

SPH-175802

# 157S-P, Float Type, Combo LWCO & Pump Controller User Manual

Model: SPH-175802 | Brand: Generic

## INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of the 157S-P Float Type Combo LWCO & Pump Controller. Please read this manual thoroughly before installation or operation.

## PRODUCT OVERVIEW

The 157S-P is a float-type combination low water cut-off (LWCO) and pump controller designed for residential, commercial, and industrial low or high-pressure boiler applications. It features a Monel bellows for corrosion resistance, an integral water column, and snap-action switches for reliable high-temperature service. It includes one single-pole, single-throw (SPST) switch for pump control and one single-pole, double-throw (SPDT) switch for low water cut-off and alarm actuation.



Figure 1: The 157S-P Float Type Combo LWCO & Pump Controller. This image shows the main unit with its float chamber and integrated switch assembly, designed for boiler water level management.

## SPECIFICATIONS

Feature	Detail
Application	Boilers (Steam Boilers)
Reset Type	Automatic

Maximum Pressure	150 psi
Switch Type	SPDT (Low Water Cut-off/Alarm), SPST (Pump Control)
Electrical Ratings (AFL)	3.7 A @ 240 VAC, 7.4 A @ 120 VAC
Electrical Ratings (ALR)	22.2 A @ 240 VAC, 44.4 A @ 120 VAC
Pilot Duty Rating	345 VA
Connection Type	Threaded
Thread Size	1 inch
Depth	13 3/8 inches
Length	16 inches
Width	5 7/8 inches

## Safety Information

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Always observe safety precautions when working with boiler systems. Failure to do so may result in serious injury or property damage.

- Ensure power to the boiler is disconnected before installation or servicing.
- Follow all local codes and regulations for boiler installation and maintenance.
- Only qualified personnel should perform installation and maintenance.
- Wear appropriate personal protective equipment (PPE).
- Do not bypass safety devices.

## Installation

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The 157S-P controller is designed for easy integration into boiler systems. Proper installation is crucial for optimal performance and safety.

### Mounting

1. Mount the unit vertically on the boiler, ensuring the float chamber is level.
2. Connect the unit to the boiler using the 1-inch threaded connections. Ensure a tight, leak-free seal.
3. Utilize the side ports for additional connections as required by your boiler system configuration.

### Electrical Wiring

Wiring should be performed by a licensed electrician in accordance with all local and national electrical codes.

- The unit includes one single-pole, single-throw (SPST) switch for pump control and one single-pole, double-throw (SPDT) switch for low water cut-off and alarm actuation.
- Connect the pump control switch to the boiler feed pump circuit.
- Connect the low water cut-off switch to the boiler's safety circuit to shut down the burner in a low water condition.
- Connect the alarm actuation contacts to an audible or visual alarm system.
- Refer to the wiring diagram provided with the product packaging for specific connection points.

## OPERATION

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The 157S-P operates automatically to maintain safe water levels and control the boiler feed pump.

### Normal Operation

- As the boiler water level drops, the float within the chamber descends.
- When the water level reaches the pump control set point, the SPST switch activates the boiler feed pump to replenish water.
- If the water level continues to drop below the safe operating level, the float will activate the SPDT low water cut-off switch, shutting down the boiler burner and activating any connected alarm.
- The low water cut-off is automatic reset; once water is restored to a safe level, the switch will reset, allowing the boiler to resume operation (if other safety interlocks permit).

## MAINTENANCE

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Regular maintenance ensures the longevity and reliable operation of your 157S-P controller.

### Daily Checks

- Visually inspect the unit for any signs of leaks or damage.
- Verify that the boiler water level is within normal operating range.

### Weekly / Monthly Checks

- **Blowdown:** Perform a blowdown of the float chamber to remove sediment and ensure free movement of the float. Follow boiler manufacturer's guidelines for blowdown procedures.
- **Test Low Water Cut-off:** Periodically test the low water cut-off function by manually lowering the water level (if safe to do so, following boiler manufacturer's instructions) or by using a test button if available on your boiler system. Ensure the burner shuts off and the alarm activates.

### Annual Inspection

- Have a qualified technician inspect the unit for wear, corrosion, and proper calibration.
- Check electrical connections for tightness and signs of overheating.
- Inspect the Monel bellows for any signs of damage or fatigue.

