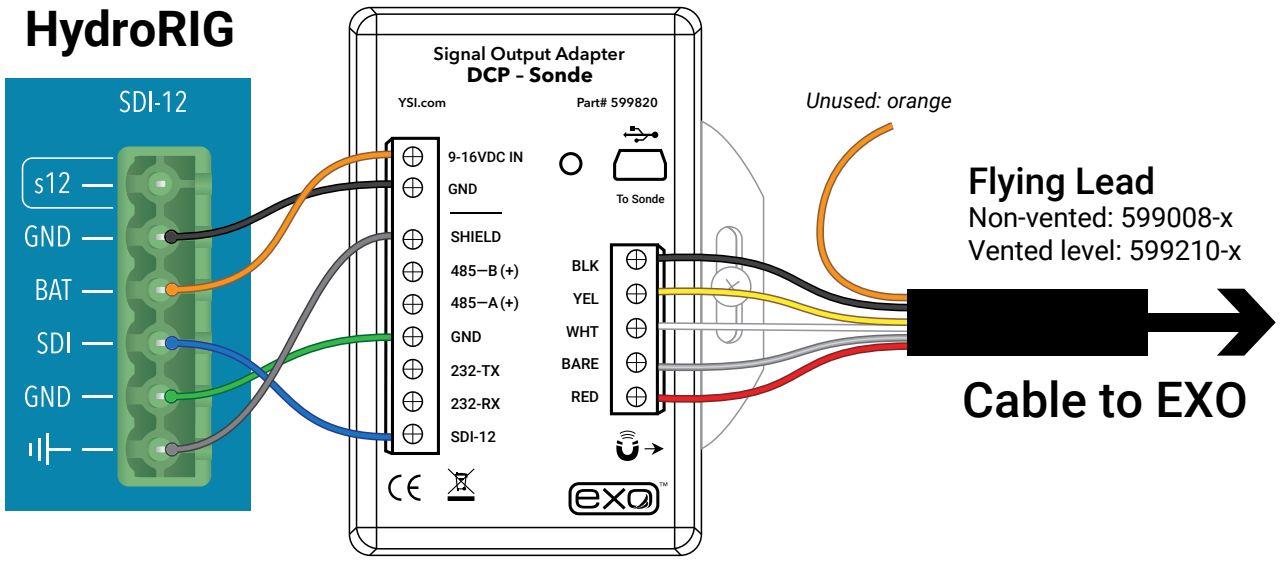
*NOTE: When configuring your EXO Sonde in Kor, be sure to set your logging mode to **Sample and Hold**.*

NOTE: When using the auto-discovery feature in HydroSphere to populate the EXO address, any connected EXO Sonde will display the same identifier string. If connecting multiple EXOs, connect and discover one at a time, or keep note of the address assigned to each.

SDI-12 terminal pin descriptions

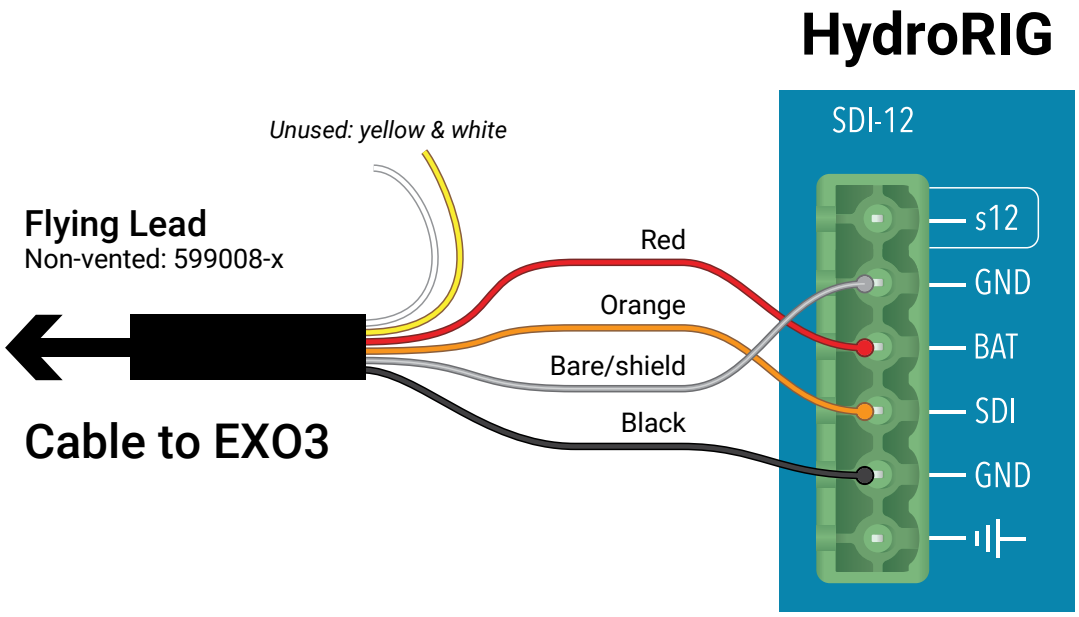
Pin label	Description	Notes
s12	Switched 12 VDC output power	Powered port; 1A max load; connect to sensor power wire for variable power option; controls one sensor at a time via logic in HydroSphere
GND	Ground	Connect sensor ground wire
BAT	Battery power 12 V	Powered port; connect to sensor power wire for always on power
SDI	SDI-12 data	Connect sensor data wire
GND	Ground	Connect additional sensor ground
⏚	Earth ground	Connect to earth ground

The following wiring diagram may be used to output SDI-12 from any EXO Sonde using the DCP SOA and EXO Flying Lead Cable (PN: 599008-x).

