SL-3

SYSTEM MONITORING

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OWNER'S MANUAL

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General Information

This Owner's Manual provides the owner and service provider with information to install and maintain the Septilink SL-3. Please read and become familiar with the information provided in this manual before installing or operating your unit.

The SL-3 is a versatile monitoring solution that monitors up to four AUX Inputs and three controlled outputs.

Monitoring

SL-3	
Power Consumption (Amps)	X
4 - 120VAC or Contact Closure Inputs	X
3 - Control Outputs 150mA to GND	X
GPS Location	X
Power Loss Detection	X
Power Surge Detection	X
Network Status (Carrier, Signal Strength, 2G/3G/4G/5G	X
Tamper Alarm	X

Specifications

Electrical	
Operating Power	120VAC 20 Watts
Max Pass-through Current	120VAC 30 Amps

Features
Color-Coded, Tool-free WAGO Wire Terminals
Reliable Pass-Through Operation
Surge Protection with LED
Internal Status LEDs
Hinged Cabinet with Door Open Detection
Power Fail Detection and Reporting
1 Year Warranty

Communications (LMU2650MB)	
Cellular/Network	LTE CAT-M1 GSM Fallback
Cellular Antenna	Internal
GPS Antenna	Internal
Battery	Internal 1100mAh

Physical Dimensions	
Dimensions	8” x 6” x 4” 203mm x 152mm x 102mm
Weight	4 lbs 1.8 kg
Mounting	Feet suitable for uneven surface.
Material	Polycarbonate

Environmental	
Temperature	-30°C - 60°C (-22°F - 140°F)
Enclosure Rating	Type 4X, 12, and 13

Certifications	
UL	Intertek 5031152 Conforms to UL STD 61010-1 Certified to CSA STD C22.2#61010-1
Enclosure UL	Type 1, 3R, 4, 4X, 12 UL 94-5VA CE Certified cULus Listed File #E319779 cULus Listed File #E362920 Outdoor Exp UL746c (f1) Rated
FCC ID	APV-2650MB
IC	5843C-2650MB

Installation Instructions

The SL-3 is designed to be installed on single electrical circuit systems (30 amp max), between the main power source (i.e., the electrical disconnect or electrical distribution panel) and subsequent monitored systems. Power must pass through the SL-3 before entering subsequent systems if current monitoring is desired. The SL-3 must be located in a position that allows access to both the incoming power and subsequent systems, as well as any cellular signal. The SL-3 can be mounted indoors or outdoors with the provided mounting hardware to various surfaces, including masonry, wood, siding, stucco, concrete, and Unistrut.

Included Parts

Qty.	Description
1	Enclosure Mounting Kit
4	#10 x 3/4” Door Screws
4	Door Screw Caps

Wiring Details

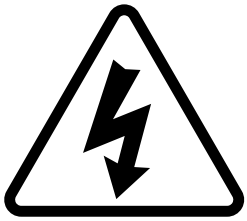
All wiring between the main power source, the SL-3, and the control panel should be sufficiently sized and of the correct type to handle the septic control panel's operating current. This wiring should be installed in a suitable flexible or rigid conduit, certified to the corresponding environmental conditions with approved water-tight fittings.

WARNING! Failure to size wiring properly can prevent the SL-3, Control Panel, and *Pump from operating properly and can result in damage.*

AVERTISSEMENT! Un fil électrique mal dimensionné peut empêcher le SL-3, le panneau de commande et la pompe de fonctionner correctement et peut resulter en dommages.

National Electric Code guidelines suggest using 10 AWG wiring for 30-amp circuits. Always consult the NEC and local guidelines for your installation specifics.

Due to extreme environmental conditions associated with septic systems and other applications, a high-quality THHN THWN-2 Machine Tool Wire (MTW) with a minimum 120VAC rating is recommended. Stranded copper is recommended for flexibility, but a solid core is also acceptable.



DANGER!
To reduce the risk of electric shock, disconnect the power to the unit before opening the cover.

DANGER!
Pour réduire le risqué d’une décharge électrique, débrancher avant d’ouvrir le couvercle.

Enclosure Installation

1. Determine a suitable location for the SL-3 enclosure. Consider the following when choosing a location.
    a. Proximity to incoming power and any subsequent monitored systems.
    b. Available cellular signal on any wireless network.
    c. The suitability of the mounting surface. It should be level and provide sturdy support for the enclosure.
2. Using the provided installation hardware, securely mount the SL-3 to the chosen location. The provided mounting feet should be installed and oriented to provide optimal retention and stability. Appropriate mounting screws should be chosen depending on the mounting surface.

