

Content

1. Visualization	page 2
2. Power supply	page 2
3. Data memory	page 5
4. Communication and connection	page 5
5. Software and user interface app	page 6
6. Warranty	page 7
7. Calibration and Maintenance	page 7
8. Integration	page 12
9. Deployment and Applications	page 12
10. Accessories	page 13
11. Measurement variables	page 13
12. Materials	page 16
13. Differences and common points - three versions	page 16
14. Other topics	page 18

1. Visualization

Is external display available? If yes, what type of cable do I need? Can I use wireless technology such as Bluetooth®? Yes; Android displays are available at an extra cost, as well as the optional data cable that connects the probe to the display device (not for field use) and the optional Bluetooth® wireless technology battery pack, which works as a transceiver to connect to the external display. HyQual uses Bluetooth® wireless technology because the ports on mobile phones and tablets are not standardized for a proper cable.

2. Power supply

Which standard power supply comes with the units? What is standard and what is optional?

Various options are available and designed to meet specific requirements of the type of deployment of the HyQual sensor.

All HyQual models have an optional EBP External Battery Pack for a self-contained data logger for both continuous logging and spot measurements. This rechargeable battery is ideal for HyQual 300 and HyQual 300 T due to its 75 mm (3 ") diameter. It also works with the HyQual 200; it will look top heavy but it works well. The EPB is removable so you can replace it with a freshly charged battery right in the field. Please note that the use of EBP adds several millimeters to the length of the multiprobe.

If your power source is from the surface, and you are doing spot measurements, you can use any 6V to 15V power including the optional Bluetooth® wireless technology Battery Pack enclosed in a waterproof (IP67) case, which connects to the probe via the standard underwater cable running RS-232 or SDI-12. This battery operates only at the surface; its job is to power the multiprobe while you're pairing the instrument with a data display via Bluetooth® wireless technology.

HyQual connects to third-party devices (data loggers, samplers, telemetry, etc.) that supply power.

The use of USB port on a PC / laptop is another way of supplying power to the probes. For this purpose, it is necessary to have an optional USB adapter.

Would both battery types – Bluetooth and external (no Bluetooth) -- last the same? Yes

How long does the battery last? 40 days with a logging interval of 15 minutes in 25C water.

However, the battery consumption depends on the logging interval and site conditions as a general rule. All our choices of battery use the same type of battery. It gives eight hours of continuous operation but, when logging, in particular, the logging interval is an important factor.

Estimation of battery life for four different cases:

Case 1. Standard HyQual 200/ HyQual 300 (4 sensors) temp, SC, DO, and pH /ORP sensors:

With a 30-minute logging interval in room-temperature water, about 100 days of service.

Case 2. Standard HyQual 300 T (5 sensors) temp, SC, DO, pH /ORP and turbidity sensors:

With a 30-minute logging interval in room-temperature water, about 70 days of service.

Case 3. HyQual 200/HyQual 300 with additional depth sensor (5 sensors) temp, SC, DO, pH /ORP and depth sensors: Depth and pH draw essentially zero power, so the service would be with a 30-minute logging interval in room-temperature water, about 100 days of service.

Case 4. HyQual 300 T (6 sensors) temp, SC, DO, pH /ORP, turbidity and depth sensors:

Depth and pH draw essentially zero power, so the service would with a 30-minute logging interval in room-temperature water, about 70 days of service.

Is the Bluetooth® wireless technology battery pack external or internal/inside the probe?

The Bluetooth® wireless technology Battery Pack is external. Bluetooth® wireless technology is not very useful underwater.

When do I use the external battery pack EBP and when the Bluetooth® battery pack? Are there cases when I use both? The Bluetooth® wireless technology battery pack is external as well as the EBP.

They both use the same type of battery: lithium. The two battery types work for the three versions however, the EBP is meant to be used with HyQual 300 and 300 T due to its diameter of 75 mm

(3") -- but it can fit the HyQual 200. The 200 version with EBP will look top heavy, but it will work properly. The Bluetooth® battery pack works well with all probes.