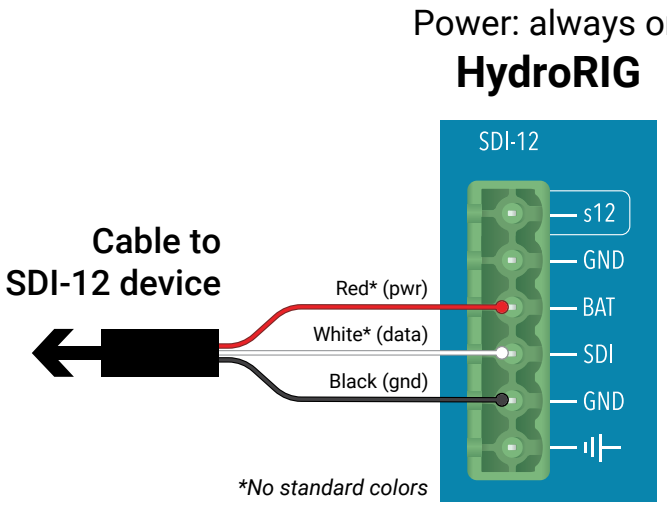


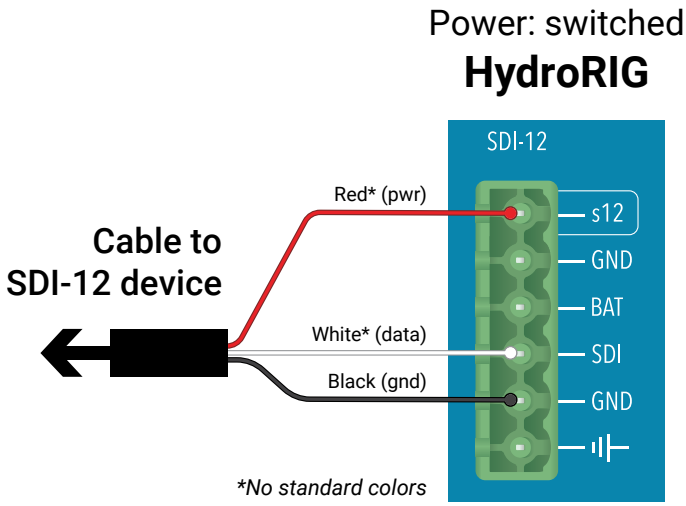
3.2.3 — SDI-12 wiring (continued)

The following wiring diagram is for the EXO3 and EXO3^{S} only, using the built-in SDI-12 signal output from the sonde communicated through the EXO Flying Lead Cable.



The following diagrams illustrate options for both switched power and always on power to a generic SDI-12 sensor. Switched power can be configured in HydroSphere. Please see the HydroSphere User Manual for more information.





Once the wiring is completed, install the terminal blocks and proceed with wiring other sensors as needed.

3.2.4 — Digital wiring

HydroRIG features one digital port for connecting up to two external digital sensors using the D1 and D2 terminals.

Configure the sensor settings and output before connecting to HydroRIG, then use the provided terminal blocks to wire in your sensors.

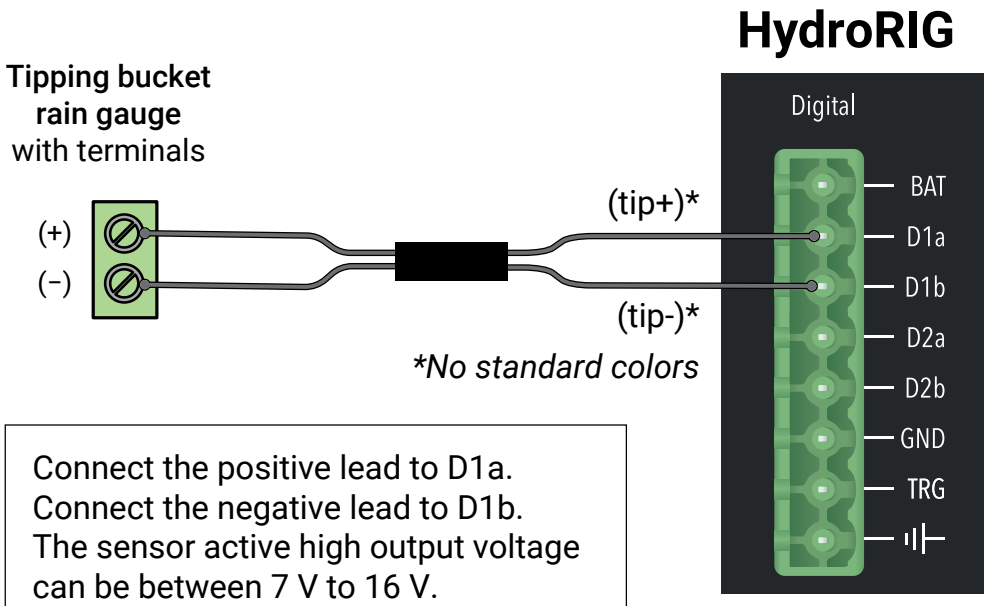
NOTE: The HydroRIG digital port currently only supports tipping bucket rain gauges.