## TROUBLESHOOTING

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This section provides solutions to common issues. For problems not listed, contact a qualified service technician.

Problem	Possible Cause	Solution
Pump not activating when water level drops.	<ul style="list-style-type: none"><li>◦ Clogged float chamber.</li><li>◦ Faulty pump.</li><li>◦ Wiring issue to pump control switch.</li><li>◦ Defective SPST switch.</li></ul>	<ul style="list-style-type: none"><li>◦ Perform blowdown; clean chamber if necessary.</li><li>◦ Check pump operation independently.</li><li>◦ Verify electrical connections.</li><li>◦ Test and replace switch if faulty.</li></ul>

Boiler shuts down due to low water, but water level is adequate.	<ul style="list-style-type: none"><li>◦ Float stuck or obstructed.</li><li>◦ Sediment buildup in float chamber.</li><li>◦ Defective SPDT switch.</li></ul>	<ul style="list-style-type: none"><li>◦ Inspect float for free movement.</li><li>◦ Perform blowdown; clean chamber.</li><li>◦ Test and replace switch if faulty.</li></ul>
Unit leaking.	<ul style="list-style-type: none"><li>◦ Loose connections.</li><li>◦ Damaged gaskets or seals.</li><li>◦ Cracked housing.</li></ul>	<ul style="list-style-type: none"><li>◦ Tighten threaded connections.</li><li>◦ Replace gaskets/seals.</li><li>◦ Unit replacement may be necessary for cracked housing.</li></ul>

## WARRANTY AND SUPPORT

For warranty information or technical support, please contact the manufacturer or your authorized dealer. Keep your purchase receipt for warranty claims.

**Manufacturer:** Generic




**Part Number:** SPH-175802



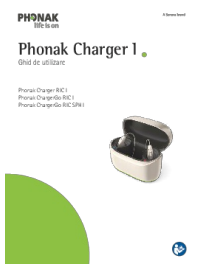
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For further assistance, please refer to the contact information provided with your product documentation or visit the Generic brand website.

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### Related Documents - SPH-175802

	<p><a href="#">Spare Parts Holland Hydraulic Components Catalog for Tractors</a></p> <p>Explore the comprehensive Spare Parts Holland catalog featuring a wide range of hydraulic components for tractors. This guide details hydraulic top links, hooks, side links, and cylinders with detailed specifications, dimensions, and part numbers, supporting major tractor brands like Massey Ferguson, John Deere, and more.</p>
	<p><a href="#">Growatt: Soluciones de Energía Solar Inteligente y Almacenamiento de Energía</a></p> <p>Explore la gama completa de inversores fotovoltaicos inteligentes, sistemas de almacenamiento de energía, cargadores de vehículos eléctricos y soluciones de monitoreo de Growatt. Descubra productos innovadores diseñados para un futuro energético sostenible.</p>
	<p><a href="#">V16 ENERGY Inverter Protocol Compatibility Guide   CAN &amp; RS485</a></p> <p>Comprehensive list of inverter brands and their supported communication protocols (CAN, RS485, Modbus) for V16 ENERGY electronic home storage systems, including methods and versions.</p>

 <p>Installation Manual How to install the unit How to connect the unit How to use the unit How to troubleshoot the unit</p>	<p><a href="#">Pioneer SPH-DA230DAB / SPH-DA130DAB Installation Manual</a></p> <p>Comprehensive installation manual for the Pioneer SPH-DA230DAB and SPH-DA130DAB RDS AV Receivers. This guide provides detailed instructions and safety precautions for connecting and installing the unit in various vehicle configurations.</p>
 <p>Operation Manual</p>	<p><a href="#">Pioneer SPH-DA160DAB RDS AV Receiver Operation Manual</a></p> <p>Comprehensive operation manual for the Pioneer SPH-DA160DAB RDS AV Receiver, covering basic operations, features like Bluetooth, Apple CarPlay, Android Auto, USB mirroring, camera functions, and system settings.</p>
 <p>Phonak Charger I User Guide</p>	<p><a href="#">Phonak Charger I User Guide</a></p> <p>User guide for the Phonak Charger I, detailing its components, usage, charging instructions, environmental conditions, care, service, warranty, and troubleshooting.</p>