

PRODUCT DESCRIPTION

40 Watt SOLAR CHARGER OPTION

PART #01-1468094-00, Model VSBC40, Model HSBC40
DOC. #04-0113281-01

GENERAL-

Whelen's VORTEX™ and HORNET™ Outdoor Warning Sirens may be fitted with Solar Photovoltaic Panels as an alternative method of charging the internal batteries.

The option consists of (2) 12V, 40 watt panels, an aluminum mounting structure and a charger.

The 40 watt panels are wired in series for a nominal 24 volts output. The mounting bracket holds both panels and allows the array to be set at the proper angle to the sun.

The Solar Charger is an 8 AMP, Temperature Compensated Module #01-0268093-00 mounted in place of the standard charger on the right rear panel. When the batteries are fully charged, the Solar Charger will shunt the solar panels until the battery voltage drops to the correct float voltage, then the shunt is released. This will cause the LED indicator to cycle on and off when the batteries are fully charged.

The Solar Battery Charger senses the temperature from a sensor located on the charger and adjusts the charge voltage to optimize battery charging.

WIRING-

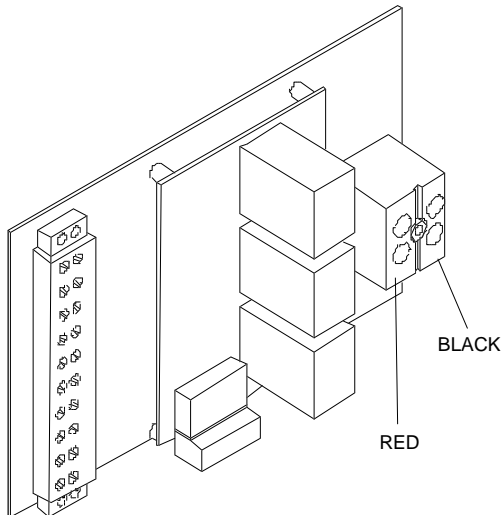
Refer to the diagram below. The solar panels are equipped with a 45 feet of 2 conductor, 14 AWG cable. Locate the Terminal Block in the left side of the cabinet. Connect the Red wire (SOLAR+) to the forward position of the Terminal Block. Connect the Black wire (SOLAR-) to the rear position of the Terminal Block.

MOUNTING-

For northern latitudes, mount the array facing south. Typical mounting height is 30 to 35 feet above the cabinet. Refer to the Station Drawing in the VORTEX™ or HORNET™ Manual. The solar array wiring is basically replacing the AC service wiring. A section of flex conduit may be used from the array junction box to the 3/4" steel conduit.

Set the tilt angle as follows:

<u>Latitude in Degrees</u>	<u>Tilt Angle</u>
0° to 15°	15°
15° to 25°	equal to latitude
25° to 30°	latitude + 5°
30° to 35°	latitude + 10°
35° to 40°	latitude + 15°
+ 40°	latitude + 20°



PIONEERS IN SAFETY SIGNALS
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PRODUCT SPECIFICATIONS

Solar Array Output

Nom. System Voltage: 24 VDC
Typical Peak Power: 40 Watts
Current @ Oper. Voltage: 2.35 Amps

Solar Array Physical

Array Size (approx.): 30" W x 40" H
(not including bracket)
Weight: 48 pounds
(including bracket)

Solar Regulator Inputs

Input Voltage Range: 20 to 50 VDC
Max. Input Current: 8 AMPS
Transient Suppression: Input Only
Blocking Diode: Schottky

Solar Regulator Outputs

Nom. System Voltage: 24 VDC (fused)
Shunt Point Voltage: 29.2 VDC @ 25°C
Resume Point Voltage: 26.2 VDC @ 25°C
(Points are +/- 0.8 VDC)

Temperature coefficient for Output
Voltages: -60mVDC/C°

Solar Regulator Specifications

Temperature Range: -35°C to +60°C
Humidity: 0 to 99% (non-condensing)
Size: PCB Module 4.0 W x 6.0 H