Digital terminal pin descriptions

Pin label	Description	Notes
BAT	Battery Power 12 V	Powered port; connect to sensor power wire for always on power
D1a	Digital Input and Pulse Counter 1-1	Connect sensor signal wire
D1b	Digital Input and Pulse Counter 1-2	Connect sensor signal wire
D2a	Digital Input and Pulse Counter 2-1	Connect additional sensor signal wire
D2b	Digital Input and Pulse Counter 2-2	Connect additional sensor signal wire
GND	Ground	Connect sensor ground
TRG	Digital output trigger	12 V logic level, 50 mA drive capability (actuate external relay)
⏚	Earth ground	Connect to earth ground

The follow wiring diagrams represent examples of how to wire a typical tipping-bucket rain gauge with a digital output to the HydroRIG.

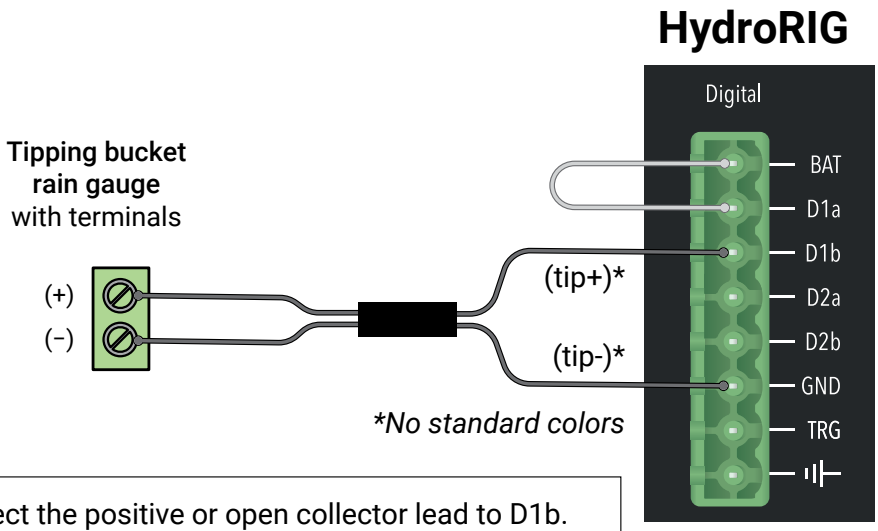
Sensor with active high contact output



Connect the positive lead to D1a.
Connect the negative lead to D1b.
The sensor active high output voltage can be between 7 V to 16 V.
Sensor must supply at least 0.6 mA.

3.2.4 — Digital wiring (continued)

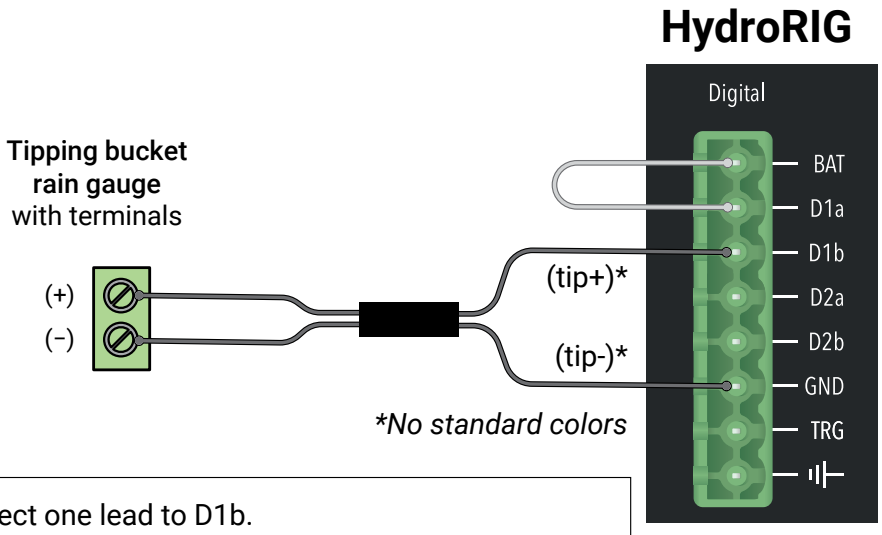
Sensor with active low (or open collector) output



Connect the positive or open collector lead to D1b.
Connect the negative or ground lead to GND.
Contact must handle at least 2 mA.
Use a short piece of wire to connect BAT to D1a.

