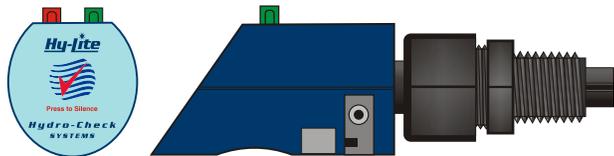


Hy-Lite Resistivity Indicators

Installation & Operation

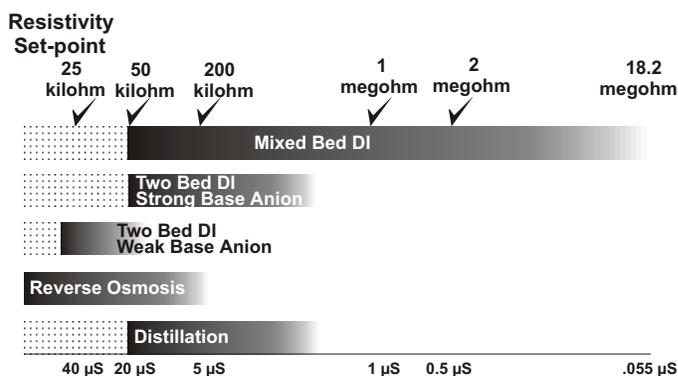


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4/02

Application



Warranty

The **Hydro-Check Systems Hy-Lite, Modules**, and accessories have a warranty against defects in materials and workmanship for a period of 2 years from the date of manufacture. Warranty items returned prepaid will be repaired or replaced by the factory at no charge. Warranty applies only to product defects and **Hydro-Check Systems** accepts no other liability.

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Introduction

Your **Hy-Lite** resistivity indicator incorporates Auto Temperature Compensation and Surface Mount Technology circuitry for accuracy unequalled by other pure water "quality lights". Proper TC design is especially important in highpurity applications because the effect of temperature on resistivity/conductivity values varies significantly withpurity level. For increased accuracy, the **Hy-Lite** ATC has been range-tuned to the appropriate TC factor for the particular set-point resistivity.

Flashing Red LED and Integral Audible Alarm (non-alarm optional) insures fast response tochanging water quality.

Hy-Lites can perform as acontroller or remote indicator by connecting Relay & Remote AlarmModules to the output port.

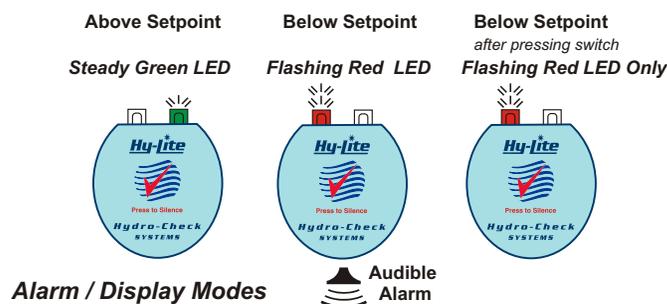
An insertion style resistivity cell allows for easy installation and rotational positioning. Stainless Steel electrodes require no special care.

Unique unit-to-unit power sourcing allows up to **6 Hy-Lites** to be plugged into each other, reducing congestion at the wall outlet. Operational power is a safe 12 VDC supplied by a plug-in style transformer.

The **Hy-Lite** is virtually maintenance free in many applications, and will provide yearsof trouble free service.

Operational Modes

The **Hy-Lite** Green & Red LED's continuously display the status of water purity relative to the set-point resistivity indicated on the top label. Whenever the water is of higher purity than the set-point, the Green light remains on. Should the water purity fall below the set-point, the Red light begins flashing and the audible alarm (HLA Models Only) will sound. The alarm is automatically silenced and circuit reset by the return to a Green-light status. The alarm can be manually silenced during theRed-light condition by pressing the Red "Check" symbol on the front label. Once silenced manually, the alarm will not resound until the next Green-to-Red shift of the LED's.