Connecting Power

All conduit access into the SL-3 must be appropriately sealed per the National Electric Code (NEC Code NFPA#70), and all fittings, conduit, cord seals, etc., should be rated equal to or greater than any connected systems.

***DANGER!** Be sure to disconnect all power sources before installing or servicing any Septilink product. Failure to do so could result in severe personal injury or death!*

***DANGER!** Assurez-vous de débrancher toutes les sources électrique avant d'installer ou de réparer un produit Septilink. Ne pas le faire peut résulter en blessures graves ou la mort.*

1. Switch off the circuit breaker or remove the electrical disconnect and verify the system has no power.
2. Choose an appropriate fitting and conduit, drill a hole in the SL-3 enclosure, and then securely mount the fitting.
3. Pass the 3 wires for the main power feed through the conduit into the SL-3 enclosure. Terminate the wires into the POWER IN section (Line, Neutral, Ground) of the J1 Connector. (The Power must be 120VAC single-phase.) *(See Wiring Diagrams and J1 section.)*

POWER OUT (Optional)

The SL-3's POWER OUT section of the J1 connector is optional. However, if current monitoring is desired, the monitored device must be connected to the POWER OUT (Line, Neutral, Ground) section of the J1 Connector.

Failure to use appropriately rated fittings, conduit, and sealant can damage the components inside the control panel and will void all warranties.

AUX Monitoring Inputs

The SL-3 can monitor up to 4 AUX Inputs in any combination of AC or Contact Closure configurations. Use the J1 Connector for inputs that provide up to 120VAC and the J2 Connector for Contact Closure Inputs.

DO NOT connect any power to J2 AUX Inputs. These inputs are designed to read Open and Closed (Shorted) conditions between the "+" and "-" terminals.

NOTE: AUX Inputs on J1 and J2 are shared. If an AUX is used on one connector (J1 or J2), the same AUX input cannot be used for additional monitoring on the other connector.

To monitor 120VAC Inputs, run wires from the appropriate AUX inputs on the J1 Connector to their corresponding monitored systems.

1. Switch off the circuit breaker or remove the electrical disconnect and verify that the connecting system has no power.
2. Choose an appropriate fitting and conduit, drill a hole in the SL-3 enclosure, and securely mount the fitting. (If a fitting and conduit have already been installed, the same conduit may be used for the next steps.)
3. Through conduit pass the wires being used for monitoring and terminate them at their corresponding systems.
4. Ensure all AUX Inputs are wired accordingly to either the J1 Connector (120VAC) or J2 Connector (Contact Closure).
   (See J1 Connector, J2 Connector, and Wiring Diagrams section.)

J2 Control Outputs

The SL-3 can control up to 3 external circuits using OUT1-3 on the J2 Connector. To connect an external circuit, first, determine what is to be controlled and assess the electrical load and ratings. Choose an appropriate isolation/control component, such as a relay sufficiently sized for the load, and ensure that the relay coil is rated for 12VDC and less than 150mA.

DO NOT connect any external circuit directly to OUT1-3. All connections must be made through an appropriate isolation component, such as a relay.

Connect one side of the relay coil to +12VDC from the J2 Connector. Connect the other side of the relay coil to OUT1-3. OUT1-3 can sink a maximum of 150mA to control an external component.

DO NOT connect an isolation component that requires more than 150mA of current. A connection to a higher current draw will damage the Link.

Connecting Link

1. Firmly insert the black end of the wiring harness into the Link. Then, insert the white end into the SL-3 J3 connector located on the top left side.
2. To secure the Link inside the SL-3, align the Dual Lock retaining strips on the rear side of the Link with the Dual Lock on the SL-3 and press firmly together until the unit seats with an audible snap.

Applying Power

1. After verifying that all connections are plugged into their correct terminals and positions, return the electrical disconnect and/or turn on the circuit breaker. Confirm that the LEDs above the POWER IN, POWER OUT, and PROT sections are lit.
2. Close and latch the cabinet. For the NEMA 4X rating, use a minimum of two #10 x 3/4" screws (supplied) to secure the non-hinged side of the door.