Sensor with contact closure output

NOTE: This is the only sensor output type that is polarity insensitive



Connect one lead to D1b.
Connect the other lead to GND.
The leads can be interchanged no polarity restrictions.
Contact must handle at least 2 mA.
Use a short piece of wire to connect BAT to D1a.

Once the wiring is completed, install the terminal blocks and proceed with wiring other sensors as needed.

3.2.5 — Analog wiring

HydroRIG features one analog port for connecting an external analog sensor.

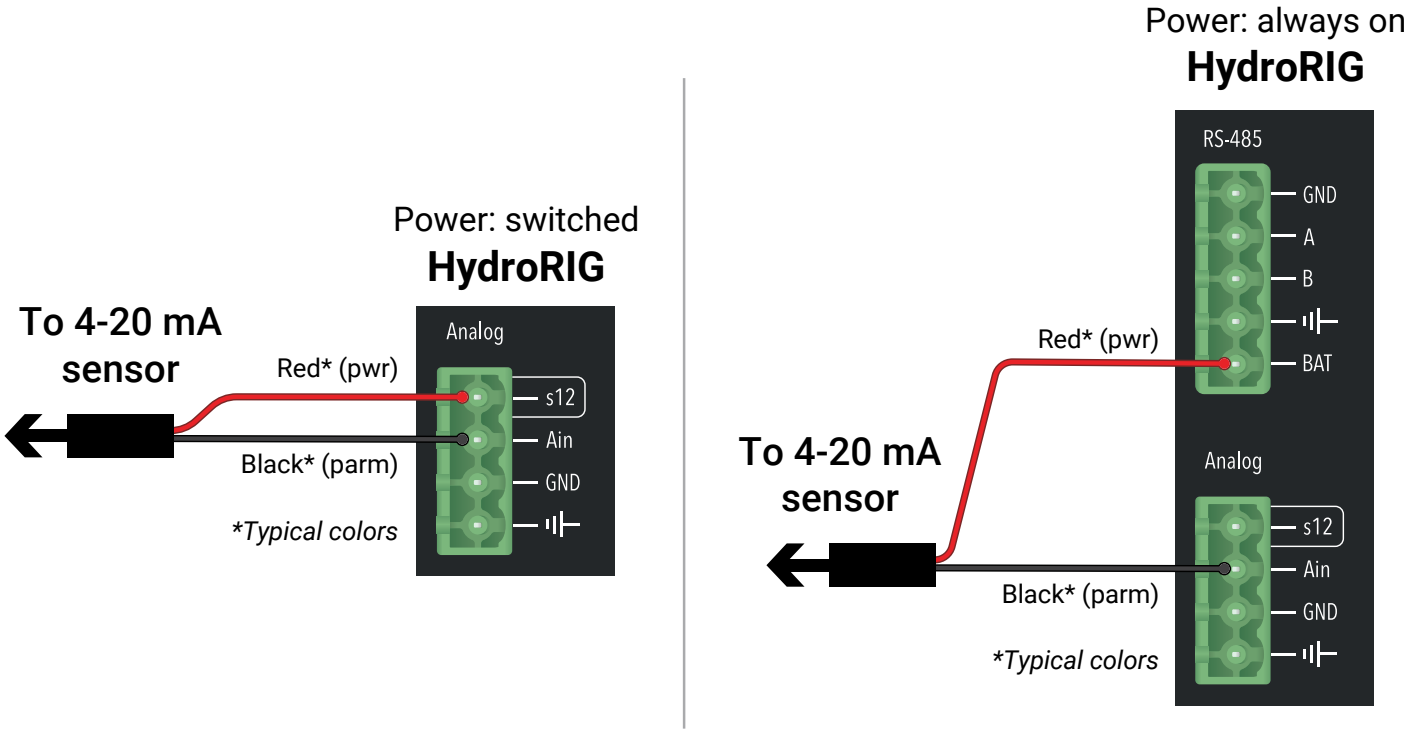
Configure the sensor settings and the 4-20 mA outputs before connecting to HydroRIG, then use the provided terminal blocks to wire in your sensor.

NOTE: HydroRIG does not support multi-parameter analog sensors; only one sensor parameter can be received from the analog connection.

