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WSM-200W Instruction Manual



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Product Description

The Warmup WSM-200W is a WiFi-enabled panel to operate your in-ground snow melting system. The panel contains load switching capabilities (up to 240A/240V) and is **triggered by the weather forecast**.

Although it has a manual power button on the enclosure frame, the WSM-200W is intended to operate automatically and without the need for external sensors. The device will monitor the weather forecast several times per hour looking several hours in advance (typically 2 hours). Once the weather data matches trigger points set in the parameters, the system will engage.

This allows the system to pre-heat before the snow fall, making it significantly more prepared during heavy snow falls. It will aim to get the outdoor slab to 50-55°F before the precipitation event and thereby prevent any accumulation of snow. The system carries an internal manual timer as well as app-based time settings. Please refer to the below manual for complete instructions.

Product Specifications

The WSM-200W is intended to operate Warmup's WSM and WSMM snow melting cables and mats in in-ground snow melting applications.

Enclosure	NEMA 1 for indoor mounting
Relays	Four (4) 240V/60A Relays
WiFi Relay	Shelly 1
Amperage	MAX load bearing of 240A/240V single phase power.
Approvals	UL-approved components assembled in UL 508 facility

Limitations

The device must be mounted indoors and within reach of the dwelling's WiFi signal.

The WSM-200W is currently designed to operate in-ground snow melting systems and is not yet calibrated to operate roof melting applications. While it can perform that function, it is not yet updated with the specific requirements of such applications (run-off melting, etc).

The WSM-200W is specifically designed to work with the wattage output of cables manufactured by Warmup Inc / Warmup PLC. Warmup makes no guarantees as to its suitability when used with non-Warmup systems.

Figure 1

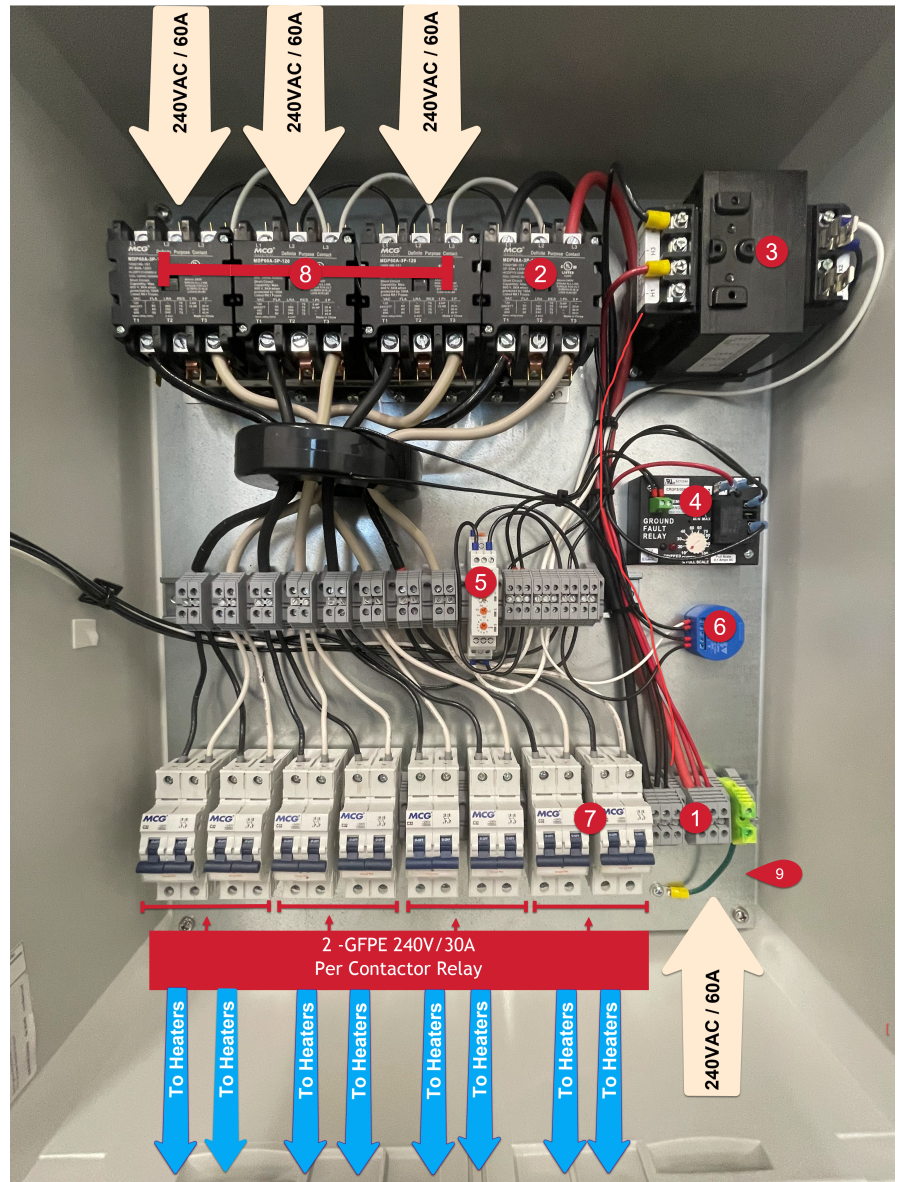
The WSM200W controller has four (4) - 240VAC/60A contactor relays.