J1 Installer Connector & LED Indicators

Section	Pin	Label	Wire	Description	LED
POWER IN	1	L	AWG 8-24	Line In 120VAC 20A Max	ON = Power at POWER IN OFF = No Power
	2	N	AWG 8-24	Neutral In	
	3	G	AWG 8-24	Ground In	
POWER OUT	4	L	AWG 8-24	Line Out	ON = Power at POWER OUT OFF = No Power
	5	N	AWG 8-24	Neutral Out	
	6	G	AWG 8-24	Ground Out	
AUX INPUTS	7	AUX1	AWG 8-24	120VAC Input	ON = Circuit Active OFF = Circuit Inactive
	8	AUX2	AWG 8-24	120VAC Input	ON = Circuit Active OFF = Circuit Inactive
	9	AUX3	AWG 8-24	120VAC Input	ON = Circuit Active OFF = Circuit Inactive
	10	AUX4	AWG 8-24	Internal Surge Protection (default configuration) or 120VAC Input* (JP4 Removed)	ON = Surge Protection OK OFF = Surge Protection Failure ** or ON = Circuit Active OFF = Circuit Inactive

***Note:** AUX4 is available in either Surge Protection or AUX4 Input. Removing JP4 on the rear of the PCB will configure the SL-3 for AUX4 Input operation. The Surge Protection monitoring is disabled in this configuration. Any damage resulting from the removal of JP4 is not covered under the Limited Warranty. Perform this modification at your own risk.

J2 I/O Connector & LED Indicators

Label		Description	LED
DOOR	+	Door Sensor Circuit	ON = Door Open OFF = Door Closed
	-		
AUX1	+	Contact Closure Input	ON = AUX1 Circuit Closed OFF = Circuit open
	-		
AUX2	+	Contact Closure Input	ON = AUX2 Circuit Closed OFF = Circuit open
	-		
AUX3	+	Contact Closure Input	ON = AUX3 Circuit Closed OFF = Circuit open
	-		
AUX4	+	Contact Closure Input	ON = AUX4 Circuit Closed OFF = Circuit open
	-		
OUT1		Control Output 150mA max to GND	ON = Circuit Active OFF = Circuit Off
OUT2		Control Output 150mA max to GND	ON = Circuit Active OFF = Circuit Off
OUT3		Control Output 150mA max to GND	ON = Circuit Active OFF = Circuit Off
+12V		12VDC Output for OUT1-3 (0.5A max)	ON = System Power Normal OFF = 12VDC Failure **
+5V			ON = System Power Normal OFF = 5VDC Failure **

****Note:** If the LEDs are OFF when power is applied, this indicates an SL-3 system fault and requires repair. Please contact your Septilink dealer.

Operation

Mobile App

The Septilink mobile app is available on the Apple App Store or the Google Play store. Download the app and create or log into your Septilink account.

Site Activation

The SL-3 must be activated before it will begin reporting. To activate your SL-3, ensure you have downloaded the Septilink App and have a Septilink Account. Log in to the app and follow the instructions to add a new site.

Site Commissioning

After it is first powered up, the SL-3 may require several minutes to begin reporting. Refresh the mobile app to ensure the SL-3 is reporting by confirming that the most recent report is within the last 15 minutes. Once the site begins reporting, check the site details to confirm the system is reporting correctly.

AUX Input Tests

120VAC AUX Input Test

J1 AUX1-4 can be tested by applying 120VAC to the input. When 120VAC is applied, the corresponding LED above J1 will turn on. Apply 120VAC for 5 seconds or more and refresh the app to confirm the correct status is reported.

Contact Closure AUX Input Test

J2 AUX1-4 can be tested using a jumper wire to short the circuit between the “+” and “-” terminals for each AUX input. When the circuit is closed, the corresponding LED beside J2 will turn on. Maintain the closed circuit for 5 seconds or more and refresh the app to confirm the correct status is reported.

Site Status

Under normal operation, the SL-3 reports site status to the Septilink servers every 15 minutes. Refresh the app to see the most current site status report. If the status changes for more than 5 seconds, the system reports immediately, and after refreshing the mobile app, the new status is displayed. Historical site status is viewable in the Events log and is available in the mobile app.

Maintenance

Although no routine maintenance is required, the equipment should be periodically inspected to ensure that no foreign material, including water, insects, or debris, has entered the enclosure. Proper sealing of the conduit and wiring access is essential to prevent moisture migration.

Warranty

Limited Warranty

For further information and terms, visit the Septilink Warranty and Return Policy page at http://www.septilink.com/warranty.

Except as set forth below, Septilink warrants to the original owner of the Product that the Product will be free from defects in materials and workmanship for a period of one (1) year from the date you purchased your Product from Septilink or an authorized retailer (the "General Product Warranty Period"). Septilink warrants to the original purchaser of a refurbished Product purchased via the Septilink Refurbished Shop that the refurbished Product will be free from defects in materials and workmanship for a period of ninety (90) days from the date you purchased your refurbished Product from Septilink (the "Refurbished Product Warranty Period," and together with the "General Product Warranty Period" are collectively referred to in this Policy as the "Warranty Period"). Septilink will, at its sole option, either (a) replace any defective Product or component, or (b) accept the return of the Product and refund the money actually paid by the original purchaser for the Product (i) to the payment method used by the purchaser. This warranty is not transferable and applies only to the original purchaser.