Analog terminal pin descriptions

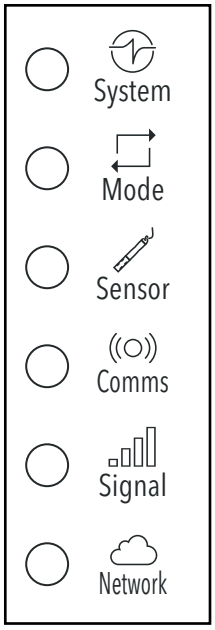
Pin label	Description	Notes
s12	Switched 12 VDC output power	Powered port; 1 A max load; connect to sensor power wire for variable power option; controls one sensor at a time via logic in HydroSphere
Ain	Analog input data	4-20 mA or 24 bit resolution; connect sensor data wire
GND	Ground	Connect sensor ground
⏚	Earth ground	Connect to earth ground
BAT	Battery power 12 V	Powered port; connect to sensor power wire for always on power

The following diagrams illustrate options for both switched power and always on power to the sensor. Switched power can be configured in HydroSphere. Please see the HydroSphere User Manual for more information.



Once the wiring is completed, install the terminal blocks and proceed with wiring other sensors as needed.

3.3 — First time start up



Verifying operation of the HydroRIG

When powering up the HydroRIG or performing a soft reset, the LED Indicators will cycle the following pattern:

RED, AMBER, GREEN

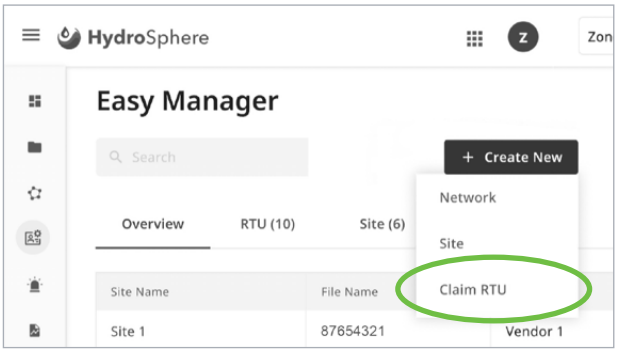
NOTE: To confirm that your device and sensor(s) are functioning properly or if any of the LEDs remain RED or AMBER, please consult the LED Indicator reference chart (page 7 of this user manual, or in the quick start guide booklet included with your device).

Wake/sensor-pair button

Device function	Type of button press	LED behavior
Wake device	Press and release	All LED's will cycle: **RED, AMBER, GREEN**
Soft reset/ power cycle	Press and hold for 5 seconds	**GREEN LEDs** will sequence through all indicators

4. HydroSphere integration

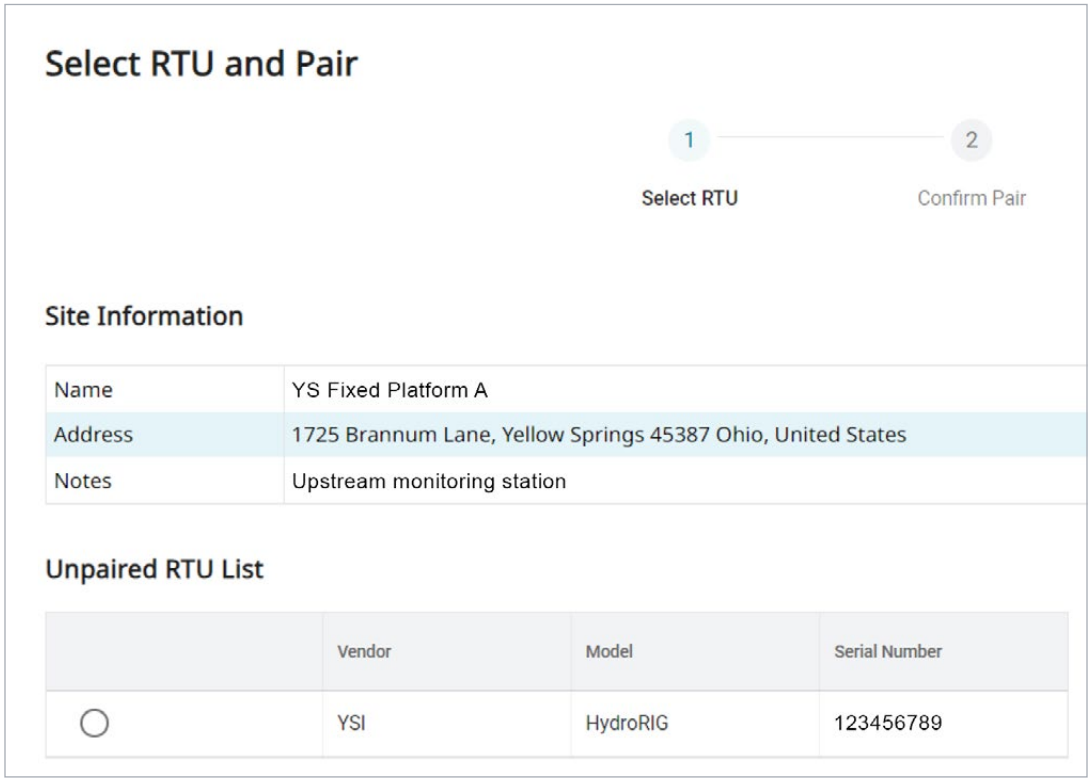
4.1 — Claim your device



1. Log into **HydroSphere** and navigate to the **Easy Manager** tab in the side bar.
2. Select **Create New**, then **Claim RTU**.
3. Enter the **HydroRIG Claim Code**, located on the claim code card inside the quick start guide.