One (1) contactor relay requires a 240VAC/60A dedicated inbound circuit (see Figure 1, #1 & 2). This contactor relay will supply power to the transformer (see Figure 1, #3). The transformer will supply power to the Ground Fault Relay, the Manual Timer, and the WiFi Relay (see Figure 1, #4, 5 & 6).

There are three (3) additional contactor relays to accommodate larger loads. Each of the optional relays require a 240VAC/60A dedicated inbound circuit (see Figure 1, #8).

There are eight (8) outbound GFPE 240VAC/30A breakers two (2) per contactor relay (see Figure 1, #7) supplying the heater(s).

See page wiring diagram on page 10.



1. Required: 1 - 240VAC/60A Dedicated Inbound Circuit
2. Required: Contactor Relay
3. Transformer
4. Ground Fault Relay
5. Manual Timer
6. WiFi Relay
7. GFPE Breakers (8): 240VAC/30A
8. Optional Contactor Relays: 3 - 240VAC/60A

Manually Activating The WSM200W



You can activate your WSM-200W manually by pressing the on/off button on the door of the enclosure. This is accessible to the user from the outside of the panel.

However, at initial set-up, the internal timer should be set up with the desired number of hours for the timer to function upon being triggered by the ON/OFF button.

The timer can be set from 1 to 99 hours and Warmup defaults the timer at 1 period of 10 hours. We do not recommend less than 5 hours for proper snow melting results. This can be changed at any point by the user.

When changing the settings of the timer, you must first disconnect power to the whole unit, then change settings, then turn power back on. This is not only for safety reasons, but also because the timer requires a power-cycle reset when its settings are changed.

The manual operation of the system can serve as an override to the WiFi activation. This means that at any point, the user can activate the system manually without interrupting the regular operation of the system using the WiFi signal and the app's parameters.

The breaker must be turned off before adjusting the timer settings.

T1-K KLEMSAN TIMER SETTINGS



1. Set the top orange dial to 10h
2. Set the middle orange dial to the number of "run time" hours.
 - a. 1 Hour = 0.1
 - b. 2 Hours = 0.2
 - c. 3 Hours = 0.3
 - d. 4 Hours = 0.4
 - e. 5 Hours = 0.5
 - f. 6 Hours = 0.6
 - g. 7 Hours = 0.7
 - h. 8 Hours = 0.8
 - i. 9 Hours = 0.9
 - j. 10 Hours = 1.0
3. Set the bottom orange dial to Mode "D"

80.1 FINDER TIMER SETTINGS



1. Set the top gray dial to 24h
2. Set the middle blue dial to the number of "run time" hours.
3. Set the bottom white dial to "BE" mode

Example: Run Time = 5 Hours

1. Set Top Dial to 24h
2. Set Middle Dial to 5

Smartphone Application

To activate your WSM-200W automatically as it was designed to be, you must first download the Warmup WSM application available in your iOS or Android app store.

