

MODBLOCK CONNECT USER MANUAL



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1. INTRODUCTION

This manual details the features and operation of ModBlock™ Wireless Digestion System. ModBlock™ Wireless Digestion System comprises of one ModBlock™ Wireless Controller unit that is capable of controlling up to eight ModBlock™ Wireless interface boxes, each supplying temperature regulated power to one ModBlock™ Digestion block of any format.

1.1. Safety Precautions

ModBlock™ Wireless Digestion System has been designed for chemical sample digestion. As such, the following safety precautions must be strictly adhered to:

- All safety devices should be utilized exactly as specified.
- Only appropriate and inspected sources of power, voltage and frequency should be used.
- ModBlock™ should always be placed in a fume hood.
- Avoid contact with the ModBlock™' surface while it is hot.
- Proper precautions must be taken while handling any acid.
- Do not heat digestion vials with the caps closed.
- Do not operate the unit components if there is damage of any kind.

1.2. Warranty Information

ModBlock™ Wireless Digestion Systems come with a 12-month warranty on parts and inhouse labor at CPI International's service center or at an authorized distributor service depot. Warranty period commences from the date the system is shipped from CPI International. The unit should be shipped prepaid to CPI International for service. In return, CPI International will ship the serviced equipment back to the customer prepaid. CPI International will make every effort to perform the repairs and ship the equipment back to the customer as expeditiously as possible.

ModBlock™ Wireless Digestion Systems and its components should be serviced or repaired only by an authorized service person. Unauthorized modification of the product or any of its components may result in unsafe operating conditions and will void the instrument warranty

1.2.1. Items not Covered in Warranty

- Consumables such as digestion vials and associated parts.
- Damage caused by misuse or abuse.
- Any modification to the equipment performed without CPI International's consent.

1.2.2. Shipping Address

CPI International
Attn: Service Department
5580 Skylane Boulevard
Santa Rosa, CA 95403
United States of America
Phone: (800) 878-7654

2. GENERAL SYSTEM INFORMATION

2.1. Specifications

2.1.1. ModBlock™ Wireless Controller

- Dimensions 203.1 x 139.7 mm (8 x 5.5 in)
- Weight .45 kg (1 lbs)
- Battery 4,200mAh
- Memory 1.5GB LPDDR3 RAM •
- Processor 1.2GHz

2.1.2. ModBlock™ Wireless Interface Box

- Dimensions 15.3 x 10.2 x 7.6 cm (6 x 4 x 3 in)
- Weight 0.5 kg (1.3 lbs)
- AC Power Input 100-240 VAC, 50/60 Hz, 10 Amps maximum
- AC Power Out 100-240 VAC, 50/60 Hz, 10 Amps max., SSR Switched
- Temperature Input RTD

2.2. Facility Requirements

2.2.1. Power Supply

ModBlock™ Wireless Digestion System requires 100-240VAC/50-60Hz AC power. The facility power and current rating required is dependent on the number of digestion blocks operated at one time, as well as the operational voltage of the digestion block.

2.2.2. Placement

ModBlock™ digestion blocks should always be placed in a fume hood. Normally, the ModBlock™ Interface boxes are also placed close to the digestion block in the fume hood. The ModBlock™ Wireless controller can be operated by the user at up to 50 meters distance from the digestion block(s).

2.2.3. Operating Environment

ModBlock™ Wireless Digestion System operates in the following ambient environment:

- Ambient temperature: 5°C to 35°C (41°F to 95°F)
- Ambient humidity: 10% to 80% (no condensation)

3. PREPARATION AND OPERATION

3.1. System Description

ModBlock™ Wireless Digestion System consists of the following units:

- ModBlock™ Wireless Controller – Quantity 1
- ModBlock™ Interface box (up to 8 units)
- ModBlock™ Digestion blocks (up to 8 units)

3.2. Setting Up the ModBlock™ Wireless System

Setting up the ModBlock™ Wireless system consists of three separate tasks, as follows:

- Installing the digestion block in a fume hood.
- Upon first use, charging the ModBlock™ Wireless Controller battery and pairing the installed ModBlock™ digestion block/Interface Box with the ModBlock™ controller.
- Paired digestion block settings.