4.2 — Pair with site

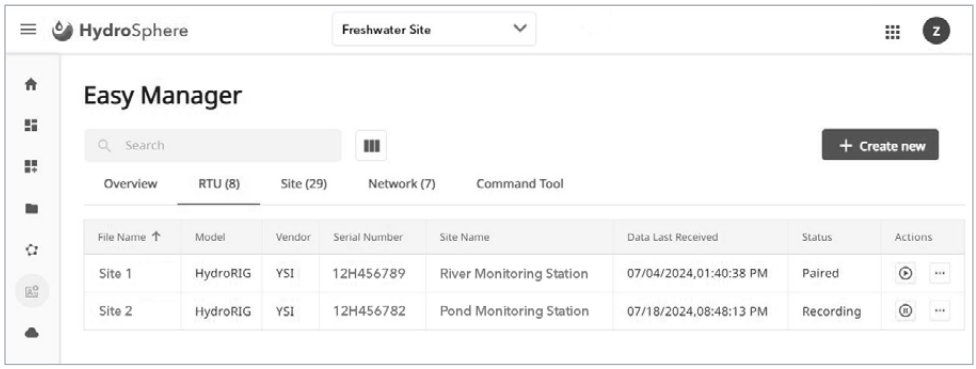
1. In **Easy Manager,** click **New Site** and enter your deployment site details.
2. In the Site tab, locate your new site and click the '**Link**' button in the **Actions** column to pair it.
3. Select your HydroRIG from the **Unpaired RTU** list, and pair it with your site.

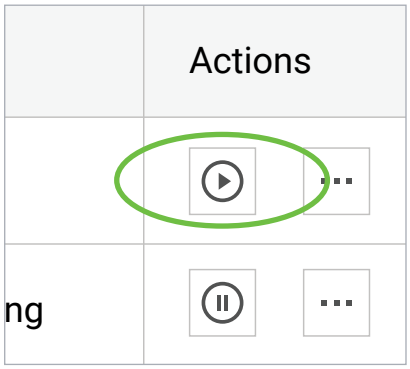


4.3 — Connect your sensors

1. Navigate to **Config File Manager** from the side bar.
2. Click **Add Template**, or select an existing template to edit.
3. Select **Add Instrument** under the signal type of the sensor(s) connected to your HydroRIG.
4. Configure the sensor(s).

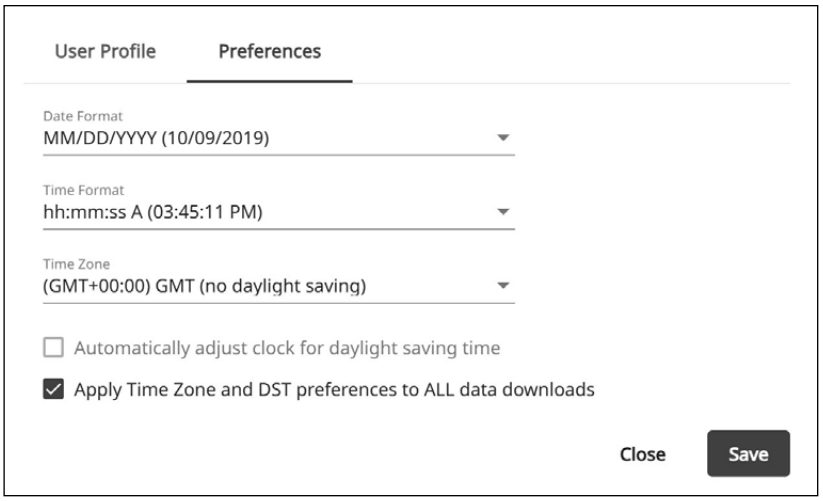
   NOTE: If you need to connect additional sensors to an Active configuration file, after wiring the sensors, power cycle HydroRIG to discover and add them to your configuration file.
5. In **Config File Manager**, click the configured template name, then click **Apply to RTU**.
6. In **Easy Manager**, locate your RTU in the **RTU tab** and click the '**Play**' button in the Actions column to start recording.
7. For additional information reference the HydroSphere User Manual.





NOTE: All connected sensors must be configured in HydroSphere; however, the LPG Configurator software tool allows for local connection to HydroRIG to configure the Access Point Name (APN) or manually update the device firmware.

