

MIDNITE SOLAR'S **Birdhouse**

Emergency Disconnect Device

The MidNite Solar Birdhouse is a firefighter/home owner's control device designed specifically for disconnecting rooftop PV panels at ground level. In case of emergencies or system maintenance, the press of a big red button disconnects inherently hazardous voltages.

The Birdhouse works in conjunction with MidNite Solar's disconnecting combiners. It's designed to be mounted within 500 meters of the combiner and located near rooftop access points such as doors and ladders.

The Birdhouse's LEDs display the system status and automated speech gives further situation specific instructions. The Birdhouse has an attractive weather resistant enclosure made of anodized aluminum and high density plastic.

Firefighters and emergency personnel love the Birdhouse!



The heart of the Birdhouse system are MidNite Solar's disconnecting combiners (sold separately), which features an electrically tripped disconnect switch. The trip signal from the Birdhouse is applied via a 600 volt rated CAT-5 cable to the disconnecting combiner. There is two way communications between the combiner and the Birdhouse so that if the combiner is tripped this will be reflected by the Birdhouse.

FEATURES

- There can be up to three additional Birdhouses to provide PV disconnect capability in other areas.
- The Birdhouse has four LEDs which show the current state of the system
- Reflective side labels clearly identify the Birdhouse as the solar shutoff point.
- The Birdhouse features a voice announcement system that audibly gives the appropriate instructions.
- Internal rechargeable batteries provide temporary backup power in case of external power cutoff.
- The Birdhouse has a remote trip input and a software activated relay to interface with other equipment such as a fire alarm system.

AUDIO MESSAGES

SYSTEM READY "The system is ready."

BREAKER CLOSED "The combiner circuit breaker is closed."

DAYTIME WARNING "The combiner circuit breaker is open. There are still lethal voltages present between the solar panels and the combiner, which is a gray box with a red handle. Note that the handle will still be in the on position, however the voltage is turned off internally." (repeats)

BREAKER OPEN FAIL "The button was pressed, but the combiner circuit breaker did not open. There are still lethal voltages present throughout the system. You must turn off the system manually at the combiner, which is a gray box with a red handle. Turn the handle fully off to disconnect the solar panels from the rest of the system." (repeats)

NIGHTTIME WARNING "The solar system has been disabled. There are no voltages coming from the solar panels. The system voltage is zero." (repeats)

CANCEL VOICE "To Cancel this announcement, press and hold the red button for five seconds." (repeats)

CABLE IS OPEN "WARNING!" "The combiner cable appears to be damaged or unplugged. You should call your service technician and assume that lethal voltages are present throughout the system during daylight hours." (repeats)

SPECIFICATIONS

- AC Power: 115 VAC 50-60Hz @10mA (1 watt nominal)
- Solar Power- +48 volts DC from the combiner (20mA nominal)
- Remote Trip Input: Normally Open (N.O.) disconnect switch closure to GND. Internally pulled to +3.3 VDC. Not recommended for DC levels.
- Aux Relay Output: 1 form C relay: 1A @ 120VAC / 24 VDC contacts
- Batteries: 9 volt, rechargeable, NiMH, 180mAh, Varta P/N 5122 V7/8H or equiv. (Qty=4)
3.0 volt, lithium coin-cell, CR1216 (Qty=1)
- Display LEDs: Solar ON – Green; Solar OFF – Yellow; AC In – Green; Battery Low – Red
- Weight: 4 lb 8oz. (2.05kg)



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