The external battery pack is meant to be used for unattended monitoring, when continuous logging applies for an extended length of time and when the instrument power is not supplied from a source at the surface. The Bluetooth® Battery Pack only operates at the surface; its main purpose is to power the multiprobe while you're pairing it with a data display.

On the other hand, use the external battery pack when you do not wish to have downtime when you are charging the battery, as it is removable, you can replace it with a freshly charged battery when you do field work and visit the site.

Please note that the use of EBP adds several millimeters to the length of the multiprobe.

What battery pack do I need for unattended monitoring? Are both battery choices -- Bluetooth® and External battery (no Bluetooth) suitable? use the external battery pack (EBP) for HyQual 200, 300 or 300 T for unattended monitoring, this battery operates underwater, powering the multiprobe while it is logging automatically.

From reading the manual, I understand that when you connect the probe to an external power source, the probe prioritizes external power over battery for maximum battery life. Is this correct? Yes

If you use the external Bluetooth® battery power and with the external battery pack (EBP), would the probe first use the Bluetooth battery and then external that is plugged to the probe? Yes.

For my battery pack when looking in the log file at battery voltage, at what point will the probe stop logging? The voltage provided by an external battery pack (EBP) is shown as *cable voltage*. There is no fixed cutoff point, but any time the battery pack or cable voltage drops below about 5 VDC, the voltage may not be adequate for the HyQual probe to boot properly.

3. Data memory

How many logged readings do the probe have? All HyQuest Solutions multiprobes have memory for logging, but they need a power source. This standard internal memory allows for months of data logging. You cannot estimate the quantity of values you can log because different data strings require different amounts of memory. HyQual can log much more data than you would want to analyze – many months' worth of data before you would need to clear out the memory.

4. Communication and connection

What interfaces uses HyQual? RS-232 as standard output choice. SDI-12, MODBUS and Bluetooth® wireless technology are optional. Please note that for these optional outputs, you also need to add optional SDI-12 and MODBUS cables accordingly and for the Bluetooth interface you need the optional Bluetooth battery pack.

How does HyQual connects/communicate?

HyQual probes speak RS-232 protocol as their native language, but we provide converters for SDI-12 and MODBUS if you prefer.

The standard underwater cable running RS-232 or SDI-12/MODBUS connects the instrument to an optional Bluetooth® wireless technology Battery Pack to connect via Bluetooth® wireless technology to almost any smartphone, tablet, third-party devices.

The optional USB converter connects the probe to a PC / laptop via the underwater cable.

Additionally, the probes can be connected via the same underwater cable to an external control system, external data logger, etc.

Please note that SDI-12+ Modbus output require that the probes are equipped with the SDI-12/MODBUS interface module.

How do I transfer or export data from the probe via the underwater cable? Is it Bluetooth® wireless technology possible? Yes, in general, most people who are doing spot measurements use the Bluetooth® battery pack when they are in the field to connect via the underwater cable to a

data display device such a Tablet and with the use of the user interface app manage the data. Other persons often use a PC / laptop when in the lab / office.

In case I do not have Bluetooth®, what port do I need on my laptop and what software?

You can connect a HyQual probe to a PC / laptop with our optional USB adapter.

The USB port will power the instrument. HyQual Control software is needed.

What is the range of the Bluetooth®?

The range is hard to estimate due to differences in Bluetooth® wireless technology over the years.

You can estimate your Bluetooth® range by connecting the HyQual probe to the Bluetooth® Battery Pack, pairing it with a Data Display like an android device and gradually walking with the Data Display until the connection breaks. You should get a connection of at least 100 ft (30.5 m).

How much time does the Bluetooth® Battery need to fully charge? We recommend charging it overnight, but you can get a partial charge in an hour or two.