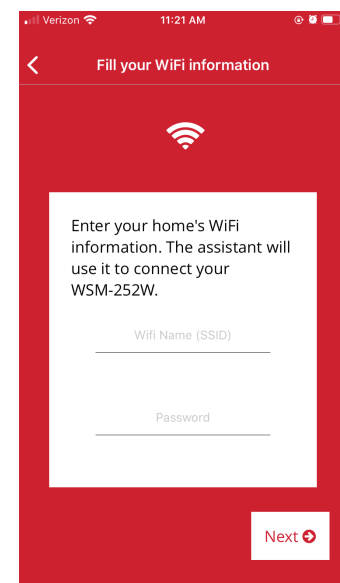
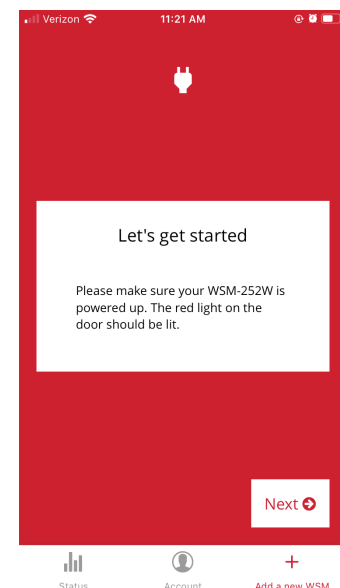
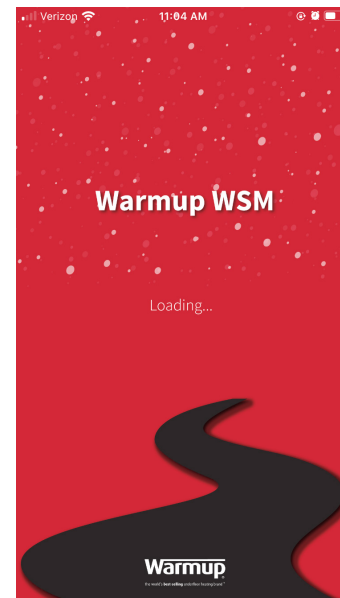


Upon download, verify that your system is properly wired and powered so that it can emit the necessary signals to your home's WiFi router. This signal will then be picked up by your phone for the activation of the app.

With all that verified, open the app and follow the prompts. You will need to key in your WiFi's "name" (SSID) and the password to connect to it.

Once the connection is established, the following step will be to connect your phone with the WSM-200W.

To do that, go to your phone's SETTINGS where you can review the available WiFi signals.



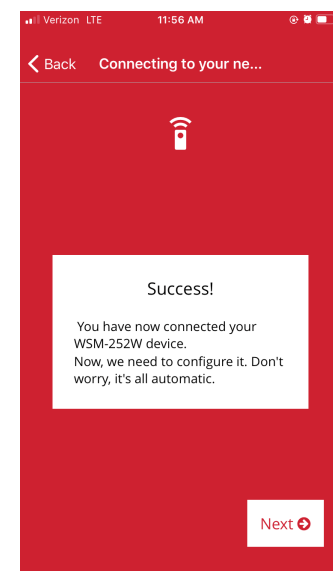
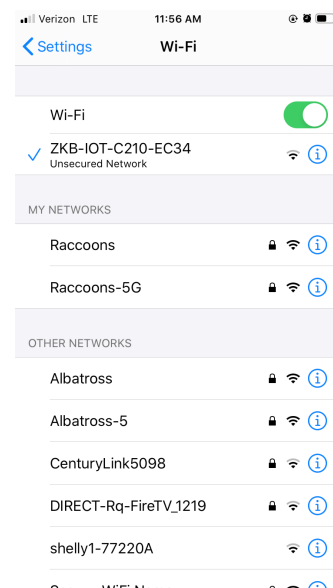
A new signal will have appeared with the format "Shelley-IOT-xxxx-xxxx" where the "x" can be a series of numbers and letters. Assuming it is the only WiFi signal starting with Shelley-IOT... select it and let your phone connect to it.

