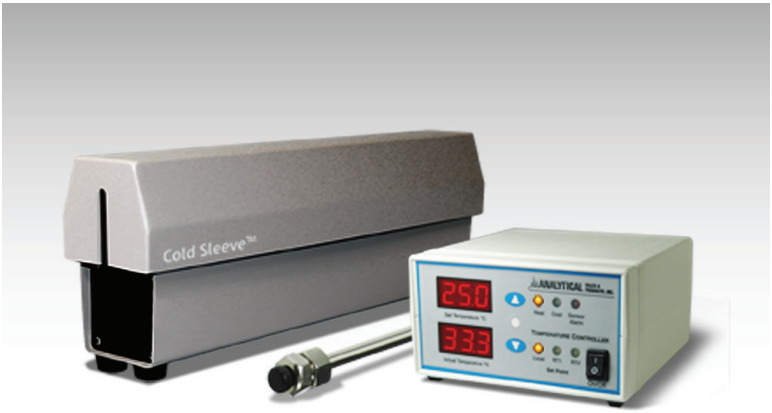


Cold Sleeve

Operations Manual

Revision 1G · 6/23/2023

Thank you for purchasing Analytical Sales and Services' **Cold Sleeve**™ Column Cooler / Heater system. This manual will guide you through setup and operation of your new heater.

Safety Warnings:
All cooler / heater systems are designed for use by properly trained individuals following Good Laboratory Practices who have read and understood this entire manual.

***CAUTION:* The temperature controller must be operated away from liquids so as not to accidentally spill solvents on the top cover. Do not immerse or operate any part of the Column Heater in liquids. In the event of solvent leakage, wipe sleeve clean before further use.**

Contents

Product Specifications

Power Requirements:	24 VDC
Heating Range:	Ambient to 50°C
Heater Accuracy:	+/- .5°C
Controller Accuracy:	+/- .1°C
Calibration Points:	15°C and 35°C

Environmental

Operating temperature: 32° to 122° F (0° to 50° C)
Operating humidity: No greater than 75% relative humidity (non-condensing)

This manual covers the following controlled products:

• Cold Sleeve Heater/Cooler
For columns up to 30cm long x 0.75" O.D.

General Inspection

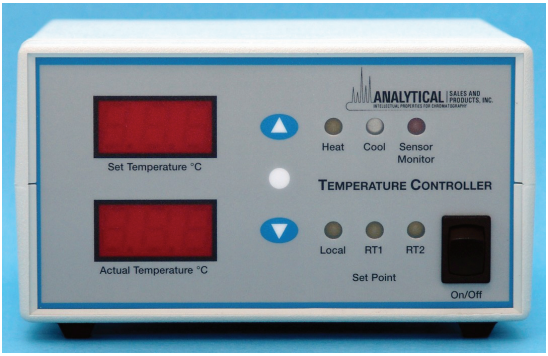
Unpacking and Inspection
Verify that the column heater /cooler package contains the following:
• Column Cooler / Heater base element
• Column Cooler / Heater Manual
• RS232 cable

Please notify Technical Support if the Column Heater has any missing or damaged parts. Contact us at (973)-616-0700

The Temperature Control Module is custom designed to offer optimum performance in heating and cooling applications. It has fast "H-Bridge" circuitry which improves control responsiveness, variable time base burst firing that increases the heater life and gives better temperature performance, and a compact size which allows it to be placed in small areas.

Figure 1. COLD SLEEVE Cooler/Heater and Temperature Controller

The **COLD SLEEVE** is designed for use in analytical size liquid chromatography applications only.



The actual temperature and the user-selected set point are displayed on the front of the temperature controller. Both the user set point and the actual temperature are in full display.

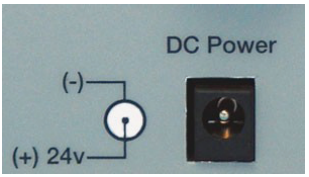
The Cold Sleeve Cooler / Heater is a unique design, which encapsulates a single HPLC column equal to or less than 30cm in length. The Cold Sleeve is ideally suited for Fast LC and LC/MS applications.

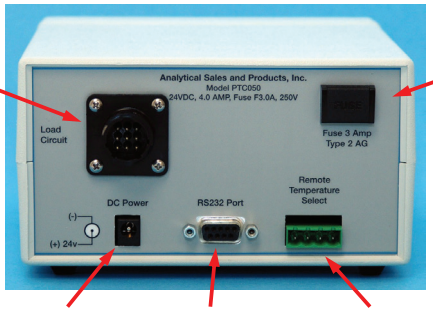
Insert a single HPLC column on to the cooler / heater surface. Inserting more than one HPLC column may lead to unpredictable behavior. Attach both inlet and outlet fittings to the column making sure that the 1/16" O.D. tubing will be able to pass through the cover end slots.

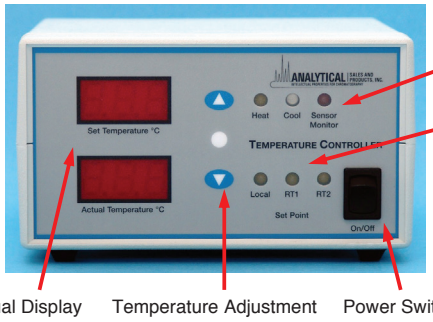
Place the cover on to the base by sliding over one end of the column tubing at an angle, then bring the cover down fully over the base, allowing the remaining tubing to slide between the slot.

