

Installation, Startup and Setup for the Everidge SmartRite SMRT-100 Temperature Monitor and Alarm

5/10/2023

The SMRT-100 consists of a factory installed low-voltage 5" high-resolution color touchscreen display, mounted on the front panel of the walk-in beside the door, a power/device wiring base installed in a weather-proof non-metallic box mounted on top of the walk-in or on a side wall if outdoor installation, a single combination sensor for measuring both temperature and %RH inside the walk-in and a magnetic door switch to turn the lights on and/or automatically turn the evaporator coil blower fans off at entry. With connection of an optional second sensor, the SMRT-100 can continuously monitor and display information for up to two separate rooms simultaneously. The system may be enhanced by adding an optional SmartRite low-voltage pushbutton light switch installed on the same front panel as the SMRT-100, inside or outside of the walk-in room(s), and an optional SmartRite panic pushbutton installed inside the walk-in to activate an alarm in case of entrapment or other operator emergency. The SMRT-100 also has the capability to use an optional interior mounted low-voltage motion sensor to control the lights in the cold room, and has the capability for switching lights on and off from multiple door locations with the use of the low-voltage SmartRite switches (no 3 or 4-way required). The SMRT-100 can also modulate door jamb and view-port window heat as a percentage of time-on and time-off to save energy.

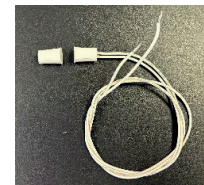
Factory installed standard components:



TFT (Thin Film Transistor Display / Touchscreen) and Flush Mount Galvanized Wiring Box
(Factory installed in door section)



Battery
(Factory installed in TFT enclosure)



Door Switch
(Factory installed in jamb/door)

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Factory installed optional components:



E-Light Switch



Panic Switch

(Both factory installed on interior of door section if specified)



Motion Switch

(Factory mounted on interior above door section if specified)

Field Installed Components to be Shipped Loose:



Air/ %RH Sensor

(Field installed on wall/ceiling of cold room)



Power Base / Enclosure

(Field installed on roof of cold room)

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TFT Exterior Flush Mount Galvanized Wiring Box mounting:

The Galvanized Wiring Box for the TFT is to be located on the exterior latch side of the main entry (unless otherwise specified) door jamb, 48" up from bottom and 3 5/8" over from edge of opening (see SmartRite OEM Manufacturing Detail SMRT100MFG).

Magnetic Door Switch Contacts mounting:

The Magnetic Door Switch Contacts are to be located on the exterior latch side of the main entry (unless otherwise specified) door and door jamb (magnet in door, sending unit with wires in jamb), approximately 64" up from bottom and 3/4" in from front edge of opening (see SmartRite OEM Manufacturing Detail SMRT100MFG and SmartRite Elevation SMRT100ELV). Dry contact wires from sending unit are to be routed through TFT wiring box and up through wiring stub for connection to Power Module (see SmartRite 100 Wiring Diagram SMRT100WDA).

Optional Interior Flush Mount External Light Switch Box mounting:

The weatherproof Wiring Box for the optional External Light (E-Light) Switch is to be located on the interior latch side of the main entry (unless otherwise specified) door jamb, 60" up from bottom and 3" over from edge of opening (see SmartRite OEM Manufacturing Detail SMRT100MFG).

Optional Interior Flush Mount Panic Switch Box mounting:

The weatherproof Wiring Box for the optional Panic Switch is to be located on the interior latch side of the main entry (unless otherwise specified) door jamb, 32" up from bottom and 3" over from edge of opening (see SmartRite OEM Manufacturing Detail SMRT100MFG).

Power Base Module Mounting and Installation:

Locate the SmartRite Power Base module with non-metallic weatherproof enclosure on the roof of the walk-in in a readily accessible location and as near as possible to the conduit wiring stubs with the low voltage cables. Each cable should be routed across the top of the ceiling panel and to the Power Base enclosure for connection to the Power Base.

