

Remote Programmable Controller



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Thank You

Brandel would like to thank you for your purchase.

Your new Remote Programmable Controller is the product of more than 25 years of ongoing refinement, designed to provide you with many years of use and satisfaction with a minimum of maintenance. We are confident that you will find it to be one of the best pieces of equipment available today, and for years to come.

If you have any questions or suggestions, now or in the future, please do not hesitate to contact us.

About this Manual

Copies of this manual are posted on the Brandel web site in Adobe Acrobat® (pdf) format. If you misplace your original or find the digital form more convenient, please feel free to download a copy and save it on your computer for future onscreen reference or printing.

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Installing the Remote Programmable Controller

Plug the Harvester switch cable into the "Harvester Switch" jack on the back of the programmable controller.

Plug the timer box into a standard electrical outlet.

It is strongly recommended that the Harvester power cord be plugged into CH #2 and that the wash pump be plugged into CH #1. Utilizing this setup will enable the user to have the manual wash available at any time.

Remote Programmable Controller Outlets

Depressing the "Halt" key on the controller keypad interrupts the program and allows the harvesting probe switch to be depressed which activates manual washing. To resume the program at the point where it was interrupted, depress the "ENT" key.

During a "HALT" all outlets are turned off. However, manual operation will still function normally by depressing the harvesting probe switch.

Note: A time reading of "0" (zero) in the program for any of the outlets will result in the continuous operation of that outlet.

Keypad Description

- CH-1 Key Turns pump on manually. Only works while depressed. Green LED will light.
- CH-2 Key Opens harvester solenoid when Green LED is on. When LED is off, the solenoid is closed
- CH-3 Key Controls the electrical outlet on the back of the controller.
- CH-4 Key Controls "hot" valve. Green LED will light when open.
- CH-5 Key Controls "cold" valve. Green LED will light when open.
- CH-6 Key Controls purging of Harvester tubing. Will only stay on while button is depressed or is put into a program.
- CH-7 Key Controls the outlet on the back of the controller labeled "Port 1". This outlet is for an external signal for controlling other equipment.
- CH-8 Key Same as "CH-7 Key", but controls "Port 2".
- CH-9 Key Used if a "manual" harvest is performed from the keypad.

Programming

For many users, a very simple program is all that is necessary. For this reason, a sample program has been written into the hand held controller to assist you in better understanding how to set-up a basic program using the controller in conjunction with the automatic timer. This sample program resides in Program #1. What follows is an example of a *sample program*, along with an explanation of what each step is for. This program is *not* a suggestion for how to set-up your test, but *only an example* of how to set-up a program for your specific needs.

NOTES:

Prior to beginning the actual running of any program the following electrical connections should be made:

- Harvester switch cable into programmable controller
- Harvester power cord into CH #2
- Wash pump power cord into CH #1

It is imperative that the harvesting probe is positioned correctly and the vacuum source be turned on *prior* to the execution of any program.

In the sample program it is assumed that the vacuum source is always on (unless turned off within the program) as the vacuum pump has not been connected to the timer box.

A time of "0" (zero) in a command line instructs the respective outlet to stay on or open until another command line instructs differently or the program is completed.

When completing a manual wash (harvest), either the hot valve or the cold valve must be activated via the keypad.

It is not necessary to depress "CH-1" or "CH-2" on the keypad because the harvesting probe switch or "CH-9" on the keypad will activate both the wash pump and the solenoid valve.

The programmable controller must be in run, step, halt screen when operating manually.

Sample Program

- | | |
|-------------------|--|
| 1. For N = 5 | Counts # of times the loop repeats |
| 2. Select Hot | Hot valve is activated with no time limit |
| 3. Harvest(s) = 3 | Harvester solenoid valve and wash pump activate |
| 4. Delay(s) = 5 | 5 second program delay for fluid to aspirate |
| 5. Next N | Returns to "For N" Command until counter is finished |
| 6. Delay(s) = 5 | 5 second program delay |
| 7. Select Cold | Cold valve is activated until vacuum is turned off |
| 8. For N = 5 | Counts # of times the loop repeats |
| 9. Harvest(s) = 3 | Harvester solenoid valve and wash pump activate |
| 10. Delay(s) = 5 | 5 second program delay for fluid to aspirate |
| 11. Next N | Returns to "For N" Command until counter is finished |
| 12. Purge(s) = 1 | Purges wash tubing so filter block can be opened |
| 13. END | Ends program |

Warranty

Biomedical Research and Development Laboratory, Inc. (BRANDEL) guarantees for a period of one year from the original date of shipment, all parts manufactured by it to be free from defects in workmanship and materials. All defective parts will be replaced without charge for parts or labor. BRANDEL will not accept expense or labor incident to the replacement of any part outside of its factory.

Warning

The purchaser assumes all risks in the use and handling of items sold by BRANDEL. BRANDEL is not liable for loss or damage resulting from use or misuse of the products sold by BRANDEL.

Warranty