System Setup

Make certain that the temperature controller is turned off. Insert the power cord into the main receptacle, and then the plug into the supplied 24VDC Desktop Power Supply. Lastly, insert the silver plug into the back of the controller shown below







Turn the Column Heater on. The temperature controller will perform a self diagnostic test upon power-up. If, after powering up, the display indicates something other than reasonable temperature values, notify Technical Service for further action.

The Column Heater contains one fuse. If the display does not appear to illuminate at all, check the main fuse.

Note that the LED display on the front panel will show two numbered values displayed in °C . The lower red number is the actual column enclosure temperature. The upper red number is the column temperature set point. A yellow LED on the front panel will illuminate when the heating circuit is activated.

Operational

Use the set point adjustment buttons to raise and lower the desired set point. You must depress the asterisk center white button in addition to the up (▲) or down (▼) arrow button to change values. Pressing the up (▲) or down (▼) arrow button alone will not change the set point value.

Set the temperature to 35°C, after a few moments the column enclosure temperature will begin to rise as indicated by the lower red display. The heat indicator LED should illuminate when the heating circuit is active. Allow the column heater to reach 35°C and verify that the column heater will control properly. The set temperature will equilibrate quickly.

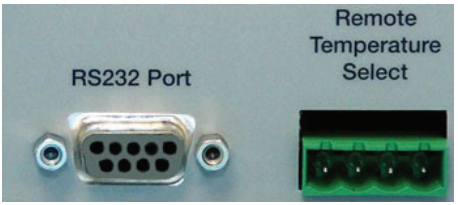
Upon successful evaluation, set the heater to the desired control temperature.

Use and Care

NOTE: Ensure that the inlet and outlet vents of the Column Cooler/Heater are not blocked. Failure to ensure that the vents are clear may result in unpredictable behavior such as overheating or unwanted ice buildup.

The Column Cooler/Heater is engineered to be lightweight and efficient. The materials used in fabricating the heater and controller sections may be sensitive to solvents. Proper installation includes reliable leak testing before installing the heater for each use. Do not immerse or operate any part of the Column Cooler/Heater in liquids.

External Control



The controller is equipped with two external control features. The first is through RS232 control with the Graphical User Interface (GUI) software available for download through Analytical Sales' website, and the provided RS232 cable. The second is through contact closures from an outside source, i.e.; autosampler, pump, etc. Attach leads to the supplied Green Euro-Mag Terminal Block plug. Once contact is established at the other end of the leads, the controller will automatically change heating values. Keep in mind that equilibration times will vary between temperature changes. Preprogrammed remote temperatures are entered through the GUI software.

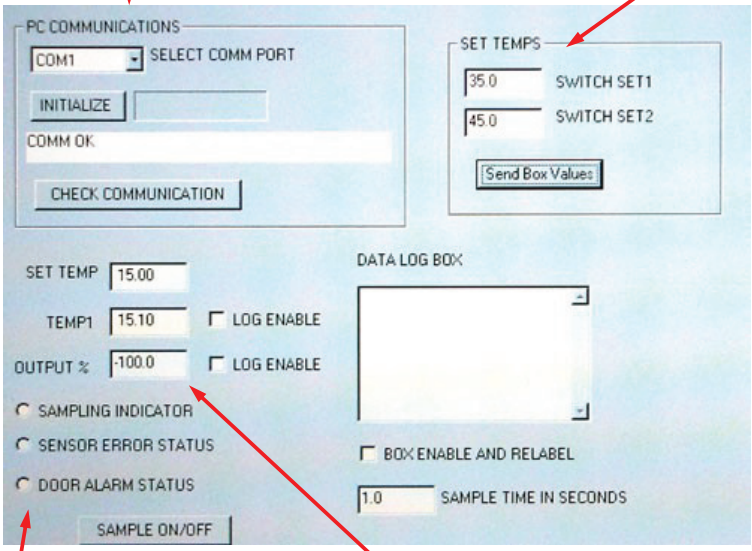
Remote Graphical User Interface (GUI)

To download the GUI, please visit the following URL on Analytical's website: https://www.analytical-sales.com/product/cold-sleeve-column-cooler-heater-cold-sleeve-30/a This GUI will allow you to pre-program up to two set temperatures for remote activation via external contact closures. The defaulted values for remote one and two are 35.0ºC and 45.0ºC respectfully. You will use the RS232 Serial Cable for remote programming.

After downloading the GUI, start-up the program and the interface at right will appear. Select COM1 and Initialize the port. All current programmed information will appear within the display. Once the data is uploaded the program may be terminated. The controller will keep the last programmed data within its memory up to five years.

Select Comm Port (Com1 is Default) and Initialize. When communication is established, **COMM OK** will be shown.

SET TEMPS for Remote 1 and Remote 2. Press send box after selection is made to upload.



Sensor Error = Defective Temperature Sensor. Contact Customer Service.

Door Alarm Status is NOT for this controller.

This area indicates values from the front of the controller only. Values will change only when sample On/Off Is active.

Notes:

Notes:

For technical support or to reorder supplies, contact Analytical Sales & Services, Inc.

COLD SLEEVE is a trademark of
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