Interface Manual

Sentinel Solar System

SignalFire Model: Sentinel-HCSolar

Sentinel Solar system shown with mounting bracket kit

The SignalFire C1D1 Solar System is an Intrinsically Safe device with the following features:

- Complete battery and solar charging system
- Integrated mounting bracket for mounting on a horizontal or vertical pole
- High efficiency solar charging circuit
- Fully encapsulated battery pack and charging circuit
- Optional bracket kits for mounting the solar system with the Sentinel

Specifications

Panel Size	9.5” tall × 8.0” wide
Panel Wattage	4.0 Watts
Battery Capacity	9.0 Amp hour
Temperature Range	-40ºC to +60ºC
Compliance	Certified for use in Class I, Division 1 groups C and D. EXi [EXi]

WARNING: Use of this equipment in a manner not specified by the manufacturer may impair the protection provided by the equipment.

WARNING: The use of any parts not supplied by the manufacturer violates the safety rating of the equipment.

The associated apparatus provides intrinsically safe outputs.
L'appareil associé fournit des sorties à sécurité intrinsèque.

WARNING: If the solar system is used the internal battery source may not be connected!

SignalFire Telemetry Hudson, MA USA www.signal-fire.com S/N: 00000001

Model: SENTINEL-SOLAR-9.0

C ETL US LISTED
Intertek
4003827

CLASS I, DIVISION 1 GROUPS C, D
TEMP CODE: T3
AMBIENT TEMP: –40ºC to +60ºC

CONFORMS TO UL STD 913
CERTIFIED TO
CAN/CSA STD C22.2 NO. 157

ENTITY PARAMETERS Exi [Exi]
OUTPUT:
Voc = 5.9 Vdc
Isc = 3.06 A
Pout = 0.8 W
Ca = 999.9 uF
La = 38.18 uH

INTRINSICALLY SAFE
SECURITE INTRINSEQUE

WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY

AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE

Connection to Sentinel Node

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Sentinel Compatibility

The current available from the solar system is limited due to the IS certification so the solar system may not be used for all Sentinel node configurations.

The following configurations are supported:

- Sentinel Digital
- Sentinel HART
- Sentinel Analog in 1-5V mode (with a sensor power draw of less than 8mA)
- Sentinel Modbus (with a sensor power draw of less than 14mA)
- Sentinel Turbine
- Sentinel Thermocouple

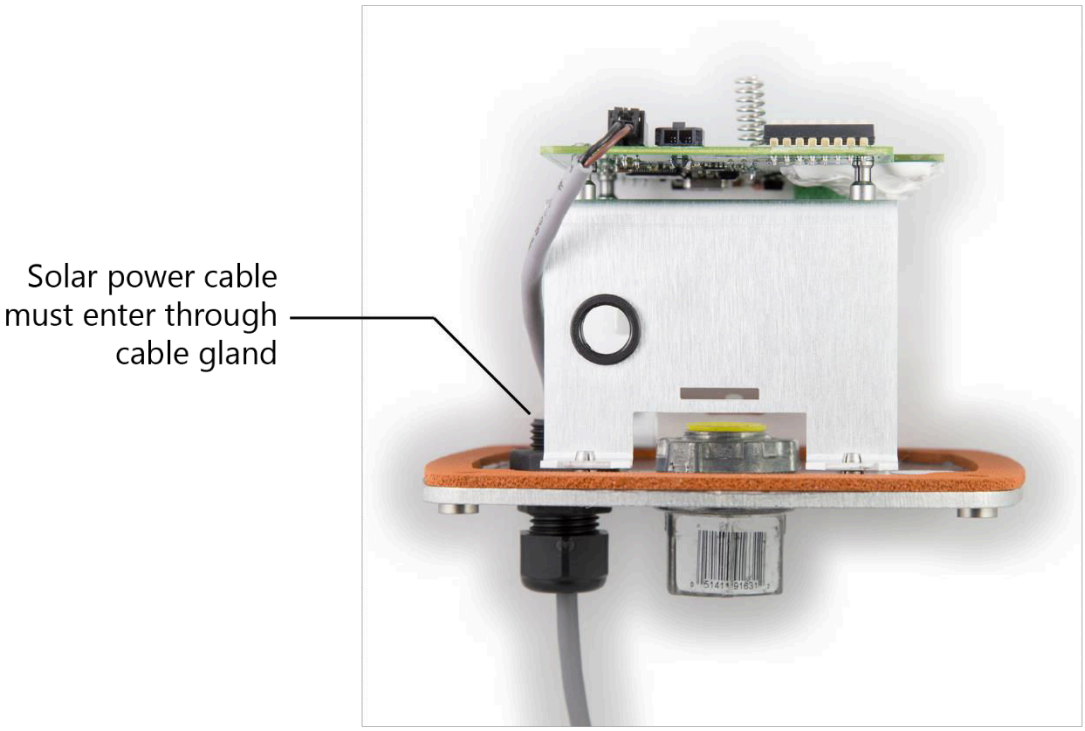
Note: The Sentinel Solar cannot be used with a Sentinel Analog operating in 4-20mA mode.

