

Collection Bottle Rotator—Model 1512

Instructions

Description

The Collection Bottle Rotator (Model 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 minutes) to weeks. Timer accuracy is ± 60 seconds weekly. An internal Li-ion battery maintains the current date/time and switching program for 3 years without external power. The Collection Bottle Rotator (CBR) requires 12 VDC and supplies timer-switched 12 VDC power to the trap via the 5-way binding posts on the top of the housing. With the option of the Constant Voltage Power Supply (PN: 8.07) the output of the 5-way binding posts is automatically regulated to 6.1 VDC so any of our 6-volt traps can be used without modification. The output voltage will be specified with a label next to the binding posts.

Electrical Requirements and Connections

The timer circuit and the gearmotor of the Collection Bottle Rotator (CBR) require 12 VDC; when the gearmotor is not turning, the timer takes 0.01 amps and when the gearmotor is moving the platen the total is 0.15 amps. The size, i.e., the amp-hour rating, of the battery is determined by the requirement of the attached trap.

The external power cord set 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 Collection Bottle Rotator. This 12 VDC is appropriate for any of our 12-volt blacklight traps. The standard CDC Miniature Light Trap, Model 512, however, requires 6 VDC. Users can order a Model 512 modified to operate on 12 VDC from us for use with the Collection Bottle Rotator or modify one of their own by using a 12-volt/330-mAmps bulb (CM-1816) and installing a 10-wt/50- Ω resistor in series with the motor—call if you need parts and/or some help. The other, and better option is specifying a Automatic DC-DC Buck/Boost Power Supply (PN: 8.07); this can be mounted inside the housing. Call for details.

The CBR and power supply terminals are protected with a 10-amp fuse that is mounted in-line at the battery-terminal end of the power cord. When the CBR is not powering a trap, it takes 0.01 amps to power the timer; when the platen moves from one position to the next the unit requires 0.14 amps for 4-5 seconds.

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 that 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 the tripod shown (Fig. 1). The part number is 1512.5.

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 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, Great Lakes IPM, +1 (517) 268-5693) to provide knock-down. However, in early 2005, we modified the mechanism so that after collecting into a bottle, and the program calls for power to be shut off to the trap, the platen will rotate to the next bottle and stop; the previous catch is prevented from flying out, the bottle now being 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 collection device requires 12 VDC power, connect it to the switched power supply terminals on the top of the CBR. The gray power supply cord of the CBR is connected to a 12 VDC battery. The red lead is positive (+) and the black lead is negative (-); connecting the CBR to the battery with reversed polarity will not harm the unit, but it will not run either.

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 CBR housing. With the CBR connected to power, momentarily pressing this for about one second will rotate the platen one bottle. Each time the switch is pressed and held closed for *ca.* one second, the platen will rotate, automatically



Figure 1. Collection Bottle Rotator mounted on tripod and machined adapter, P/N 1512.5

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.



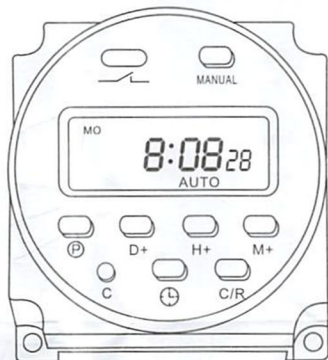
- To start the timer, press the RESET button “C” to clear the time and the program.
- Next, to set the clock to the current day of the week, the hour, and the minute:
 - Press the D+ DAY button until the day appears in top of display,
 - Then press the H+ HOUR button until the correct hour is set,
 - Then press the M+ MINUTE button until the displayed minutes are correct.
 - Finally, press the CLOCK button to exit.
- For each of the on/off pairs press the P button
 - Once and enter the time of the first ON,
 - Then press the P button again and enter the time of the first OFF.
 - Repeat steps 3.a and 3.b until are pairs have been entered.
 - Finally, press the CLOCK button once again to exit.
 - If you want to check the ONs and OFFs, press the P button repeatedly and the display will show sequentially the first ON and Off. Repeat for all pairs entered.
- After checking all pairs then press the CLOCK button to exit.

- To unlock the timer, press the C/R button four times and the “**a**” symbol in lower left of the display disappears. At this time, the control switch be unlocked. All keys are valid, can be set or other operation. If not operated in 15 seconds, the time-controlled switch is automatically locked. Such as finish setting up, you can also press the C/R button lor four times.

