READ AND FOLLOW ALL SAFETY INSTRUCTIONS!

SAVE THESE INSTRUCTIONS!

IMPORTANT SAFEGUARDS
READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

- Do not use outdoors.
- Do not let power supply cords touch hot surfaces.
- Do not mount near gas or electric heaters.
- Use caution when servicing batteries. Battery acid can cause burns to skin and eyes. If acid is spilled on skin or in eyes, flush acid with fresh water and contact a physician immediately.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Do not use this equipment for other than intended use.

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SAVE THESE INSTRUCTIONS!

IMPORTANT LOW BATTERY ALARM NOTE: DEFAULT ALARM IS SET FOR QTY. 2 48V/190 AH BATTERY STRINGS. IF INSTALLING ONLY ONE 190 AH STRING, PLEASE SEE PAGE 5.

M-PE48V600W
As of 040118

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Powering the Network
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PE-48V-600W-XXXAH

Power Enclosure, 48 VDC, 600 Watts,
XXX Amp-Hour Power System

Installation/Operation Manual

- **Installation**
- **SRS-48 Sentinel Manual**
- **Cabinet Outline and Mounting**
- **Wiring Guide**

Specifications

Ratings

Input: 120V AC, single phase
Input Frequency: 60 Hz.
Maximum Input: 17.4 Amps *Use Copper Wire Only*

Output

Volts: 54.0V DC
Amps: 12.5 Amps/600 Watts

Rated Operating Time in Emergency Mode

Load: 600 Watts
Single: 190AH, 48V DC Battery String: 12hr
Two: 190AH (380AH Total), 48V DC Battery String: 24hr

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Prepare to Install

- **System Contents:** Power Enclosure, Batteries (Packed and Shipped Separately)
- **Details:** Installation Manual, Located Inside of Door

Caution: Heavy Equipment

Inspect Shipment Upon Receipt, Notify Carrier if Any Damage!

Material Provided:
1) NEMA 4 UL Listed Power Enclosure
3) RM648 Sentinel Rectifier Modules (packed separately)
1) Operational Manual
1) CD Rom
1 or 2) 48 Volt, 190 AH Battery String Sold Separately

Overall Case Dimensions: 50.23" H x 25.5" W x 34" D
Door Hinges: Left Side

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Installation

*AC Electrical Box

Load T-BIK

Sentinel Power System Shelf (SRS-48), 48V DC, 600 Watts

-48V Load Terminal Blocks #1 - 4

Battery Disconnect Circuit Breakers #1 & 2

Load Circuit Breakers, 15 Amps x 2 & 10 Amps x 2

RM648 Sentinel Rectifiers, 48V DC, 600 Watts x 3

SM-36 Monitor/Controller

Battery String #1 Positive (+) Cable Connection Point

Battery String #1: 48 Volt/190AH

Note: If installing one battery string only, please see page 5 for instructions on charging the low battery alarm.

Battery String #2: 48 Volt/190AH

Battery String #2 Positive (+) Cable Connection Point

*AC Wiring: Connect 120V AC, 20 amp circuit to 4" AC box located in the upper left side of the box, see image upper left corner

Battery String #2 Negative (-) Cable Connection Point

Battery String #1 Negative (-) Cable Connection Point

Positive (+)

Negative (-)