Drill three each 7/8" diameter holes through the side of the non-metallic Power Base enclosure – one for device and sensor wiring, one for power wiring and one for light wiring. Install a 1/2" conduit size membrane cable seal fitting where the device cables will pass through and into the enclosure. 1/2" conduit fittings and associated conduit are to be installed from the power supply and light wiring stub as applicable. Once the device cables are routed and secured with adequate slack to prevent damage and are inserted through the fitting and into the enclosure, components are ready to be wired to the Power Base.

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Temperature / RH Sensor Mounting and Installation:

The Temperature and RH sensor should be mounted on the wall behind and to the left of the evaporator coil. They are each provided with 30' of lead wire for connection to the Power Base. The sensor housing may be adhered to the wall using double-sided adhesive tape, and the lead wires may be routed along the ceiling for exit through the top corner of the doorway, or lead wires may be routed through a small ¼" diameter hole drilled through the ceiling panel and sealed with RTV Silicone sealant. Sensor leads should be routed to the non-metallic Power Base enclosure just as for the device leads.



Component wiring

1) TFT Display

Connect the 4-conductor low voltage color-coded cable (r-red, gr- green, w- white, bk-black) from the SMRT-100 TFT display to the corresponding color-coded terminals marked "DISPLAY", terminals 60, 59, 58 and 57 (see SmartRite 100 Wiring Diagram SMRT100WDA).

2) Temperature and RH Sensor Wiring

Connect the 4-conductor low voltage color-coded lead (r-red, gr- green, w- white, bk-black) from the Temperature and RH Sensor to the corresponding color-coded terminals marked "SENSOR1", terminals 56, 55, 54 and 53 (see Power Base Wiring).

* Please note that up to two rooms may be monitored with the use of a second sensor mounted in the second room and connected to terminals marked "SENSOR2", terminals 52, 51, 50 and 49 (see SmartRite 100 Wiring Diagram SMRT100WDA).

3) Door Switch

The low-voltage (NO LINE VOLTAGE) magnetic door switch, supplied with the SmartRite Monitor/ Alarm system and factory installed in the main entry door into the cold room, activates the lighting, "door open" alarm, and may be wired to turn the evaporator fan off momentarily, upon entry. The door switch is supplied with low voltage leads that are pre-run and stubbed out through the conduit stubs at the top of the door panel with the SMRT-100 system. Connect the 2-conductor low voltage color-coded cable (w-white, bk-black) from the door switch to the corresponding color-coded terminals marked "DSw1", terminals 48, and 47 (see SmartRite Elevations Drawing SMRT100ELV and SmartRite 100 Wiring Diagram).

* Please note that up to two doors may be monitored with the use of a second magnetic switch mounted on the second door and connected to terminals marked "DSw2", terminals 46 and 45 (see SmartRite 100 Wiring Diagram SMRT100WDA).

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4) External Light Switch (if applicable)

Locate the conduit stub out the top of the door panel with the SMRT-100 system containing the 3-conductor low voltage color-coded cable (r-red, w- white, bk-black) from the external SmartRite push button light switch. Route the cable across the top of the ceiling panel to the Power Base wiring enclosure and connect the three wires to the corresponding color-coded terminals marked "ELgt", terminals 25, 24 and 23 (see SmartRite 100 Wiring Diagram SMRT100WDA).



* Please note that up to three individual SmartRite light switches may be connected to the Power Base for control of lights from any of three rooms (R1, R2 and R3 - see SmartRite 100 Wiring Diagram SMRT100WDA).

5) Panic Switch (if applicable)

Locate the conduit stub out the top of the door panel with the SMRT-100 system containing the 4-conductor low voltage color-coded cable (r-red, gr- green, w- white, bk-black) from the Panic push button switch. Route the cable across the top of the ceiling panel to the Power Base wiring enclosure and connect the four wires to the corresponding color-coded terminals marked "PANIC", terminals 32, 31, 30 and 29 (see SmartRite 100 Wiring Diagram SMRT100WDA).