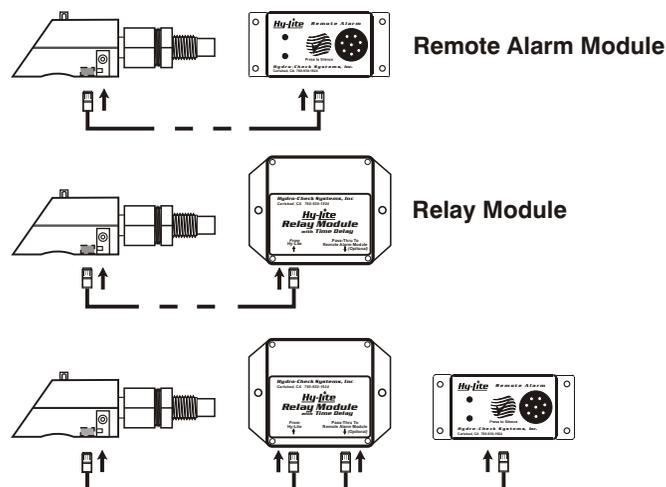
Output Port for Relay & Remote Alarm Modules

For applications requiring remote indication or basic control function, both the HLA & HLS model Hy-Lites have an output port for connection to the Hy-LiteRemote Alarm or Relay Modules.

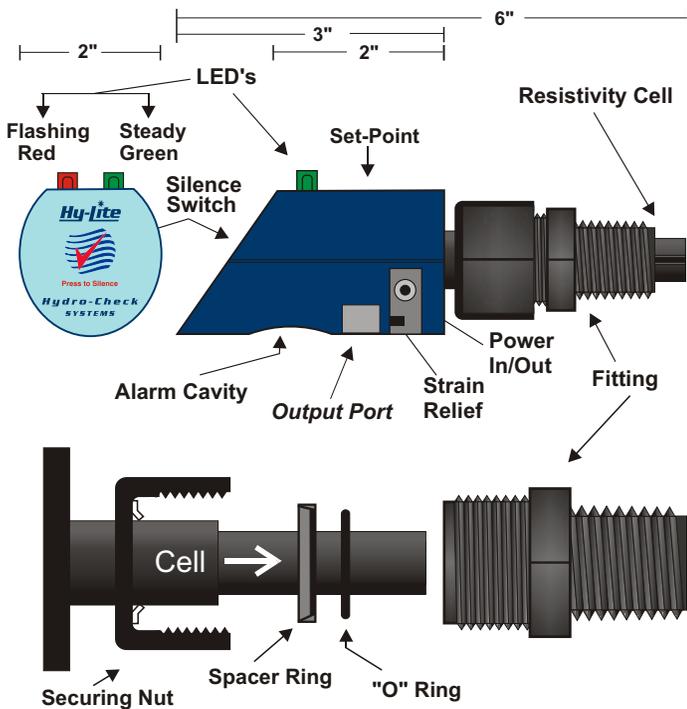
The **Hy-Lite Remote Alarm Module** is a "repeater" of theHLA Hy-Lite. A peizo alarm is contained in the wallmountable enclosure. As with the Hy-Lite, the module's front label contains an electronic membrane overlay switch for manual silencing of the alarm. This label also contains integral greenand red LED's. Operational status of the alarm module isidentical to the connected Hy-Lite. Both units act as a system, since silencing the alarm at either location will silence **both** alarms.

The **Hy-Lite Relay Module** allows the Hy-Lite to perform as a controller with the versatility to be connected to valves, custom alarm systems, PLC's, autodialers, etc. A 1 amp SPDT undedicated relay has NO and NC contacts enabling control above or below the Hy-Lite set-point. The circuit also incorporates an adjustable time delay feature often desired to compensate for expected equipment "rinse-up" times. A special signal pass-thru feature permits the Relay Module to be used in conjunction with a Hy-Lite Alarm Module. The pass-thru can beadjusted to incorporate the relay's time delay, or direct undelayed signal to theRemote Alarm Module.

The Hy-Lite output port and modules utilize a telephone handset style connector for easy, "click-click", installation. Patchcords are available in 10', 50', 100' & 200' lengths. The modules can be installed at distances up to 700'. Custom lengths can be ordered, or easily fabricated in the field with the aid of an appropriate crimping tool (consult factory).



Identification Drawing



Specifications

Accuracy: ± 3% @ 5-45°C

Repeatability: ± 1%

Temperature Compensation: Automatic to 25°C from 5-45°C

Available Set-Points: (single fixed) 25, 50, 200 kilohm-cm @ 25°C
1, 2 megohm-cm @ 25°C

Visual Display: Steady Green & Flashing Red LED's

Audible Alarm: Peizo-electric with membrane reset switch;
in excess of 70 dB @ 3 feet, 4 kHz ± 10%

Circuitry: Surface Mount Technology (SMT)

Input Power: 12VDC (isolated) ; 30 milliamps

Output to Module Interconnection: 4 wire, 26ga, UL4110 telephone
cable with FCC 68 modular handset connectors