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1) Drill mounting holes in base of enclosure and secure with installer supplied hardware.
2. Drill holes as needed for cord grips or conduit fittings (installer supplied). Avoid drill shavings from contacting the SRS-48 Sentinel Rectifier Shelf located at the top of the enclosure. You will need a minimum of the following cables entering/exiting the PE Enclosure:
   A. AC input power (120V AC, 20Amp)
   B. 48V DC output to BDA
   C. Alarm cables
3. Route a single 120V AC, 20 Amp circuit to the PE-48V-600W-XXXAH and wire to the Quad electrical outlet box located on the upper left side of enclosure. One of the NEMA 5-20 outlets will provide power for the Sentinel Rectifier Shelf. Do not energize the AC circuit at this point.
4. Route BDA amplifier DC input cables through cord grips or conduit and connect to one set of the green 48V DC output terminal blocks located on Sentinel Rectifier Shelf. The Sentinel comes equipped from left to right; 2 x 15 Amp & 2 x 10 Amp load circuit breakers. The upper terminals are negative (-) and the lower terminals are positive (+).
5. Route your alarm cables to the Sentinel. See page 8 for details on the alarm contacts. Three alarm relays are pre-programmed at the factory to provide the following alarms:
   A. AC Fail
   B. Rectifier/Charger fail
   C. Low battery (30% remaining)
6. Turn off the two battery breakers on the Sentinel Rectifier Shelf. Install batteries in to the battery trays per picture. Install the three series bus bars/jumpers (10mm socket required, 71 in-lbs. torque recommended) provided with the batteries to create a 48 volt battery string. Note: If only installing one 48 volt, 190 AH battery string see page 5 for instructions on how to re-program the low battery alarm for one battery string.
7. For battery temperature compensated charging partially pull out the SM-36 controller approximately 6" and identify the temperature sensor. Cut the tie wrap and extend the sensor out of the controller compartment and place the probe between the center two batteries or secure it to the top of the battery with tape or RTV silicone. If two battery strings are installed place the sensor on the upper battery string.
8. Connect the 48 volt positive (+) & negative (-) battery cables to each string - see pictures.
9. Verify the Sentinel's AC power cord/plug (NEMA 5-20) is plugged in to one of the AC outlets to the left of the Sentinel rear.
10. Remove one Sentinel RM648 rectifier from the packaging and install it in to one of the three rectifier bays on the Sentinel Rectifier Shelf.
11. Energize the 120V AC circuit at the building's AC panel. The Sentinel rectifier should power up along with the SM-36 controller and emit a beeping sound - press any button on the SM-36 to silence. The rectifier should show a green LED on its front panel and the LCD display should show output voltage
12. Verify correct battery polarity and then turn on the battery breaker for each installed battery string. Using a DMM connected to the battery terminals verify battery voltage is rising. The battery should float at approximately 54.0 volts.
13. Turn on the load breaker feeding the BDA and verify its powered and operating.
14. Verify battery back-up by turning off the 120V AC circuit feeding the PE system, verify BDA is powered from the 48 volt battery.
15. For more information on the Sentinel system and SM-36 controller please see the Sentinel system or SM-36 manuals located on the included CD ROM.

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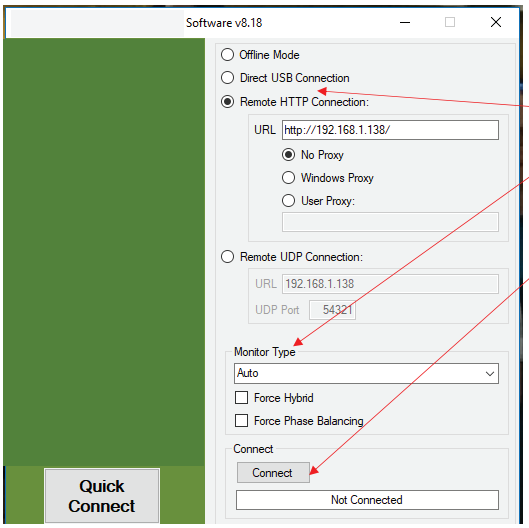
Programming 30% Remaining Low Battery Alarm

The factory default low battery alarm for the SRS-48 Sentinel Rectifier Shelf has been set for two 190 AH 48 volt battery strings (one string per battery tray). If installing one battery string only this battery alarm must be changed to the 190 AH setting. This is accomplished by installing the Low Battery Alarm '190 AH Config. File' located on the CD ROM provided in the manual zip bag and located in the manual pocket on the inside of the front door (custom configuration files located in ZIP on CD Rom).