3.3. Installing the ModBlock™ Digestion Block and Interface Box

Because of the acidic fumes that are normally generated as a result of digesting samples, the ModBlock™ digestion block and the Interface box must be located in a fume hood that has an AC power socket able to deliver the required power to heat the digestion block and power up the interface box. They consist of connecting the 4 pin male plug of the digestion block power cable to their female counterparts on the right-hand side of the Interface box. Once that is done, simply connect the power cord from AC power to the left-hand side standard power socket of the Interface box. This will turn on the status display on the Interface box, indicating that the box is powered up and ready to receive instructions from the ModBlock™ Wireless controller unit that is outside the fume hood.

- Place the ModBlock™ in the fume hood.
- Connect the ModBlock™ cable to the right hand side of the interface box.
- Plug interface into the outlet.

3.4. Charging Up the ModBlock™ Wireless Controller and Pairing It with Interface Box

The Power pushbutton is located on the top, left side of the wireless controller body. Pushing it once toggles the power ON/OFF status of the unit. If powering up the controller for the first time, it will be necessary to charge the device with the supplied AC power adapter cable before it can be used. Please do this for at least one hour before proceeding further in this section. Switch ON the controller. If this App screen is not immediately visible, you should see a square icon called Apps. Click on this icon. Our objective is to reach the applications window. This will show all programs loaded on the computer and included in these will be the ModBlock™ Wireless icon app. Please seek out the ModBlock™ Wireless icon accompanied with CPI International logo. If you cannot see this icon immediately, please swipe the screen from right to left or from left to right, and another display of icons will appear. You should see the ModBlock™ Wireless icon in one of the icon windows.

3.5. Pairing of the ModBlock™

Your ModBlock™ will arrive paired to the interface box. Please refer to these instructions when you add additional blocks. Otherwise, skip to next section, Operating Instructions. Pairing of the interface boxes is performed by entering the Android™ Settings program. Note that Settings is not part of ModBlock™ application software but rather it is a tool provided in the Android™ OS. If the Settings icon is not immediately visible, please press the "Desktop Menu" button on the middle, right hand side of the controller.

Swiping your finger from right to left or from left to right moves display screens one at a time. One of these screens will have the Settings icon. To pair the powered interface boxes, tap the Settings icon and the Wireless Networks screen will launch.

- Set the Bluetooth option to 1.
- Tap on Bluetooth option (this will display available devices on the right side of the screen).
- The ModBlock™ will have CW followed by 5 numeric digits.
- To pair tap the name and follow the instructions provided.

3.6. Operating Instructions

- Unlock screen if necessary by brushing a finger left to right.
- Click on Apps.
- Click on Connect.

4. MODBLOCK™ PROGRAMMING INSTRUCTIONS

4.1. Creating a Digestion Recipe

- Click Digestion Recipe.
- Click New.
- Enter recipe name.
- Enter creator name.
- Program temperature, ramp time and digestion time for to 4 steps. (Digestion time starts when set point is reached)
- Enter sample type.
- Enter reagents.
- Enter vial materials.
- Click save.

4.2. Attaching a Recipe to a ModBlock™

- Click ModBlock™ on the top right.
- Select 'access block'.
- Select 'send recipe to block'.
- Select 'recipe'.
- Select 'send'.
- Select 'start digestion'.

4.3. Exporting Data Files from ModBlock™ Wireless Controller to a PC

As previously stated in this manual, the ModBlock™ Wireless controller is based on a tablet computer with Android™ OS. As such it may be linked to a Windows 7 PC computer a number of ways. The simplest of these is to connect the controller to a USB port of a PC, much as an external memory device, such as a camera. To do this, simply connect the power cable of the controller, which when the removable power adapter piece is removed, may be inserted into any PC USB port. The PC will recognize the controller as a memory device and display its memory content arranged in the familiar folder/file format. From the PC, you may download any ModBlock™ Wireless file for archival or printing. Specifically, the temperature profile files are stored as comma delimited text files that may be viewed from an MS Office Excel worksheet and graphed or printed.