Transformer: Plug-in, class 2, UL & CSA approved,
Input 110 VAC, 50-60 Hz / Output 12 VDC @ 200 milliamps
integral 6' cable. **Alternate transformers available, inquire**

Hy-Lite to Hy-Lite Patchcord: 8' with male termination's

Materials of Construction: Wetted: 303 SS, ABS, Polypropylene,
Viton® fluoroelastomer¹
Non-Wetted: enclosure-ABS labels- polyester

Operating Pressure: 0 - 150psi **Fittings:** 1/2" or 3/4" mNPT provided

Dimensions: overall length - 6" ...enclosure length - 3" ... width - 2"
overall height w/LED's - 2"

¹Viton® is a registered trademark of DuPont Dow Elastomers.

Installation

The Hy-Lite resistivity cell is designed for insertion in either the "branch" or "run" of standard tee's with 1/2" or 3/4" NPT threads. The provided compression fittings allow for easy installation and rotational positioning of the instrument. As with most cells, horizontal orientation is recommended to avoid any possibility of bubble accumulation near the cell in the tee.

Step 1: Select the 1/2" or 3/4" mNPT fitting body appropriate for the tee. If the fitting body is already assembled on the Hy-Lite, remove by unscrewing the securing nut and sliding fitting body off the resistivity cell.

Step 2: Apply a wrap of Teflon tape to the pipe threads of the fitting body.

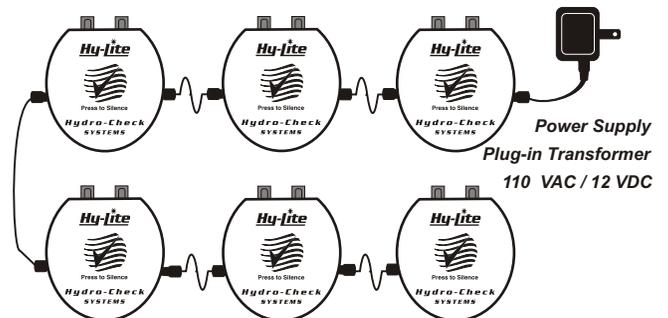
Step 3: Thread the fitting body into the tee hand-tight. Then tighten an additional 1/2 - 1 turn with a 1 1/8" (29mm) wrench.

Step 4: Before installing the Hy-Lite into the fitting, confirm O-ring & spacer ring are on the cell in the order shown. NEVER attempt to remove the securing nut.

Step 5: Insert the cell into the fitting body until contact is made with the securing nut. Partially thread securing nut on the fitting. Rotate and hold the Hy-Lite to desired position before fully securing the nut... hand-tighten only.

Step 6: Plug in the power cable from a Hydro-Check 12VDC transformer OR Hy-Lite patchcord into **either** of the Hy-Lite's female power jacks. Then loop some of the cable into the adjacent strain relief and gently pull to remove slack.

Step 7: Plug transformer into AC outlet... OR -- Plug patchcord into female power jack of another Hy-Lite.



Care & Maintenance

Years of accurate and reliable operation can be expected from your Hy-Lite Resistivity Indicator. The Hy-Lite requires little or no maintenance when in service with water purities consistent with available set-points.

1) CELL - The Stainless Steel electrodes never require any special conditioning or replating. Occasional inspection and cleaning, if necessary, is recommended when a water system is prone to accumulation of "biofilms" or other debris. For many applications cleaning is never necessary. In critical applications, cleaning annually, or a routine system sanitation is entirely adequate.

If the cell should require cleaning, immerse the cell portion only in a solution of glassware cleaner, bleach, hydrogen peroxide, or HCl (4%) for several minutes. A tissue, brush, or pipe cleaner can be used to aid in the removal of any noticeable coating on the electrodes. Once cleaned, rinse thoroughly with pure water.

2) GENERAL CARE - The Hy-Lite electronics enclosure is sealed and designed to withstand splashing. However, never immerse the enclosure in water.

Please also observe the following:

- Do Not expose the Hy-Lite to solvents or other chemicals potentially damaging to the enclosure, wetted materials, power jacks, or labels.
- No more than 6 units should be powered by a single transformer.
- The transformer is not rated for outdoor use.
- Do Not exceed the pressure and temperature specifications.
- Keep all objects and surfaces at least 2" from the alarm cavity.
- Occasionally inspect power jacks for evidence of corrosion.
- Do Not attempt to open or repair your Hy-Lite.
- Please contact the factory if you have any questions!