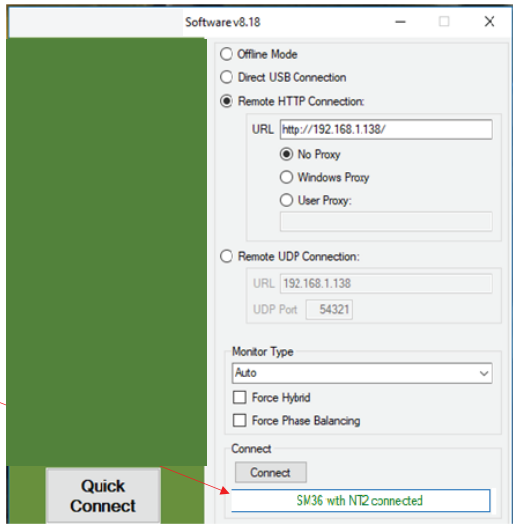
Instructions for installing different configuration file in the Sentinel SM-36 controller:

1. The Sentinel's SM-36 controller must have power to replace the configuration file. It's recommended you perform the config. file installation following installation of the enclosure and connection of ac or battery (at least one is required to power the SM-36).
2. Load the SM36 configuration software "setup_sm3xconfig" on to a PC or laptop
3. Download the 190AH Config. file on to the PC
4. Connect the PC to the SM-36 controller using the provided USB cable



Open the SM-36 configuration software. At the top you can select direct connect with USB or remote HTTP connection. Once selected make sure the monitor type is set to auto from the drop down selection, then press the connect button below.

The box below will show connected as displayed below momentarily and open up the program software.



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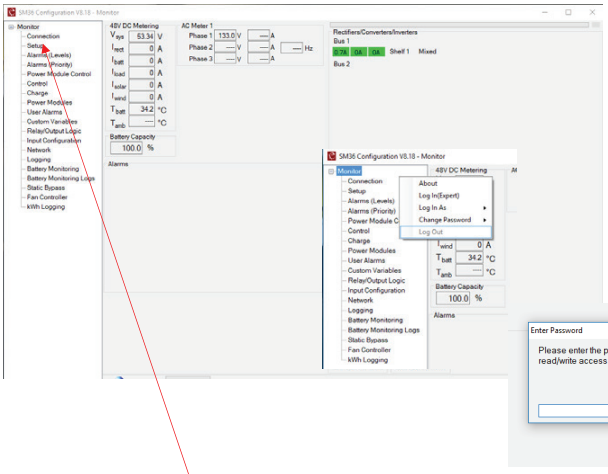
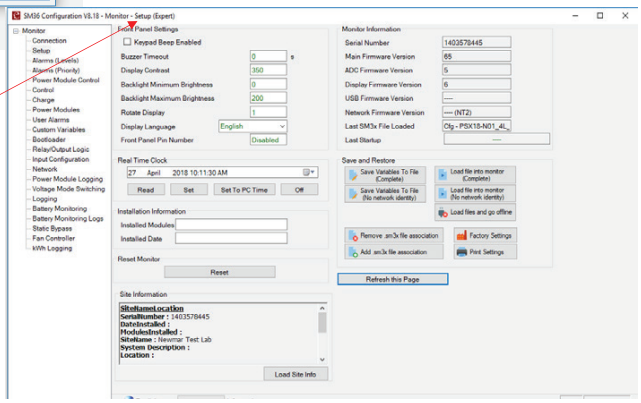


This screen will appear once the program first opens up. From here right click anywhere in the left side menu and a small box will appear. Select Log In (Expert) and another box will open asking for password. The password for this is expert.

Select set up from the menu section on the left side and it will bring you to the screen below on the right. In the section save and restore select load file onto monitor (complete). This will allow you to locate the file you have saved on your PC or the CD provided and select the config. file for the 190AH battery configuration.