* Please note that up to three individual SmartRite panic switches may be connected to the Power Base for panic alarm activation from any of three rooms (R1, R2 and R3 - see SmartRite 100 Wiring Diagram SMRT100WDA).

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6) Motion Switch (if applicable)

A low-voltage (NO LINE VOLTAGE) motion detector (MD-1), is available as an option with the SmartRite Monitor/ Alarm and may be connected where motion sensing lighting control is desired. The motion detector is supplied in a weatherproof box suitable for mounting inside the cold room, with low voltage leads that must be routed through the ceiling as previously described for the temperature sensor and device wiring cables back to the Power Base on top of the ceiling. Connect the 3-conductor low voltage color-coded cable (r-red, gr- green, bk-black) from the motion detector to the corresponding color-coded terminals marked "MOT", terminals 28, 27, and 26 (see SmartRite 100 Wiring Diagram SMRT100WDA).

* Please note that up to three individual motion detector switches may be connected to the Power Base for motion activation of all lighting from any of three rooms (R1, R2 and R3 - see SmartRite 100 Wiring Diagram SMRT100WDA).



Light Wiring

Connect the wiring from the room lights (field-installed, wiring and conduit from lights run by field electrician) to the Power Base terminals marked "LIGHT", terminals 6 (*BK-LGHT), 7 (WH-N) and 8(GR-G) (see SmartRite 100 Wiring Diagram SMRT100WDA).

*Please note that this must not be a switched leg, but must be direct from the line side of the light fixture wiring).

Jamb Heater Wiring

Connect the wiring from the jamb heater(s) (individual wires BK, WH must be stubbed out for each heater into a junction box adjacent to the Power Base enclosure) to the Power Base terminals marked "DOOR 1 H" (terms 12, 13) and "DOOR 2 H" (terms 14, 15) (see SmartRite 100 Wiring Diagram SMRT100WDA).

Vu-Port Heater Wiring

Connect the wiring from the door Vu-Port (individual wires BK, WH must be stubbed out for each heater into a junction box adjacent to the Power Base enclosure) to the Power Base terminals marked "VU. H" (terms 16, 17) (see SmartRite 100 Wiring Diagram SMRT100WDA).

