



# Lightning Protection

Using Model LPC 10643-286  
Surge Protector with  
PS98i/PS9800 Sensors





# LIGHTNING PROTECTION INSTRUCTIONS

---

## Introduction

---

The LPC 10643-286 is designed for instantaneous protection of equipment against lightening and surges. Installation is made near the equipment to be protected and connections are made directly to the lines and common. This unit is not designed to protect against primary lightening strikes if the lightening hits directly, but is designed to protect against secondary strikes where lightening strikes somewhere near the system and induces voltages in the lines.

## Initial Inspection and Handling

---

Upon receiving the LPC Surge Protector, inspect the device for obvious shipping damage. If damage is apparent, note the signs on the appropriate shipping form, and immediately report the information to the carrier. It is the responsibility of the shipping company to pay for any shipping damage that has occurred.

## Do's and Don'ts

---

- Do** properly ground the device to a stable earth ground or the device will not work. It is the users responsibility to provide a good earth ground.
- Do** install the device as close to the device to be protected as possible. Surges induced in the wiring between the LPC and the protected device can travel to the protected device and damage it.
- Don't** submerge the device or subject the circuit to moisture unless waterproof splices (not provided) are used.

# LIGHTNING PROTECTION INSTRUCTIONS

## Installation

The LPC kit includes the following:

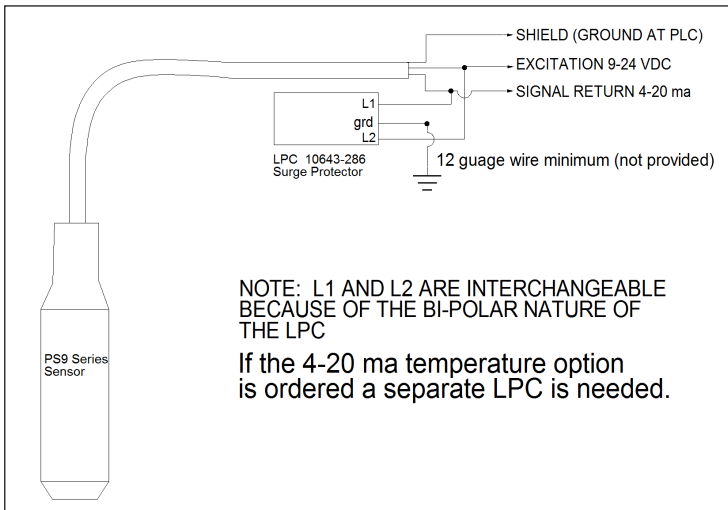
- 1 LPC 10643-286 Surge Protector
- 3 Wire nuts
- 1 Polypro wire tie

Tools and supplies needed (not provided by Seametrics):

- Wire cutters and stripper
- Minimum 12 gauge ground wire to earth ground
- Electrical tape

Install as follows:

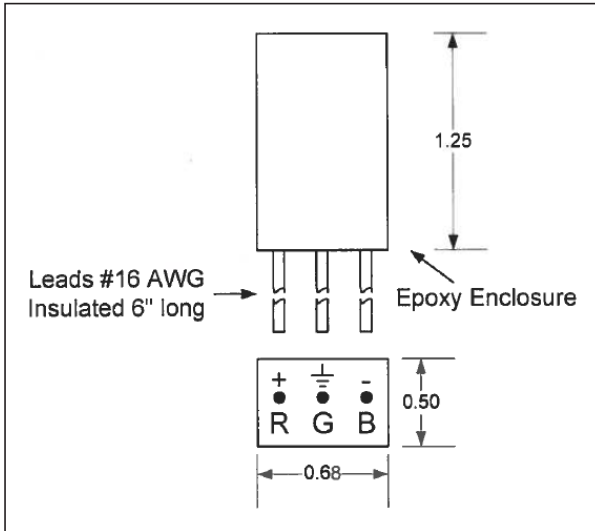
1. Trim wires of the LPC to the shortest convenient length.
2. Trim the sensor wires to attach to the LPC. The shield is not attached and should be grounded at only one location in the circuit preferably at the readout/meter/ger end.
3. Connect the wires per figure below.
4. Wrap electrical tape over wire nuts to insure connection
5. Tie-wrap the LPC securely to the sensor cable.