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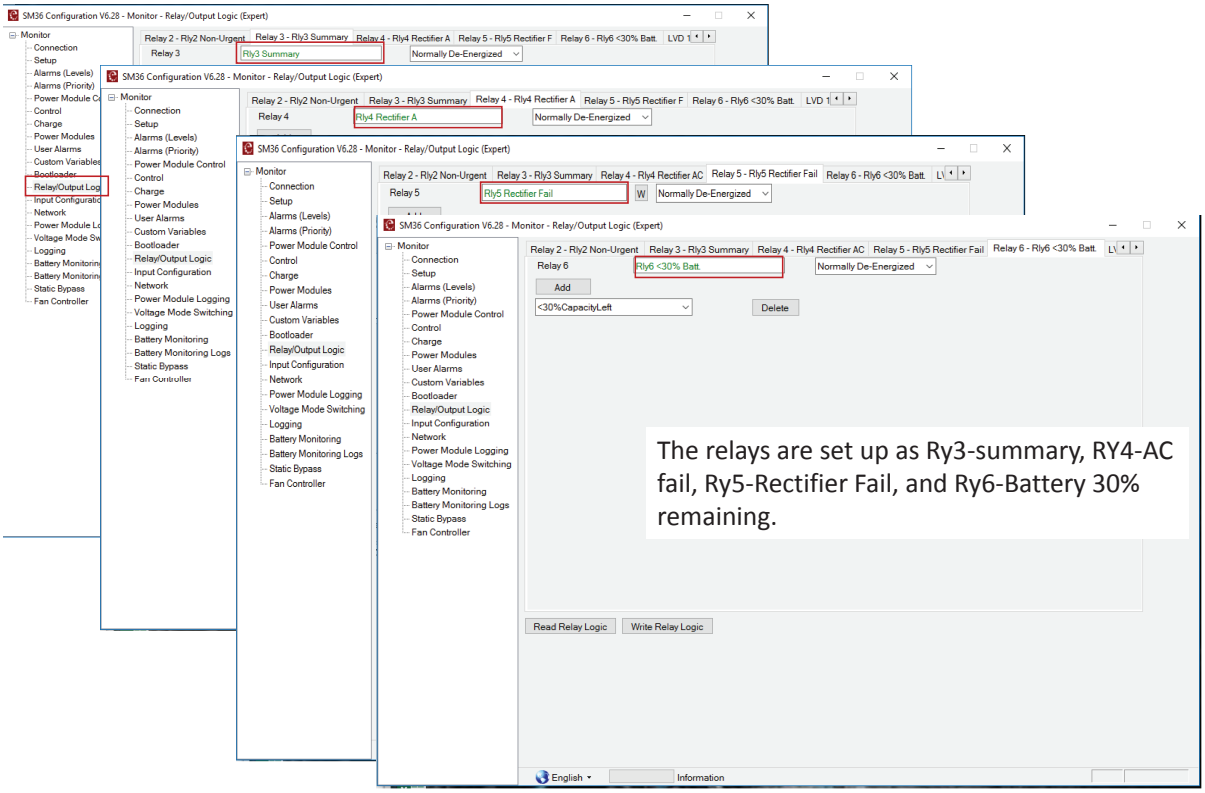
Wiring the Fire Alarm Panel to the Low Battery, Rectifier/Charger fail & AC Fail Alarm Contacts

1. To connect to the alarm contacts partially pull out the SM-36 controller in the Sentinel Rectifier Shelf



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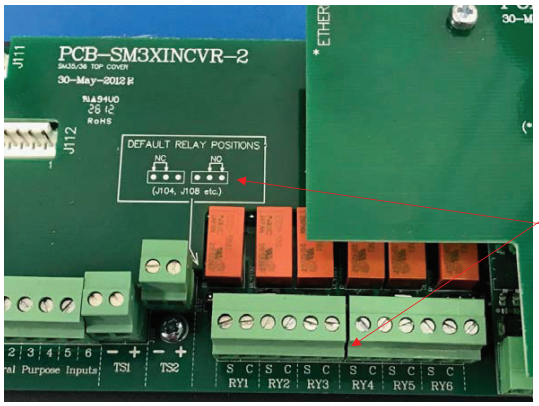
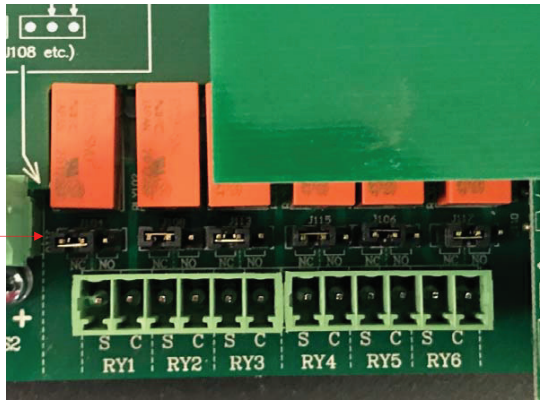


The SM-36 controller will need to be pulled out and in the picture to the left you will see the relay connections and the default positions the jumpers are set in.

The jumpers can be configured for either normally open or normally closed conditions.



2. The alarm contacts can be set for contact closure (NO, Normally Open) or contact open (NO, Normally Closed) upon alarm.

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