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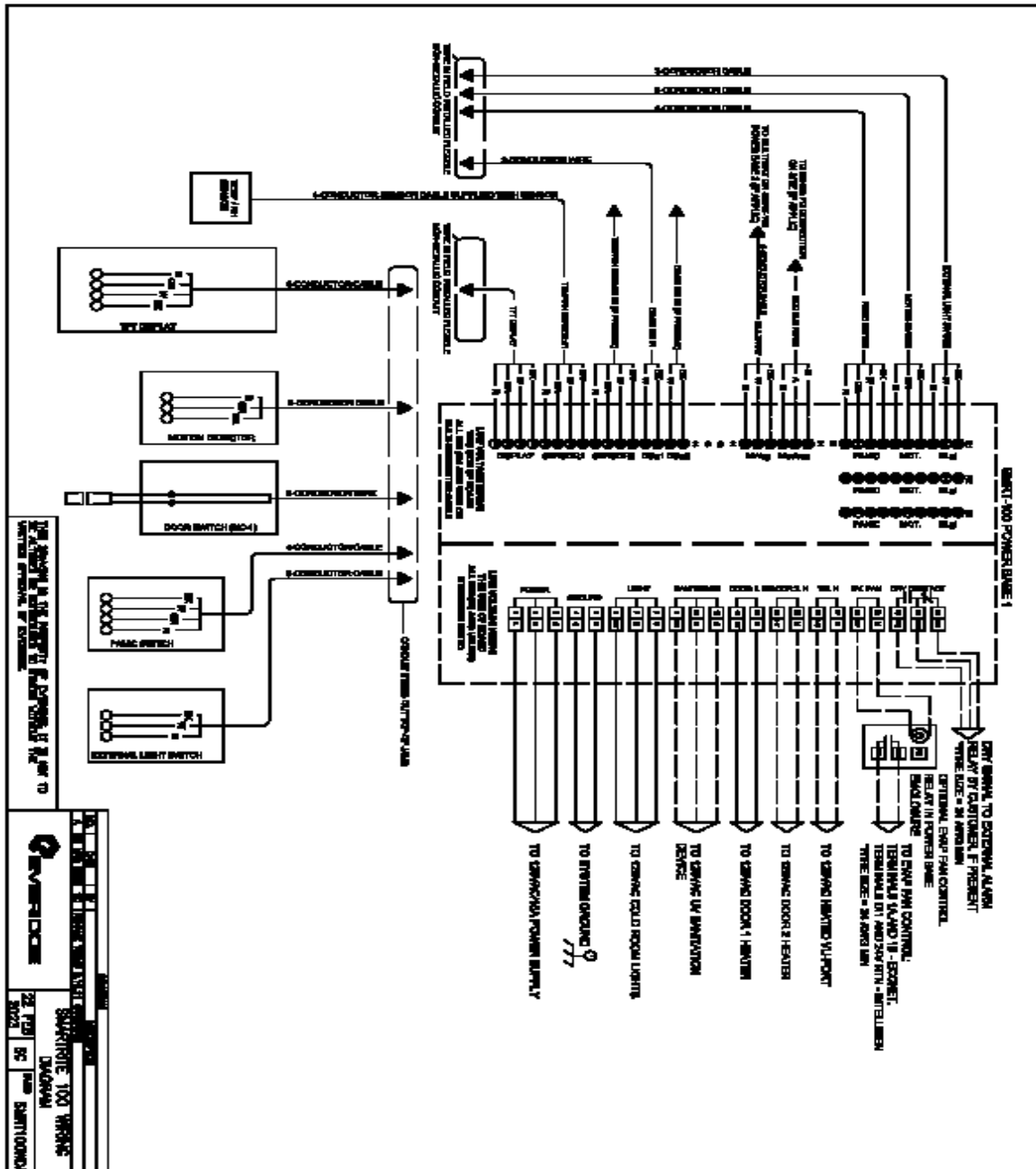
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UV Sanitation Device Wiring

Connect the wiring from the UV Sanitation Device receptacle to the Power Base terminals marked "SANITATION", terminals 9 (*BK-UV), 10 (WH-N) and 11 (GR-G) (see SmartRite 100 Wiring Diagram SMRT100WDA).

Power Wiring

Connect the 120VAC power wiring from a 15 Amp overcurrent protected supply circuit directly to the Power Base terminals marked "POWER", terminals 1 (BK-L), 2 (WH-N) and 3(GR-G) (see SmartRite 100 Wiring Diagram SMRT100WDA).



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SMRT-100 Startup and Operation

Apply 120VAC, 60hz, 15amp power. After a few seconds, the display will indicate room temperature(s) and %RH corresponding to the room(s) where the sensor(s) are mounted. The SMRT-100 is set to “English” as the default language. If Spanish is the preferred language, it may be selected from the “Main Menu,” “Select Language” setting. To access the settings menu, touch the “Menu” button at the lower left of the display. You will be prompted for a password; enter the default password 1 2 3 4 after which you will have access to the Main Menu Settings.

The SMRT-100 will display a red bar message “High Temp. Alarm!”, and the alarm will sound. To stop the alarm beeper, press the red bar and the display will display the alarms at that moment, see photos below.



Press the red squares to stop the beeping and the squares turn white. This silences and resets the alarm beeper, however the visual alarm(s) will still be displayed as long as the temperature(s) remain above the high temperature setpoint. Touch the “Home” button at the lower right corner of the screen to go back to the main screen. The main “Home” screen will display the current room temperature(s) and %RH, and will continue to display the alarm icons until all alarm parameters have been satisfied and conditions are within the setpoint ranges.