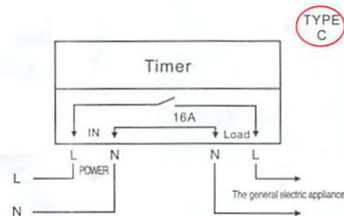
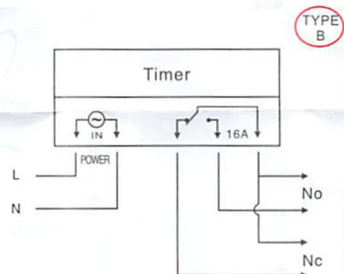
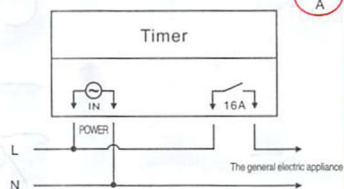
Step	Key	Programming
1	Press P	Setting1 ON time(display 1 on)
2	Press H+/M+	Setting hours and minutes
3	Press D+	To select same every day,or different time each day
4	Press P	Setting 1off time (display 1 off)
5	Press H+/M+	Setting hours and minutes turn off time
6	Press D+	If you want the same every day,you need not press this key
7	Repeat step2-6	Set 2-16 on/off time
8	Press ☹	End

If you do not require 16 settings,press “☹” to the end.

WEEKLY PROGRAMMABLE TIMER



■ CONNECTION DIAGRAM



■ DIMENSIONS



■ DIN Rail Installation

Advanced pre-setting one week before
Digital electronic time switch with daily programs
Repeat programs with 16 on/off setting; and manual over-ride
Lithium battery power reserve
Auto time error correction ± 60 sec/weekly

■ Unlock instructions

Press the "C/R" button for the four time, and the " " character disappears in the lower left corner of the display screen. At this time, the control switch is to unlock the state. All keys are valid, can be set or other operation. If not operated in 15 seconds, the time controlled switch is automatically locked. Such as finish setting up, you can also press the "C/R" button for four times, after manual lockbutton is invalid.

■ TECHNICAL DATA

Voltage rating: AC 220V 50/60Hz
Voltage limit: AC 180V-250V
Hysteresis: ≤ 1 sec/day(25°C)
ON/OFF operation: 16 ON& 16 OFF
Power consumption: 2VA (max)
Display: LCD
Service life: Mechanical 10⁷
Electrically 10⁵
Minimum interval: 1 minute
Weight: approx 40g

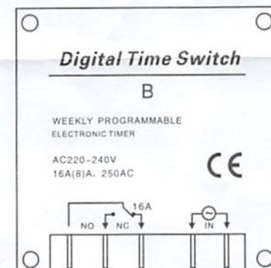
Order voltage

12V, 24V, 36V, 48V, 110V;
Count down: 1 sec-99 min 56 sec
Load capacity: resistive load: 16A/25V AC
Lagging load: 10A/250Vac
Lamp load: 2000W
Switching contact: 1 changeover switch
Power reserve: 3 years (Lithium battery)
Ambient temperature: -10~+40°C
Ambient humidity: 35~85%RH

■ DISPLAY



1	P	TIMER
2	D+	DAY
3	H+	HOURL
4	M+	MIN
5	C	CLOCK
6	C	RESET
7	MANUAL	MANUAL C/R
8	C/R	Cancel/recovery



■ Operating Instruction:

- To start switch: press reset Key, At the first time, if you want to the present time, please press " " On board, then press D+, H+, M+ to adjust the number to the present time.
- Enter into programming as follows:

Step	Key	Programming
1	Press P	Setting 1 ON time (display 1on)
2	Press H+/M+	Setting hours and minutes
3	Press D+	To select same every day, or different time each day
4	Press P	Setting 1 off time (display 1 off)
5	Press H+/M+	Setting hours and minutes turn off time
6	Press D+	If you want the same every day, you need not press this key
7	Repeat step 2-6	Set 2-16 on/off time
8	Press C	End

If you do not require 16 settings, press " " to the end.

■ NOTE:

- Time setting should according to the time sequence, couldn't be set crossly
- System with quit automatically if there's no operating within 10 seconds and no data is saved.
- Function 3, 4, 5 can not be used simultaneously.