5. Software and User Interface App

About the Geofencing feature on the app, how is the GPS metadata stored? How can I access it for my archive and cross-check it? The GPS data is stored on the specific tablet, separate from the probe data. First, within your tablet's settings, turn on Location Services. You'll have to export the GPS metadata as your tablet and its operating system permit.

Can I change the date format in the software? You cannot. The format is mm/dd/yy. However, you may download the data and then change it in an Excel sheet if you need or prefer.

Does the software have a COM port limit? Is there a maximum number of devices to which I can connect? Can I connect to probes by other brands? Our COM ports are unlimited.

What COM port should I use? You should have little concern about choosing a communication port (COM port); the PC / laptop will identify it. Please see the user manual on the [HyQual webpage](#), and the topic "Choosing Calibration Standards".

Is the highlighted / colored top line an average of the values or the latest reading? Data in the highlighted / colored band is the most recent data obtained from the HyQual probe.

6. Warranty

What is the life expectancy of the sensors? A three-year warranty is offered on the sensors, which typically last at least five years.

What does the 3-year warranty of HyQual probes cover? It covers the probe, all the sensors and some accessories.

7. Calibration and Maintenance

Is barometric pressure needed for the calibration of the dissolved oxygen (DO) sensor? YES

How do you set the barometric pressure for calibration? To set the Barometric pressure, use the HyQual Control software or User Interface App. You either need to have a barometer (don't use the weather station's BP value because it's corrected to sea level) or if you do not have a barometer, enter your elevation and barometric pressure will be estimated. If you have a depth sensor, click the "Get BP" button and it will ask the depth sensor for the barometric pressure value.

For more information, see [Chapter 11](#) of this document.

Note: Make sure the probe is not under water, so it is looking at air pressure -- not water pressure.

How often do HyQual probes need to be calibrated? That depends on a number of factors, including the nature of the waters being monitored and your expectations for accuracy. We suggest that you start by calibrating once per week and shorten or lengthen that interval as the data suggest.

How do I know when I need to maintain the sensors?

Insight gained from observing your field conditions and data requirements suggest when you must maintain sensors. If you are (continuously) logging data over long periods (unattended), the time you go into the field to collect data from the HyQual is a good time for maintenance & calibration.

What is the range of millivolts (mV) for each pH solution?

With the HyQual, you do not need to worry about mV and frequent replacement of the pH / reference electrode like other multiprobes require. With the HyQual probe, just refill your reference electrode every two months or so and forget about mVs.

How do you clean the sensors?

A soft brush, water and soap are all you need to clean the sensors. If you need more than that, you could use more aggressive chemicals but be careful with the top of the sensors where the measurement faces are located

How do I know when I need to calibrate my sensors?

Considering that a frequent calibration ensures better data, the more meticulous you are with calibration, the better data you will get. If you are uncertain whether you need to calibrate, check your sensors against a known sample. If the reading is within the accuracy specification and/or your accuracy expectations, there is no need to calibrate.

Experience and your program's accuracy expectations will help determine calibration frequency for the various sensors. For instance, if your reservoir discharge is hovering near the regulatory minimum for dissolved oxygen (DO), pay special attention to DO calibration frequency and technique. On the other hand, if a conductivity accuracy of +/- 10% is OK, you will not need calibrate conductivity very often.

How often do I need to replace the reference electrode of the pH/ORP sensor? HyQual probes allow you to refill the reference electrode of the pH/ORP sensors. Refill the reference electrode by unscrewing the cap, putting in more electrolyte, and screwing the cap back on.

How often should I change the pH electrolyte? Electrolyte usually lasts two months or more. But if you are logging data, or monitoring in water with very low conductivity, change your electrolyte each time before you recalibrate pH if possible. You may learn a better rule of thumb as you review your data. Overall, we recommend that you to change your electrolyte every month. Changing electrolyte takes only a minute and it is basically free.

How long will my dissolved oxygen (DO) cap last? With a HyQual probe, expect your DO caps to last five years or more. You can see the condition of your cap when you calibrate the DO sensor.