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Setup

Press Menu

Prompt	Default	Confirm
Enter Password (use DEL key to correct errors)	1234	OK

Main Menu Settings

Settings Menu

Date and Time Setup

- Hour – advance < > to current, AM or PM
- Minute – advance < > to current
- Month, Day, Year – advance < > to current
- Time Zone – advance < > to current (Default = UTC – 4:00 Atlantic Time)
- Daylight Savings Time – < > to “Yes” or “No” (Default = Yes)
- Press “Save”, then “Back”



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Room Types Menu

- Room #1 Type – < > to “Cooler”, “Freezer”, or “Auto”* (Default = Cooler)
* Auto setting will automatically detect room type after “Autodetect time”
Press “Save”, then “Back”
- Autodetect time – < > to set 1 to 12 hours for SMRT-100 to automatically detect room type accordingly (Default = 1 hour)
Press “Save”, then “Back”
- Room #2 Type (only available if 2 sensors selected in Technician Menu) – Repeat procedure as for Room #1 Type



Alarms Parameters

- Room #1 Alarms
 - (Cooler) or (Freezer) alarm high – advance < > to desired temperature (Default = 45°F)
Press “Save”, then “Back”
 - (Cooler) or (Freezer) alarm low – advance < > to desired temperature (Default = 33°F)
Press “Save”, then “Back”
 - Humidity alarm high – advance < > to desired % Relative Humidity (Default = 80%)
Press “Save”, then “Back”
 - Humidity alarm low – advance < > to desired % Relative Humidity (Default = 30%)
Press “Save”, then “Back”

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- Room #2 Alarms (only available if 2 sensors selected in Technician Menu) – Repeat procedure as for Room #1 Alarms



Heaters Setup

- Door #1 Heater
 - Enabled – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”
 - Percentage – < > to desired % of time heater operates (Default = 50%)
Press “Save”, then “Back”
 - Start Air Temperature – < > to desired temperature below which heater operates (Default = 45°F)
Press “Save”, then “Back”
- Door #2 Heater (only available if 2 sensors selected in Technician Menu) – Repeat procedure as for Door #1 Heater

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- VU Heater (VuPort Window)
 - Enabled – < > to Yes or No (Default = No)
Press “Save”, then “Back”
 - Percentage – < > to desired % of time heater operates (Default = 75%)
Press “Save”, then “Back”
 - Start Air Temperature – < > to desired temperature below which heater operates (Default = 45°F)
Press “Save”, then “Back”

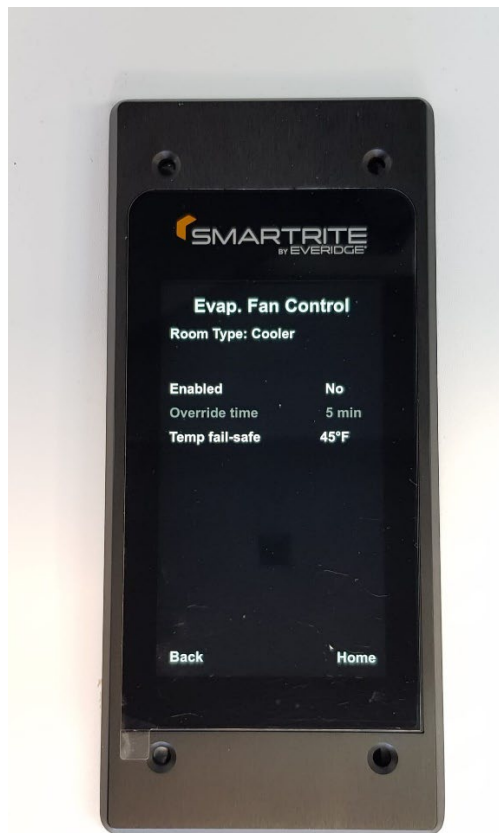


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Evap Fan Control Setup

- Enabled – < > to Yes or No (Default = No)
Press “Save”, then “Back”
- Override time – < > to minutes of fan “OFF” duration, after which fan automatically turns back “ON” (Default = 5 min)
Press “Save”, then “Back”
- Temp fail-safe – < > to desired temperature at which fan automatically turns back “ON” (Default = 45°F)
Press “Save”, then “Back”