NOTE: newer versions of the WSM-200W have a different relay and signal. If your WiFi relay is a round blue box, a different, unique WiFi signal will be emitted that may not look like "Shelley..." but like "shelly1" instead

This will pair up your phone with the device. You can repeat this operation with any other phone.

Once it has connected to the Shelley network, it will prompt you to return to the SETTINGS of your phone and return to your home's WiFi network as it originally was. This is simply to return your phone to its original set-up. The temporary switch to the Shelley network allowed the WSM-200W to pair up with your phone specifically and it will now link directly with your home's router.

Over the next few screens you will be guided to set up your system and name it. It will select your location if your phone allows it in order to determine the exact location of your device, and by extension your driveway and snow melting system. This is important as the weather forecast will be checked for that location specifically.



Default parameters have been preloaded for a typical snow melting system. You can click on the EDIT icon (pen and paper) of your snow melting system and change the following:

EDIT NAME

If you wish to change the name of your system you can do it here.

STARTING TRIGGER OR %PRECIPITATION The weather forecast indicates the chances for snow over the following several hours in your area. Your device will trigger once the probability is above the percentage identified in your settings. We recommend 70-75% probability, but a high % makes the system less sensitive and a lower percentage makes it more sensitive. This means that in areas with fast-changing climates, you may want a more sensitive system.

AHEAD START

As a default, the system will turn on 2 hours prior to the forecasted precipitation event. If your location requires more time, you can change this here. You can simply let the default setting run for a few snow falls and adjust later on. If your wattage output is lower than 50 watts/sqft (cables at 3" spacing) you may need more than 2 hours to get your slab to temperature prior to the snow fall. We recommend setting this to 3 or 4 hours for spacing of 4" (42w/sqft) or 5" (35w/sqft).

The screenshot shows a mobile app interface for 'Device set-up'. At the top, there's a red header with a back arrow, the text 'Device set-up', and status bar icons (Verizon, 11:59 AM, battery, etc.). Below the header, the 'Edit Name' section shows a text box containing 'Boulder'. The 'Starting trigger' section features a horizontal slider set to 50%, with the text 'Ice or snow percentage: 50 %' and a description: 'Threshold of snow/ice percentage before the device automatically starts.' The 'Ahead Start' section has another horizontal slider set to 2 hours, with the text '2 hours before snow prevision' and a description: 'How much time ahead of a snowfall forecast should the system start. Warmup recommends starting the device at least two hours before the snow.'

BELOW 0°F

It is recommended to not allow the system to function when outdoor temperatures are below 0°F / -18°C. This is because the power required to heat the slab to 40°F is simply too great and it is possible that the system may not cope with the requirement. At least not efficiently. The default setting is to not allow this, but you can force it 'on' here.

ABOVE 50°F

Similarly, we recommend letting the system automatically power down if the outside temperature reaches 50°F or more. This is because at these temperatures, natural snow melting occurs and you may prefer to let nature take its course rather than spending Kilowatts to melt the snow. Leave on "Yes" if you would like the system to turn off above 50°F.

ACTIVATION LENGTH (MAX. RUN TIME)

