



COLLECTION BOTTLE ROTATOR MODEL 1512

Instructions

Description

The Collection Bottle Rotator (PN 1512) is a device which allows segregating the catch of any of our miniature mechanical or pheromone traps or a collection device of your design into 8 bottles over periods of time determined by a programmable timer. The design permits almost complete flexibility in the collection schedule, which may range in total length from a few hours (or even as little as a single minute) to an entire week (184 hours) into a single bottle. The day, hour, and minute of the start of the collection into each bottle can be programmed as well. Timer accuracy is a nominal ± 60 seconds per week. An internal Lithium-ion battery maintains the current date/time and switching program for 3 years without external power. The Collection Bottle Rotator (CBR) requires a nominal 12 VDC input and supplies timer-switched same voltage to the trap via the 5-way binding posts on the top of the housing. With the option of the Automatic DC-DC Buck/Boost Power Supply (PN 8.INT) the output of the 5-way binding posts may be automatically regulated to 6.3 VDC so any of our 6-volt traps can be used without modification.

Electrical Requirements and Connections

The timer circuit and the gearmotor of the CBR requires ca. 12 VDC. When the gearmotor is not turning, the timer takes 0.01 amps and when the gearmotor is driving the platen the total is 0.15 amps. To these values the current consumption of your trap would need to be added; hence, the size, i.e., the amp-hour rating of the battery is largely determined by the requirement of the attached trap and the length of the trapping intervals programmed.

The external power cord set with its red and black leads is used to attach the unit to the battery. The color-coded terminals on the top of the unit provide timer-switched 12 VDC power to the trap which is installed into the top of the CBR. This 12 VDC is appropriate for any of our 12-volt traps. The standard CDC Miniature Light Trap (PN 512), however, requires 6 VDC. Users can order a CDC Miniature Light Trap modified to run on 12 VDC (with banana clips to plug directly into the 5-way binding post) from us (PN 512.12) or modify one of their own by using a 12-volt/330-mAmps bulb (CM-1816) and installing a 10-W/50- Ω resistor in series with the motor. Another option is specifying an Automatic DC-DC Buck/Boost Power Supply (PN 8.INT) be mounted inside the housing which would allow the use of a 6V- or 12V-trap. Contact us for parts and/or help with any of the options.

Operation

Outdoor mounting

The central stainless-steel rod extending from underneath the Collection Bottle Rotator is used to support the unit and associated trap; the diameter is 0.50" (18 mm). This should be inserted into a user-supplied piece of pipe or wood which has been driven into the ground. It is important that the platen of the CBR is horizontal and that the power supply cord and the support do not interfere with the rotation of the bottles. Take care when inserting the shaft of the rotator into your holder, that you do not drive the shaft collar up and make the platen bind. The best mounting setup is to use our Tripod and Powder-Coated Adapter (PN 1512.50).

Installing the trap and filling collection bottles

Insert the base of your trap into the screened holder located on the top of the CBR unit; the inside diameter of the holder is 3.87" (98 mm). Secure the trap with the thumb screws. You can fill the collection bottles with a few ounces of water or a water and/or alcohol solution and then screw them into the jar lids fastened to the bottom side of the platen; some users

collect into dry bottles by using a DDVP-based material (Hercon Vaportape II DDVP, Great Lakes IPM, <https://www.GreatLakesIPM.com/>) to provide knock-down.

After collecting into a bottle, the program calls for power to be shut off to the trap, the platen rotates to the next bottle and stops. This prevents the previous catch from flying out as the bottle is now covered with the internal cover over all bottles except the one under the trap. Note that after collecting into the eighth bottle, bottle one will be brought under the inactivated trap, possibly permitting the loss of catch from this bottle.

Electrical connections

If your trap/collection device requires 12 VDC power, connect it to the 5-way switched power supply terminals on the top of the Collection Bottle Rotator.

Connect the power supply cord of the Collection Bottle Rotator to a 12 VDC battery. The red lead is positive (+) and the black lead is negative (-). Do not connect to the battery with reversed polarity.

Manual movement of bottles

The bottle positions are marked consecutively from 1 to 8 on the underside of the bottle platen. There is a small push button switch located near the trap holder on the top of the Collection Bottle Rotator housing. With the Collection Bottle Rotator connected to power, momentarily pressing this for about one second will rotate the platen one bottle. Each time the switch is pressed and briefly held closed, the platen will rotate to the next position.

Operation of the timer unit

Be careful to keep the timer enclosure tightly closed when in operation, the circuitry can stand humidity but not rainfall on to the face of the timer. The unit has an internal rechargeable Lithium-ion battery that holds the time and programs for up to 3 years (i.e., memory); when you first power up the Collection Bottle Rotator, this Li-ion battery takes a few hours to charge.

When the timer is in the ON output, the RED light in the upper right of the timer will turn on.

When the timer is in the OFF output, the RED light in the upper right will turn off. This red light is a visual indicator of whether the timer is in an on or off state.



Figure 1. The digital programmable timer switch of the Collection Bottle Rotator.

Unlocking instructions

Press the C/R button four (4) times until the ∂ symbol disappears from the lower left of the timer's display. At this time, the control switch is in the unlocked state. If a button is not pressed for 15 seconds, the switch will automatically lock again and the ∂ will reappear.

Timer manual override

Pressing the MANUAL button cycles the timer through ON → AUTO → OFF → AUTO, then repeats:

- ON – The timer is locked on, regardless of programmed schedule.
- AUTO – The timer is running according to the programmed schedule.
- OFF – The timer is locked off, regardless of programmed schedule.

To set your timer

1. The first time you program your timer, press the recessed C CLEAR button to clear the time and the program.
2. Set the clock to the current day of the week, hour, and minute of the day:
 - a. Press the D+ DAY button until the current day of the week appears at the top of the display,
 - b. Press the H+ HOUR button until the correct hour is displayed (the timer uses 24-hour time),
 - c. Press the M+ MINUTE button until the correct minutes are displayed,
 - d. Press the $\ominus$ CLOCK button to exit.
3. To program each of the timer on/off pairs press the $\oplus$ PROGRAM button
 - a. Set the day, hour, minute for the first ON,
 - b. Press the $\oplus$ PROGRAM button and set the first OFF,
 - c. Repeat 3.a. and 3.b. until you have programmed all your ON/OFF pairs ,
 - d. Press the $\ominus$ CLOCK button to exit.