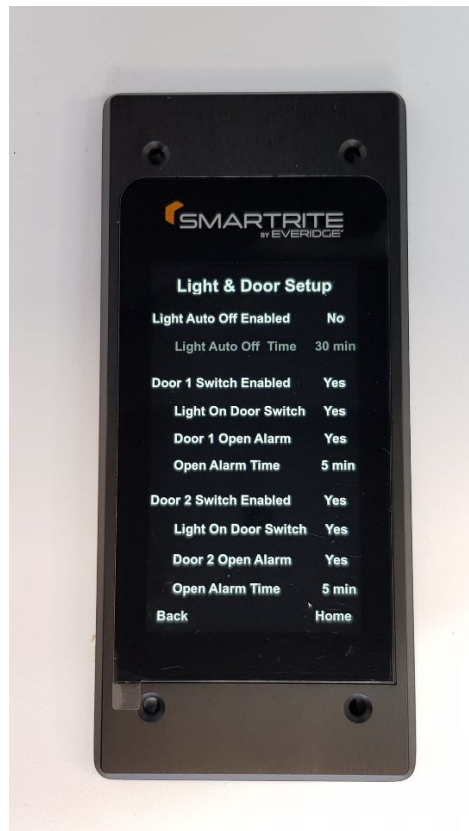
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Light & Door Setup

- Light Auto Off Enabled – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”
 - Light Auto Off Time – < > to desired minutes after which light automatically turns “OFF” (Default = 15 min)
Press “Save”, then “Back”
- Door 1 Switch Enabled – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”
 - Light On Door Switch – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”
 - Door 1 Open Alarm – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”
 - Open Alarm Time – < > to desired minutes of delay before Door Open Alarm activates (Default = 5 min)
Press “Save”, then “Back”
- Door 2 Switch Enabled (Default = No) If Yes, Repeat procedure as for Door 1 Switch.



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Technician Menu

- Temperature Unit – < > to °F or °C (Default = °F)
Press “Save”, then “Back”



- Probes Adjust:
 - Probe 1 Adjust
Probe Adjust –desired temperature reading offset if necessary (Default = 0.0°F)
Press “Save”, then “Back”
 - Probe 2 Adjust (only available if 2 Probes selected) – Repeat as for Probe 1 Adjust

