

RKM-SL1

User Guide



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Important Information

Icon Definitions



A exclamation point within an equilateral triangle is intended to alert the user of a cautionary notice to which attention should be given prior to the products usage.



A lowercase "i" within a circle is intended to alert the user to the presence of important operating information in the literature accompanying the product.



A jagged arrow within an equilateral triangle is intended to alert the user of a possible hazardous warning that involves the possibility of electrical shock.

Disclaimers

- As with most electronic devices direct contact with water will cause irreparable damage and is not covered under any warranty.
- The RKM-SL1 carries a limited 1 year warranty.
- All probes sold by Digital Aquatics have limited 30 day warranty. Some probes may be covered by the manufacture and not Digital Aquatics.

Commonly used abbreviations

Abbreviation	Definition
RKE	ReefKeeper Elite
SL1	Sensor Lab 1

1 Introduction

This is an overview of the RKM-SL1. Digital Aquatics recommends that you read the entire manual before using or installing this device into your system.

This module offers multiple input options from pH, ORP and temperature, to micro switches. With the SL1 connected to your RKE system you will have the ability to monitor the listed inputs and control channels based on those inputs. Making it a powerful component of your system!

If you have any questions after reading this manual please e-mail support@digitalaquatics.com.

2 Product Overview

2.1 Specifications

- Temp Input
- pH Input
- ORP Input
- Two switch Inputs

2.2 Included Hardware

Each NEW RKM-SL1 will come with the following items.

- 1 x RKM-SL1
- 1 x 6' Bus Cable
- 2 x Mounting screws

2.3 System Layout

1. Status/Channel LEDs
2. Bus Cable ports
3. pH Probe port
4. Temp Probe port
5. Switch A and B port
6. ORP Probe port

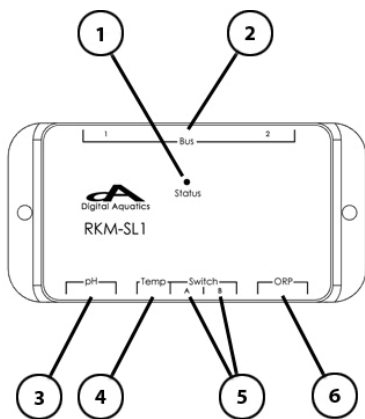


Figure 2a: RKM-SL1 Layout

3 Getting to Know the RKM-SL1

3.1 Care and Maintenance

The RKM-SL1 is relatively maintenance free. As mentioned earlier it is important, as with most electronic devices to keep it dry!

If you experience issues with taking measurements with your SL1 first see the trouble shooting section for some common solutions that might help you. If that doesn't work please check our website for any service bulletins or email support@digitalaquatics.com.

3.2 Installation, Setup and Use

3.2.1 Getting Started

Before starting make sure the RKM-SL1 is plugged into the bus of the RKE system. Make sure the status LED is a steady blue and NOT blinking. If the LED continues to blink longer than about 3 seconds refer to the trouble shoot guide.

3.2.2 Module Installation

Care and discretion should be used when installing an SL1. Proper installation practices should be used for continued safe operation of this device. Never place a SL1 directly on the ground doing so will allow water to flow down a probe cord to the SL1 and that will damage the unit.

3.2.3 pH

While most standard pH probes will work, Digital Aquatics recommends PinPoint probes. They can be found on our website as a kit including calibration packets and at a very competitive price. Prior to calibration, please make sure to have the pH calibration packets handy.

Installation

1. Remove the probe from the package and connect the BNC plug into the port labeled pH on the SL1.



We've found that letting the unopened packets sit in your sump or tank will bring them up to the system temperature and can improve the accuracy of the probes readings.

2. Remove the protective cap on the tip of the pH probe.



Some build up of a salty type material may have happened during storage/shipping. This normal and ok, the probe can be rinsed off gently in RO water.