How often should I change my turbidity wipers? Wipers usually last for years, but you should change them if they get stiff or you notice nicks in them.

Can I replace the sensors myself, or do I have to ship the HyQual probe to HyQuest Solutions?

HyQuest Solutions sensors seldom need replacement; hence, the three-year warranty is offered, not a one-year warranty for other probes and sensors. If you have a problem, HyQual sensors are easy to replace. Contact [HyQuest Solutions Customer Service](#) for assistance.

How Do I Choose Calibration Standards?

For best results, choose a calibration standard with a value close to what you expect to see in the field. For example, calibrate with a 1413 μS Specific Conductance standard if you expect to see Specific Conductance between 500 and 1000 μS in the field. Don't calibrate with a sea water standard. If your waters tend to be acidic, calibrate with a 4-buffer instead of a 10-buffer.

If you are moving the same HyQual probe across wide ranges of water conditions, you may wish to recalibrate it to match the new situation. For instance, if you are measuring a clear lake during the morning and a high-sediment stream in the afternoon, consider recalibrating at noon with a high-range turbidity standard.

What is the meaning of SRF in the control software or user interface app? HyQual multiprobes

provide a Sensor Response Factor (SRF) is a metric or figure of merit for the calibration. SRF is based on 100 as reference value; it shows the sensor's performance in relation to the standards used in development and production. SRF helps indicate if calibration was properly done.

Many competitor brands do not provide sensor response values; if you have a wrong or old standard and you falsely calibrate your instrument, you would not know it and the quality of your data collected after this calibration could be suspect.

Suppose that a typical Conductivity sensor reports 100 μA in a 1413 $\mu\text{S}/\text{cm}$ standard. If your particular Conductivity sensor reports 100 μA in that same calibration solution, then your SRF is 100%. (Some parameters such as pH have a more complex SRF calculation, but the effect is the same.) If your response is 80 μA , your SRF would be 80%. When you click the "OK" button to accept a calibration, the HyQual probe automatically accepts your calibration if the SRF is between 60%

and 140%. If the SRF falls outside that range, you will be cautioned to check your standard value, make sure the sensor is clean, make sure the reading has stabilized, etc. You *can* elect to accept any SRF. Each sensor calibration's Sensor Response Factor (SRF) is automatically logged into the Cal, recording details of that calibration.

What is a good SRF?

Generally, a SRF between 80 and 120 is good, and 60 to 140 is acceptable. If your SRF is outside these limits, check your standard value and the maintenance condition of your sensor.

Do I Have to Calibrate Temperature? No, the Temperature sensor does not need calibration.

What is the Basic Calibration Procedure?

The HyQual probe never guesses parameter values, so you have to calibrate it from time to time by simply telling the instrument what it should read in a known calibration situation.

The general procedure is outlined, below:

1. Clean the sensor and perform any necessary sensor-specific maintenance.
2. Select a calibration standard whose value is close to the values you expect to see in the field.
3. Rinse sensors thoroughly (more than once may be required) with deionized (DI) water, especially if you have been using other calibration solutions. Vigorously shake the HyQual probe, so the DI can remove traces of old calibration solutions and cleaning agents. Repeat if necessary.
4. Rinse the sensors twice with a small quantity of your calibration standard. Discard the used calibration standard because it is probably contaminated with DI water.
5. Immerse the sensor in the calibration standard. This is usually accomplished by securing your HyQual probe with the sensors pointing up, screwing the cup onto the HyQual probe, and filling the cup with your calibration standard. Make sure the standard entirely covers the sensor, and that it also covers the thermistor for parameters that are temperature-compensated.
6. Watch the parameter readings until they have stabilized.

Select the parameter to be calibrated. From the Probe menu option, choose “Calibrate” in the HyQual Control software and then click on the parameter you wish to calibrate. (Click “Calibrate” in the User Interface App and then choose the parameter.)

For Parameters that have two calibration points, specify which you wish to calibrate (usually High or Low). Enter the calibration value and click “OK”. The HyQual will report the resulting Sensor Response Factor (SRF). Then click “OK” to accept the calibration or “Quit” to leave the sensor uncalibrated.