NOTE: To change the time zone displayed in HydroSphere for recorded data, click the user profile icon in the top right of the main page, click the Profile & Preferences option, then click the Preferences tab, and adjust the settings to your local time

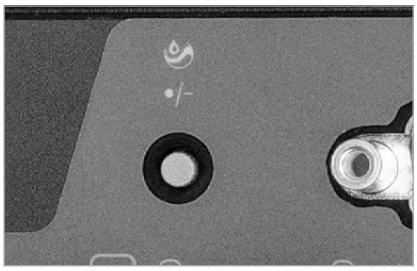


5. Troubleshooting

This section provides an approach to establishing the cause of common malfunctions. If the problem cannot be resolved, please contact YSI technical support.

YSI Incorporated technical support
Tel +1 937-688-4255
Tel +1 877-726-0975 (US)
ysi.info@xylem.com

The HydroRIG isn't turning on.



Solution:

Press and hold the wake/sensor-pair button for 5 seconds. If successful, the LED indicator lights will flash:

RED, AMBER, GREEN

Causes:

- Insufficient power (9-16 VDC)
- Faulty power connection (check all wired connections & terminal blocks and ensure all are fully seated)
- Insulation is interfering with connection by not being stripped far enough back
- Ensure all screws in the green terminal blocks are tightened down and that the wire is locked in place
- Check fuses and grounding
- Check for moisture or corrosion damage

The HydroRIG isn't connecting to HydroSphere.

Solution:

Press the wake/sensor-pair button.

Causes:

- No/weak network connection (Check LED matrix on start up)
- Ensure SIM card is inserted and fully seated
- Ensure the cellular antenna is installed and secure in the cellular port and that the signal quality is good (signal LED is at least AMBER or GREEN).

5. Troubleshooting – continued

Sensor data is not displayed in HydroSphere.

Solution:

Please see the user manuals of the connected devices and sensors to troubleshoot issues with sensor connectivity and data population.

Causes:

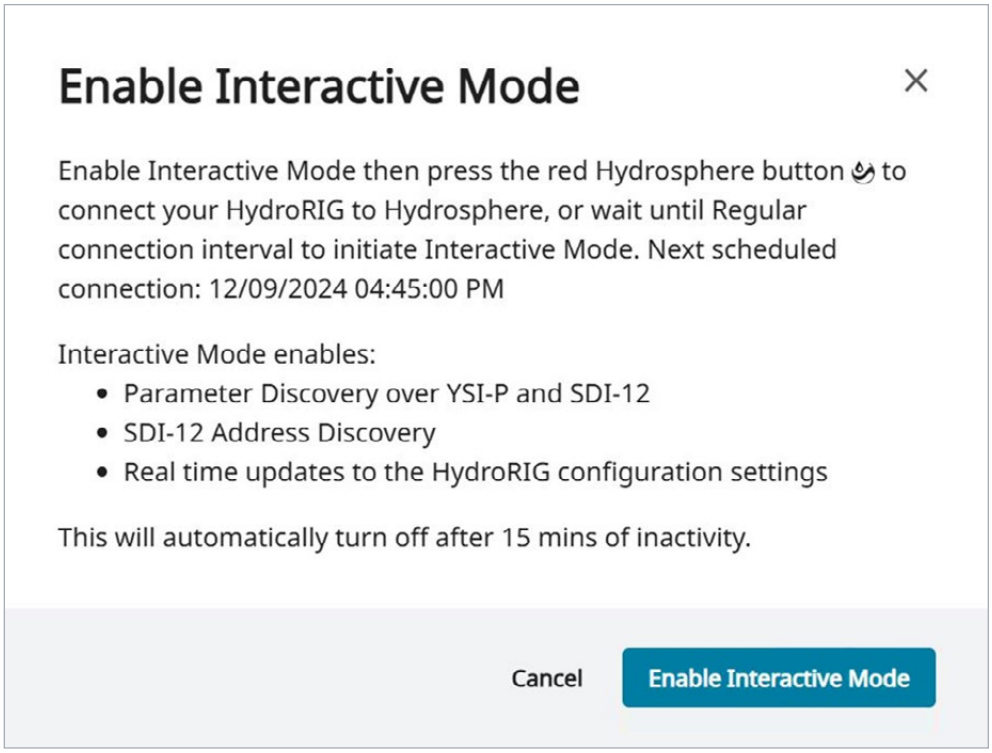
- Check device cables for damage
- Ensure proper wiring
- Check sensor signal output configuration
- Check the RTU settings in **Easy Manager** in HydroSphere as well as the sensor settings in the RTU configuration file in **Config File Manager**
    - Verify the sampling interval of each sensor and SDI-12 addresses
    - Wait for the next regular connection for data to be updated in HydroSphere

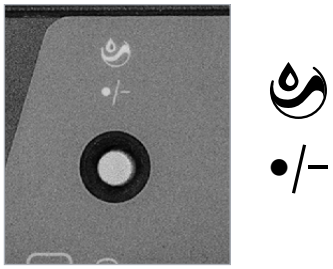
5.1 — Interactive Mode

HydroRIG connects to HydroSphere at the regular connection interval (every hour by default) to send data and update sensor configuration templates. If you want to immediately push an updated configuration file or automatically discover sensors or parameters via SDI-12 and YSIP (EXO Sondes), you can enable Interactive Mode.