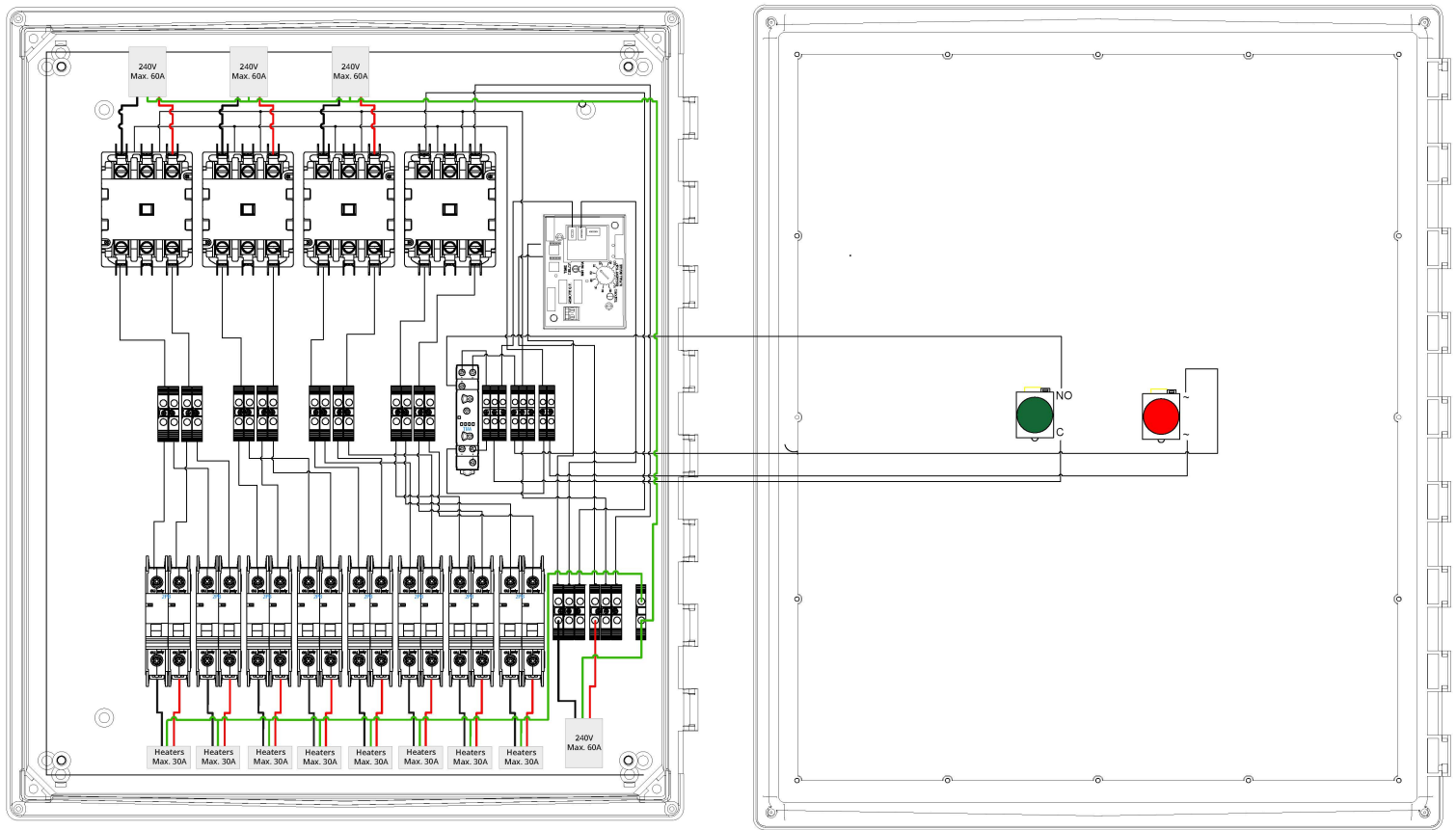
The system is pre-programmed to not operate more than 24 hours. In the event it is struggling to keep up with the weather or some of your settings have called for it to operate continuously, this safeguard prevents the system to operate more than 24 hours at a time. It is not recommended to turn this off.

The screenshot shows a mobile app interface titled "Device set-up" with a red header. At the top, there is a status bar with "Verizon", signal strength, Wi-Fi, and the time "11:59 AM". Below the header, there is a "Back" button. The main content area has three sections, each with a toggle switch and a description:

- Below 0°F**: The toggle switch is in the "No" position. Below it, the text reads "Stop activation if temperature is below 0°F (-17°C)." The word "No" is written in red below the toggle.
- Above 50°F**: The toggle switch is in the "No" position. Below it, the text reads "Stop activation if temperature is above 50°F (10°C)." The word "No" is written in red below the toggle.
- Activation Length**: The toggle switch is in the "No" position. Below it, the text reads "Stop running after 24h of activation". The word "No" is written in red below the toggle.

At the bottom of the screen, there is a large red button labeled "SAVE".

Wiring Diagram



SUPPORT

Online

www.warmup.com

Technical Helpline

(888) 927-6333