Please see the user manual available on the [HyQual webpage](#), topic Sensor warm up.

7. Each sensor calibration’s Sensor Response Factor (SRF) is automatically logged into the Cal. Record with the details of that calibration.

For more information about calibration, see slides 29 - 42 in the [online Technical Training Guide](#).

Can I Use Cal. Solutions More Than Once? If your quality control (QC) protocol requires fresh Cal. solutions for every calibration, then you may discard the once-used solutions. If your QC protocol does not require, then your sensitivity cost and accuracy will determine whether you can re-use Cal. solutions. For instance, if you want your field conductivity readings to be within 1% of reading, then fresh conductivity Cal. solution, which is not very expensive, should be used every calibration. If you are not keen on turbidity accuracy, you can probably reuse your turbidity Cal. solution once or twice because it has a higher cost than other solutions.

What standard should I use to calibrate conductivity (SC)? What type? For any parameter, use a calibration standard that is near the highest reading you anticipate in the field. For instance, if your lake usually runs about 1000 $\mu\text{S}/\text{cm}$, then calibrate with the readily available 1413 $\mu\text{S}/\text{cm}$ KCl standard. Note that some sensors (not SC) have two calibration points; the second point should be set at a convenient low point, usually zero.

What is the difference between calibrating % sat or milligrams per liter for dissolved oxygen (DO)? Percent saturation (% sat) indicates the amount of oxygen compared to the amount if the water were saturated with oxygen. Milligrams per liter (mg/l) indicates the amount of oxygen dissolved in one liter of water. For instance, if your HyQual probe read 6.0 mg/l and the saturation tables indicate that at that particular temperature, salinity and barometric pressure, the saturation

value was 8.0 mg/l, then your % sat would be $6/8 = 75\%$. Use either measurement or both, but % sat is helpful during DO calibration because it should always be 100%.

What is the different between the Amco Clear turbidity standard and StablCal? Amco Clear is made of polymer beads; StablCal is a formazin compound. Most people want turbidity measurements referenced to formazin, so use formazin or StablCal for calibrations. The polymer beads are cheaper and more stable, BUT you must know the equivalent formazin value for any polymer bead standard. You cannot rely on the polymer-bead label; you must check it with your own instrument after the probe has been calibrated with formazin or StablCal.

8. Integration

For the following options available: depth sensor, SDI-12 and MODBUS output, external lithium battery, Bluetooth® wireless technology battery pack and/or addition of sensors, can they all be used together or may certain configurations conflict with the use of the others?

No; all those products can be used on the same multiprobe.

Does HyQual integrate to HyQuest Solutions data loggers?

HyQual probes integrate with the family of data loggers iRIS by HyQuest Solutions.

9. Deployment and Applications

For questions related to power supply please read [chapter 2](#) of this document.

How do I deploy my probe when there is no bail hook? Is it OK to hang the instrument by the cable? How much weight will the cable hold?

When properly attached, the HyQual Underwater Cable can support well over 50 lbs (22.7 kg) without requiring a Bail Kit. You can hang the HyQual probe by the Underwater Cable *if* the load is not likely to exceed 50 lbs (22.7 kg). Please be aware that the flow velocity may influence the load.

What anti-fouling products do you offer? We offer copper replacements for copper gauze anti fouling kits

Why is it important to check water temperature in a range of temperatures in the lab before deployment? How often? It's not that important. The HyQual design has been tested many times to ensure it accounts for water temperature everywhere necessary, such as when calculating DO saturation.

10. Accessories

What underwater cable lengths are available, and are they standard or optional?

We offer 5m, 10m, 20m, 30m, 40m and 50m cable lengths and they all are standard in the different package choices.

What cleaning accessories are available for the HyQual probe? HyQual 300T has a standard wiper for the turbidity sensor.