Replacements may be made with new or refurbished products or components at Septilink's sole discretion. Except for refurbished Product replacements, any replacement Product received by you will be covered by the Limited Warranty for the remaining applicable Warranty Period on the replaced Product. Any replacement Product received by you for a refurbished Product will be covered by the Limited Warranty for ninety (90) days from the date of replacement.

What the Limited Warranty Does Not Cover

This Limited Warranty does not cover the following:

- Products submitted after the expiration of the applicable Warranty Period
- Products submitted without valid proof of purchase
- Products returned from outside countries where Septilink ships Products
- Products purchased from unauthorized retailers
- Products provided by Septilink or its designee for promotional purposes without charge
- Products on which repairs have been attempted
- Products damaged due to misuse, abuse, negligence, or other use not in accordance with the Owner's Manual or other instructions provided by Septilink
- Products that have been modified

How to Initiate a Warranty Claim

To make a warranty claim, please contact Septilink through our support page at septilink.com/contact or by emailing us directly at support@septilink.com. You will be asked to provide information not limited to proof of purchase, the model number of the Product, a description of the Product issue, and the IMEI/ESN if a Link device is included in the return.

Valid proof of purchase may be either,

- an order number or sales invoice if your Product was purchased from Septilink,

or

- a dated sales receipt that includes a description of the Product and the price paid if your Product was purchased from an authorized retailer.

Septilink may require you to return the Product to process your warranty claim. If you are required to return the Product, Septilink will provide you with an RMA. It is your responsibility to follow all provided instructions and cover all related shipping charges. If, as reasonably determined by Septilink, a Product that is not eligible for a warranty claim is shipped to Septilink, Septilink will not be responsible for returning the Product. Septilink has no warranty obligations with respect to such returned Products.

At Septilink's sole discretion, you may be eligible for the Septilink Hot Swap Program (Hot Swap Program). For additional information, contact Septilink customer support.

Troubleshooting

The SL-3 serves as electrical protection for the control panel and septic system in the event of power surges, brownouts, lightning strikes, electrical shorts, and other catastrophic events. This protection feature is responsible for most system failures. Use the troubleshooting guide to determine what failure has occurred and whether the SL-3 requires repair or replacement.

Symptom	Action
POWER IN LED - OFF	Using a digital multimeter, confirm 120VAC at J1 POWER IN. If 120VAC is present, the POWER IN LED Circuit is defective, contact your Septilink dealer for repair or replacement. If 120VAC is not present, check your power source.
POWER OUT LED - OFF	Using a digital multimeter, confirm 120VAC at J1 POWER OUT. If 120VAC is present, the POWER OUT LED Circuit is defective, contact your Septilink dealer for repair or replacement. If 120VAC is not present, and POWER IN LED is ON, then the Current Sensor is defective, contact your Septilink dealer for repair or replacement.
PROT LED - OFF	Using a digital multimeter, confirm 120VAC at J1 PROT. If 120VAC is present, the PROT LED Circuit is defective, contact your Septilink dealer for repair or replacement. If 120VAC is not present, and POWER IN LED is ON, then the SL-4/5 is no longer protected, and the Surge Protection Circuit needs repair. Contact your Septilink dealer for repair or replacement.

+12V LED - OFF	If the POWER IN LED is ON, then the 12VDC circuit is defective. Contact your Septilink dealer for repair or replacement.
+5V LED - OFF	If the +12V LED is ON, then the 5VDC circuit is defective. Contact your Septilink dealer for repair or replacement.
Site Status not updating on Mobile App	Ensure that POWER IN, POWER OUT, +12V, and +5V LEDs are all ON. If any LEDs are not ON, refer to the relevant troubleshooting section. Open the mobile app and ensure the IMEI and ESN in the app match the IMEI and ESN on the Link. Verify the Link is plugged in to the SL-3, and the orange LED on the side of the Link is blinking or Solid. If the LED is OFF, then the Link and Wiring Harness may be defective. Contact your Septilink dealer for repair or replacement. If the orange LED on the end of the Link is solid, close the SL-3 door for 5 or more seconds, and reopen. Check for status update in the app. If no update, contact Septilink. If the orange LED on the end of the Link is blinking, confirm cellular signal is available using your cellphone at the site location. If cellular signal is available, contact your Septilink dealer for a replacement Link. If no cellular signal available, confirm that cellular signal was available prior to installation. If cellular signal was previously available, and is no longer available, then the cellular network may be experiencing an outage. Check with the wireless provider for outages. If no cellular signal is available at the site location, relocate the SL-3 to a location with cellular signal.

Wiring Diagrams

SL-3