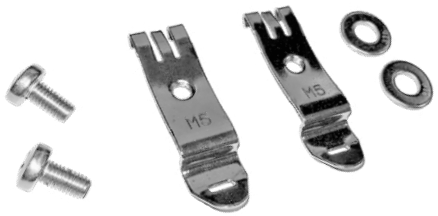
In **Interactive Mode**, HydroRIG actively connects to HydroSphere. To enable:

1. In HydroSphere, navigate to **Easy Manager**, select the **RTU tab**, and click your **RTU** serial number.
2. On the top right, select **Enable Interactive Mode**.
3. Verify the information in the popup window and click the **Enable Interactive Mode button**.
4. Press the **Wake/sensor-pair button** within 2 minutes.
5. **Interactive Mode** will remain enabled until disabled or after 15 minutes of inactivity.





6. Accessories



DIN rail mounting kit -
(PN: 615557)

Clips - (PN: 615698)
MS-5 screws and washers - (PN: 615697)

24” cable, SMA male to SMA female - (PN: 615585)

GPS antenna, with 8’ cable and mounting bracket - (PN: 615586)

24” cable, SMA male to N-type male - (PN: 615587)

Surge protector with bulkhead mount, N-type female to N-type female - (PN: 615588)

CAT antenna, with 8’ cable and mounting bracket - (PN: 615589)

Power supply, 120 VAC - 240 VAC, 12 VDC, 1 A, with 2 pin OST connector and international blades - (PN: 615590)

7. On-site field services

From start to finish, YSI's service group is there for you

In addition to selling standard systems products, YSI is able to complement hardware supply with installation, design, maintenance, and customization services. Projects from one site to 300 have been completely managed by the services group.

On-site maintenance and management

Preventative maintenance

Factory exchange

Data verification

Repair service

Contact YSI's integrated systems & services team

937-767-7241

ysi.info@xylem.com

YSI.com/Services

8. Warranty statement

The HydroRIG is covered under a 24-month limited manufacturer's warranty on defects and workmanship. This warranty extends to all parts and labor for any malfunction due to workmanship or errors in the manufacturing process. The warranty does not cover shortcomings that are due to the design, nor does it cover any form of incidental damage as a result of misuse.

YSI will repair and/or replace, at its sole option, any product established to be defective, with a product of like type. CLAIMS FOR LABOR COSTS AND/OR OTHER CHARGES RESULTING FROM THE USE OF YSI GOODS AND/OR PRODUCTS ARE NOT COVERED BY THIS LIMITED WARRANTY.

YSI DISCLAIMS ALL EXPRESS WARRANTIES OTHER THAN THOSE CONTAINED ABOVE AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. It is understood and agreed that YSI DISCLAIMS AND WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCE, IN CONTRACT, TORT OR WARRANTY, FOR ANY SPECIAL, INDIRECTLY, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO LOST PROFITS, BUSINESS INTERRUPTION LOSSES, LOSS OF GOODWILL, OR LOSS OF BUSINESS OR CUSTOMER RELATIONSHIPS. Some states do not allow the exclusion of implied warranties or the limitation or exclusion of liability for incidental or consequential damages, so the above exclusion may not apply to the buyer.

If your system is not functioning properly, first try to identify the source of the problem. If additional support is required, we encourage you to contact us immediately. We will work to resolve the problem as quickly as possible.

In the event an instrument needs to be shipped back to the YSI factory, the shipping carton must contain a completed Product Return Form. If an instrument is being shipped internationally, the YSI repair center must be contacted to provide a Service Request (SR) number before shipping. We reserve the right to refuse receipt of any shipments without a completed Product return from.

YSI Incorporated
1700/1725 Brannum Lane
Yellow Springs, Ohio 45387-1107 USA
Email ysi.info@xylem.com
Tel +1 937-688-4255
Tel +1 877-726-0975 (US)
Fax +1 937-767-9353

Product Return Form

9. HydroRIG technical support & repair

The HydroRIG is manufactured by YSI Incorporated. For technical support on this device, please contact the YSI technical support team through the channels below.

YSI
8 am - 5 pm EST
+1 937-688-4255
+1 877-726-0975 (US)
ysi.info@xylem.com

Product Service | Product Return Form

9.1 — Sensor and instrument technical support & repair

For technical support for sensors and other instruments that work with the HydroRIG, please contact the corresponding manufacturer for the sensor in question. For third-party instruments, please contact the manufacturer.

NOTE: For support with EXO Multiparameter Water Quality Sondes contact YSI.

YSI
8 am - 5 pm EST
Tel +1 937-688-4255
Tel +1 877-726-0975 (US)
Email: ysi.info@xylem.com

SonTek
Tel +1 858-546-8327
Email inquiry@sontek.com

Global Water Instruments
Tel +1 979-690-1711
Email tech.support@xylem.com

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com

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YSI.com

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Let's Solve Water