To ensure intrinsic safety is maintained it is required that the installer follow these guidelines when connecting sensors to the SignalFire node.

The sentinel node must be purchased for use with the solar system. The “solar ready” Sentinel node has a cable gland for the power cable. This should be routed away from any sensor wires entering the Sentinel node.

See pictures for proper wire routing examples.

- The solar power cable must enter through the cable gland
- All wiring should be neat and orderly

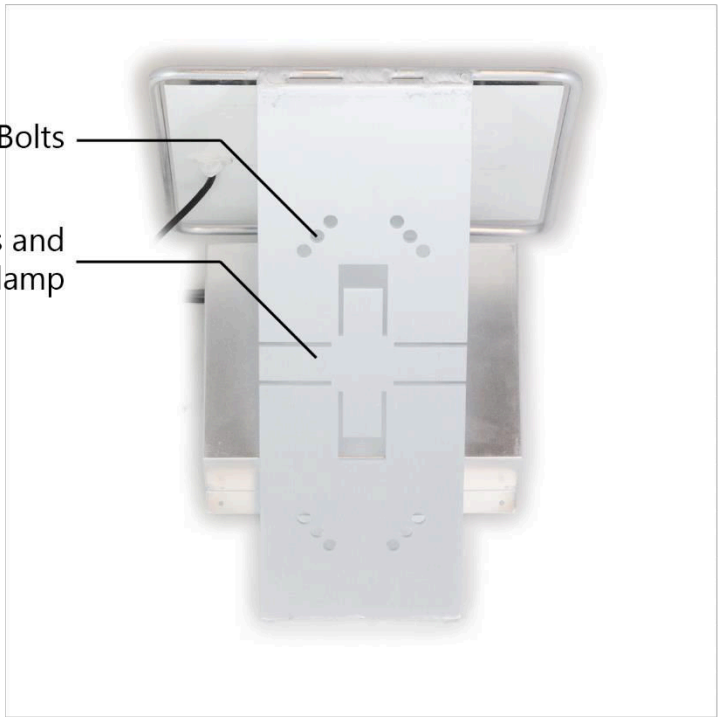


Mounting

The solar system comes on a mounting bracket which may be mounted to either a horizontal or vertical pole using hoe clamps. The tabs on the bracket may be bent to fit around the pole. Alternatively, U-bolts can be placed through the holes in the rear of the bracket for pole mounting.

The system should be installed with the solar panel facing south with a good view of the sky.

Mount the system so that the mounting side of the triangle is vertical and the battery box is at the bottom.



SignalFire also supplies a varity of mounting kits for various sensors. Contact SignalFire or visit http://www.signal-fire.com/sentinel-bracket-kits/ for information.

Cleaning Instructions

The solar panel and bracket may be cleaned with water, mild soap, and a damp cloth as needed. High pressure washing is not recommended.

Technical Support Contact Information

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Revision History

Revision	Date	Changes/Updates
1.1	10/09/12	Initial release
1.2	6/20/13	Added detail on compatible Sentinel models. Added mounting detail.
1.3	11/7/14	Updated entity parameters
1.4	6/22/15	Updated design
1.5	2/8/19	Updated address, picture