3. Follow the calibration steps that the RKE system guide walks you through.

For more tips on pH probe care and maintenance please visit our website, www.digitalaquatics.com.

3.2.4 ORP

Digital Aquatics recommends that you use PinPoint ORP probes with the SL1. They can be found on our website as a kit including calibration solution and at a very competitive price. Prior to calibration, please make sure to have a ORP calibration packet handy.

Installation

1. Remove the probe from the package and connect the BNC plug into the port labeled ORP on the SL1.



We've found that letting the unopened packets sit in your sump or tank will bring them up to the system temperature and can improve the accuracy of the probes readings.

2. Remove the protective cap on the tip of the ORP probe.



Some build up of a salty type material may have happened during storage/shipping. This normal and ok, the probe can be rinsed off gently in RO water.

3. Follow the calibration steps that the RKE system guide walks you through.

For more tips on ORP probe care and maintenance please visit our website, www.digitalaquatics.com.

3.2.5 Temperature

The temperature probe that is used by Digital Aquatics is a proprietary probe. The only place to find them is at www.digitalaquatics.com or at an authorized dealer.

Every new RKE system comes with a Digital Aquatics temperature probe. Temperature probes come calibrated and shouldn't need to be adjusted. Just as with other probes, calibration may be needed as the probe ages.

For calibration steps please see the RKE system guide.

Also just like other probes the temperature probe is fragile and can be easily damaged. Suggested installation is a STRESS FREE dangle in either the sump or overflow with good water flow. Pinching, crimping, clamping or tying-off to hold in place can all damage the probe.

For more tips on Temperature probe care and maintenance please visit our website, www.digitalaquatics.com.

3.2.6 SWA/SWB (Switch A / Switch B)

The SL1 is equipped with two switch inputs. You can use these inputs to detect or trigger any number of events that you program into your system. A switch input is triggered with an external device such as a micro switch, float switch or manual button. There are any number of devices can be use to trigger an event based on the switch input.



Never connect power to either pin of the Switch port. Doing so can permanently damage the SL1 and is not covered under warranty! Switch A and Switch B are activated by simply shorting their connections.

3.3 Updating Firmware and the Interface Module

The Interface Module that came with your ReefKeeper system will be use to update or reprogram the RKM-SL1 if needed. To update the firmware follow the instructions that came with the Interface Module or in the help menu of the updater application.

4 Troubleshooting

Troubleshooting

Issue	Possible Solution
The status LED keeps blinking.	The SL1 is powered but not recognized by the system
The SL1 is plugged in but the light is not on.	The SL1 is not being powered by the bus
pH is reporting an incorrect reading.	<ul style="list-style-type: none"> • pH probe is damaged or old • Dirty/corroded terminals on the module or plug.
Temperature is incorrect or erratic and calibrating does not help or is not possible.	<ul style="list-style-type: none"> • Dirty/corroded terminals on the module or plug. • Temperature probe has failed and needs to be replaced. (Temp probe as a 30 day warranty.)
ORP is reporting an incorrect reading.	<ul style="list-style-type: none"> • ORP probe is damaged or old • Dirty/corroded terminals on the module or plug.
Switch inputs are not reading correctly.	<ul style="list-style-type: none"> • Dirty/corroded terminals on the module or plug. • Faulty switch

A Appendix A

Technical Notes

There is currently no information in this section.

B Appendix B

Modules and Accessories

The following is a list of approved accessories for the RKM-SL1.

Accessories	Ordering Part Number
Digital Aquatics Temperature probe	30-0007-001
Digital Aquatics Switch Input Leads	
PinPoint pH probe kit	30-0008-000
PinPoint ORP probe kit	30-0020-000
Bus Cables (different lengths)	See the Digital Aquatics online store



Warning

We do not recommend that customers make their own bus cables. Poorly made cables will cause system-wide failure that is not covered under warranty! We recommend ordering an approved and tested bus cable from Digital Aquatics if a longer cable is needed.



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7/15/2008 - 34-0015-001 - Rev B