Do you have special protection or a case for unattended monitoring? Yes, we offer a protection pipe kit that fits all HyQual models and protects them from external conditions such as stones or sticks. You can also add a pipe on the system with a longer longitude to locate it in more difficult measuring points.

11. Measurement variables

What is the maximum number of parameters HyQual200 and HyQual 300/300T can measure at the same time? There is a difference between parameters and sensors in that one sensor can provide several parameters. For instance, the conductivity sensor provides the parameters conductivity, specific conductivity, total dissolved solids, salinity, and resistivity. 200 and 300 versions have a maximum capacity of six sensors: temp, DO, SC, pH, ORP, and depth.

What is the maximum number of sensors HyQual300T can have at the same time? HyQual 300 T has a maximum of seven sensors: temp, DO, SC, pH, ORP, depth, and turbidity. (The same six parameters measured by the HyQual 300 and turbidity.)

How do HyQual probes measure depth?

Choice 1: Standard non-vented capacity + optional depth sensor:

When located at the riverbed when taking measurements, the probe measures the Absolute Pressure = Barometric Pressure (atmospheric pressure) + Water Pressure (water column pressure), and then converts that pressure to water depth.

Choice 2: Optional vented capacity + optional depth sensor:

When vented capacity is used, the calculation of depth is more precise as it does not depend on theoretical values, variation values resulting from the spot of measurement, climate conditions in the specific moment of measurement or others which affect the calculation of Barometric Pressure with a non-vented capacity.

In this case, the value of depth is obtained by correcting the Absolute Pressure for Barometric Pressure, which the instrument does automatically.

Please note that vented capacity is optional, it requires to add an optional depth sensor, optional vented depth capacity, and an optional vented cable. Additionally, this capacity is incorporated in the probe so you will add it when purchasing the probe. If you happen to have a probe and need to incorporate this capacity, you will have to send the probe back to us at your own expense.

How do HyQual probes measure Barometric Pressure?

Barometric pressure is calculated with the use of the depth sensor therefore, you will need to add an optional depth sensor to any of your probes HyQual 200, HyQual 300 and HyQual 300T.

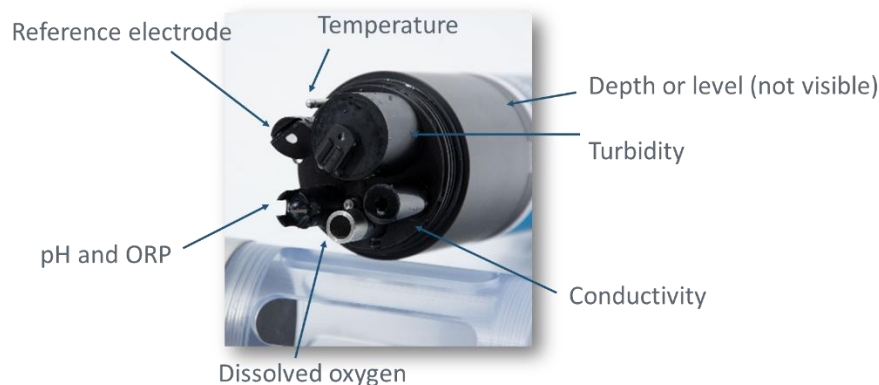
When Absolute Pressure method is used (non-vented capacity) there are three ways of obtaining the value of Barometric Pressure:

- a) With the use of a theoretical Barometric Pressure
- b) With the use of the depth sensor, by taking the probe out of the water and placing it at the water surface so that the probe only measures the Barometric Pressure
- c) With a barometer (any brand)

Please note that barometric pressure value is needed for the calibration of the DO sensor.

Are Salinity and Total Dissolved Solids (TDS) calculated values? If so, are they calculated from conductivity and temperature? Salinity and TDS are calculated from conductivity and temperature

How do I know which sensor is which?



Do the probes have standard both sensors, pH and ORP ? The oxidation-reduction potential (ORP) sensor is standard; it is not an option as in most other probes. The inclusion of an ORP sensor is uncommon for an instrument in this price range; normally ORP is a high-margin add-on.