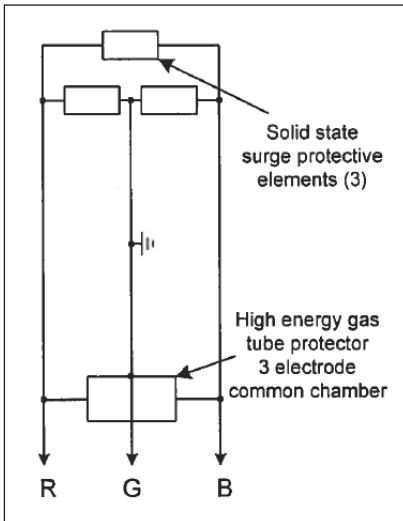
# LIGHTNING PROTECTION INSTRUCTIONS

## Specifications

### Physical Dimensions



### Internal Schematic



# LIGHTNING PROTECTION INSTRUCTIONS

---

## Specifications *(continued)*

---

<b>Maximum Operating Voltage</b>	Up to 28 Vdc line to line and either line to ground	
<b>Bipolar</b>	Either polarity of surge equally clamped	
<b>Respond Time</b>	Less than one nanosecond	
<b>Maximum Surge Current Rating</b>	30,000 amps on 8/20 $\mu$ s wave	
<b>Clamping Voltage: L-L and each L-G</b>	<i>Surge Current (peak) 8/20 <math>\mu</math>s wave</i>	<i>Clamping Voltage (volts)</i>
	0.1 amps	43
	1 amp	50
	10 amps	60
	100 amps	68
	1000 to approx. 30 KA	68V, dropping to 30V arcing gas tube

---

## Maintenance

---

Periodically inspect the LPC for loose wire connections. No other maintenance can be performed.

---

## Troubleshooting

---

The LPC during normal instrument operation should not affect sensor performance. If the LPC was damaged or the voltage on the lines is above 43 volts it will short to ground causing irregular sensor readings. If after removing the high voltage, the unit still remains shorted to ground, replace.

Information in this document is subject to change without notice.

©2016 Seametrics. All rights reserved.

# **LIGHTNING PROTECTION INSTRUCTIONS**

---

## **LIMITED WARRANTY**

---

Seller warrants that products manufactured by Seller when properly installed, used and maintained, shall be free from defects in material and workmanship. Seller's obligation under this warranty shall be limited to replacing or repairing the part or parts or, at Seller's option, the products which prove defective in material or workmanship within ONE (1) year from the date of delivery, provided that Buyer gives Seller prompt notice of any defect or failure and satisfactory proof thereof. Any defective part or parts must be returned to Seller's factory or to an authorized service center for inspection. Buyer will prepay all freight charges to return any products to Seller's factory, or any other repair facility designated by Seller. Seller will deliver replacements for defective products to Buyer (ground freight prepaid) to the destination provided in the original order. Products returned to Seller for which Seller provides replacement under this warranty shall become the property of Seller.

This limited warranty does not apply to lack of performance caused by abrasive materials, corrosion due to aggressive fluids, mishandling or misapplication. Seller's obligations under this warranty shall not apply to any product which (a) is normally consumed in operation, or

(b) has a normal life inherently shorter than the warranty period stated herein.

In the event that equipment is altered or repaired by the Buyer without prior written approval by the Seller, all warranties are void. Equipment and accessories not manufactured by the Seller are warranted only to the extent of and by the original manufacturer's warranty.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY. IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY SHALL NOT APPLY. SELLER'S WARRANTY OBLIGATIONS AND BUYER'S REMEDIES THEREUNDER (EXCEPT AS TO TITLE) ARE SOLELY AND EXCLUSIVELY AS STATED HEREIN. IN NO CASE WILL SELLER BE LIABLE FOR CONSEQUENTIAL DAMAGES, LABOR PERFORMED IN CONNECTION WITH REMOVAL AND REPLACEMENT OF THE SENSOR SYSTEM, LOSS OF PRODUCTION OR ANY OTHER LOSS INCURRED BECAUSE OF INTERRUPTION OF SERVICE. A NEW WARRANTY PERIOD SHALL NOT BE ESTABLISHED FOR REPAIRED OR REPLACED MATERIAL, PRODUCTS OR SUPPLIES. SUCH ITEMS SHALL REMAIN UNDER WARRANTY ONLY FOR THE REMAINDER OF THE WARRANTY PERIOD ON THE ORIGINAL MATERIALS, PRODUCTS OR SUPPLIES.

With respect to products purchased by consumers in the United States for personal use, the implied warranties including but not limited to the warranties of merchantability and fitness for a particular purpose, are limited to twelve (12) months from the date of delivery.

Some states do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you. Similarly, some states do not allow the exclusion or limitation of consequential damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights; however, you may also have other rights which may vary from state to state.



---

Seametrics • 19026 72nd Avenue South • Kent, Washington 98032 • USA  
(P) 253.872.0284 • (F) 253.872.0285 • 1.800.975.8153 • [inwusa.com](http://inwusa.com)

LT-14411r4.1-20180308  
3/8/2018