Most competitor brands offer one or the other sensor; both pH and ORP sensors are not standard. In HyQual probes, both pH and ORP are standard.

Why is it important to check the Conductivity (SC) reading in air? What should it be? A well-dried SC sensor should produce a zero reading in air. This indicates that a one-point calibration is adequate.

Can I see the slope calculation for pH? Yes, you can. Look at the millivolts (mV) readings in your calibration log. There is little to no need to do this task with a HyQual probe because the reference electrode seldom needs replacement, i.e. you need only monitor pH slope for devices by manufacturers whose reference electrodes always move toward failure and require replacement of the pH/reference sensor.

Will my HyQual probe also report Total Dissolved Solids (TDS) and/or Salinity? Yes.

Can I customize the HyQual probe with different configurations of sensors? Yes, you can. The standard packages currently offered include all the sensors but you can customize your probe by reducing or adding these sensors: Add depth sensor, remove Dissolved Oxygen sensor, remove pH/ORP sensors, remove Specific Conductivity sensor.

Why can a turbidity measurement read negative? The Turbidity reading has been designed to read negative, in order to indicate a problem with the Turbidity Low calibration. For instance, if you calibrate at zero with water that is actually 5 NTU, then any sample less than 5 NTU will read negative. Recalibration would be needed. Some manufacturers “clip” Turbidity readings at zero to avoid this issue; the practice is misleading and fails to record good information.

12. Materials

From what materials are the probes made?

The probes are made from 303 and 316 stainless steel, polyacetal (Delrin), PVC, Teflon, ABS, titanium, Viton, neoprene, silicone, and glass.

Are all the battery types (Bluetooth® and external (no Bluetooth)) lithium? YES

13. Differences and common points among the versions, HyQual 200, HyQual 300 and HyQual 300T

What is common among the 3 type of probes?

- a. They all offer an industry leading 3-year warranty.

- b. They all come with the following standard sensors:
Temperature sensor, Dissolved Oxygen, Specific conductivity and pH/ORP.
- c. Depth sensor is optional.
- d. Vented capacity is optional.
- e. They all have an internal memory allowing months of datalogging.
- f. The maintenance kit and carrying case are all standard.
- g. Interfaces: RS-232 is standard. SDI-12 and MODBUS, *Bluetooth*[®] wireless technology are optional.
- h. Options:
Depth (level) sensor, *Bluetooth*[®] wireless technology battery pack, calibration solutions, copper antifouling kit, USB adapter (connect DB9 to USB), integrated SDI-12 and MODBUS output, SDI-12 adapter cable, MODBUS adapter cable, Android display.

What are the differences among HyQual 200, HyQual 300 and HyQual300T?

- a. HyQual200 (0.82 kg, 50 mm x 47.8 mm) and 300 versions (HyQual300 and HyQual300T: 1.63 kg, 75 mm x 47.8 mm) have different diameter, mass and price.
- b. HyQual300T by default has a turbidity sensor and a wiper.
Wiper and turbidity sensor are not included nor an option on HyQual200 and HyQual300.
- c. HyQual300 and HyQual300T have both an optional Rechargeable EBP External Battery Pack (for unattended /stand-alone monitoring). You can also use it for HyQual200 but the diameter of the battery is larger than the diameter of the probe, it will look top headed with the battery works properly.
- d. HyQual200 and HyQual300 hold up to 6 sensors at the same time:
Temperature, Dissolved Oxygen, Specific conductivity, pH, ORP, Depth.
- e. HyQual300T up to 7 sensors at the same time – the same 6 plus turbidity.

14. Other topics

Can HyQual probes be used for seawater applications? Yes; they can operate in a temperature range from -5°C (23°F) to +45°C (113°F) and submersed down to a depth of 50 m (164 ft).

What do the LED's mean?

Please see the first chapter of the user manual available in Downloads on the [HyQual webpage](#).