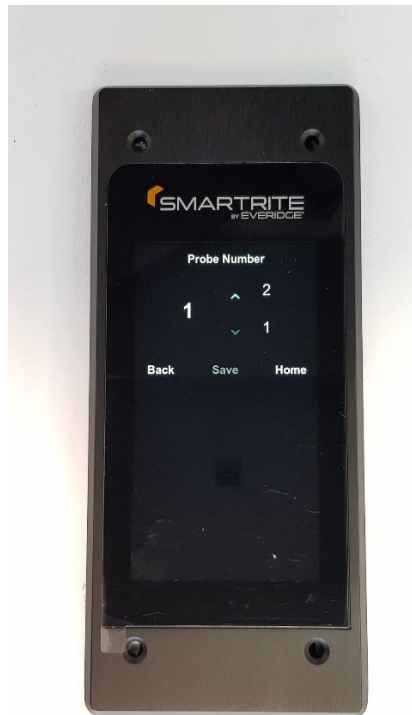


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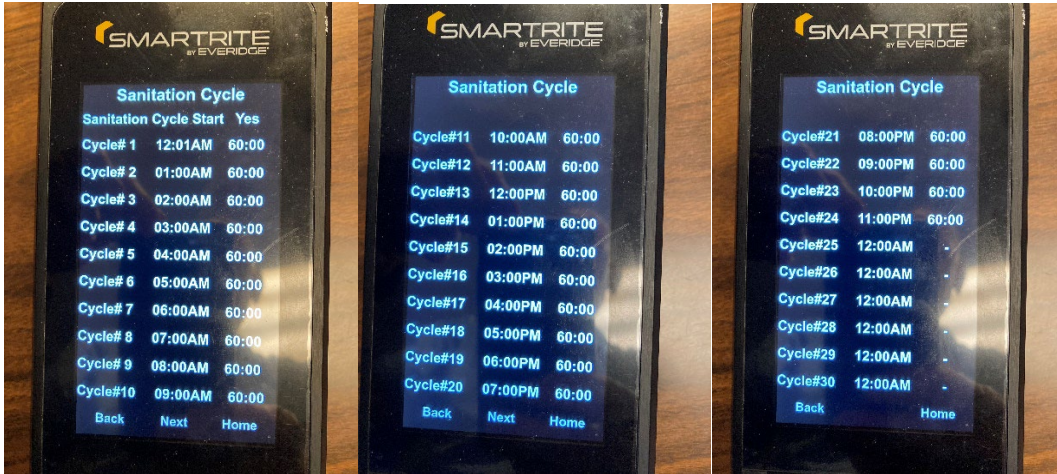
- Panic Switch Enabled – < > to Yes or No (Default = No)
Press “Save”, then “Back”
- Motion Detector Switch – < > to Yes or No (Default = No)
Press “Save”, then “Back”
- Number of Probes – < > to 1 or 2 (Default = 1)
Press “Save”, then “Back”



- Sanitation Cycle Setup:
 - Sanitation Cycle Start – < > to Yes or No (Default = No), if user selects Yes:
 - Cycle #1:
 - Start Time – < > to desired time of day cycle starts;
 - Duration – < > to number of minutes cycle lasts
Press “Save”, then “Back”
 - Cycle #2 - #30 – Repeat as for Cycle #1

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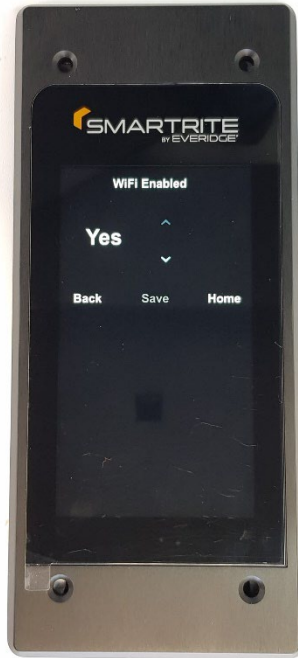
- Display Brightness – < > to % TFT Brightness (Default = 75%)
Press “Save”, then “Back”



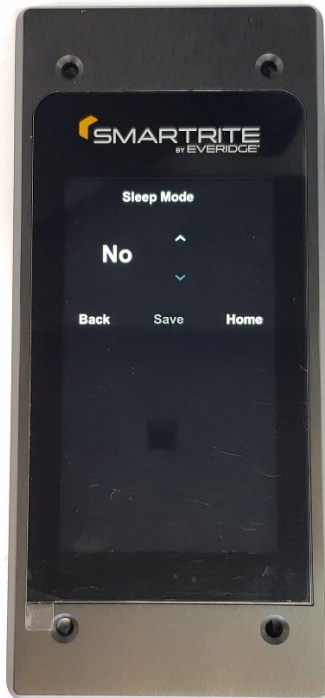
- WiFi Enabled – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”

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- Sleep Mode – < > to Yes or No (Default = No) (Select Yes during shipment or other extended off periods to conserve battery)

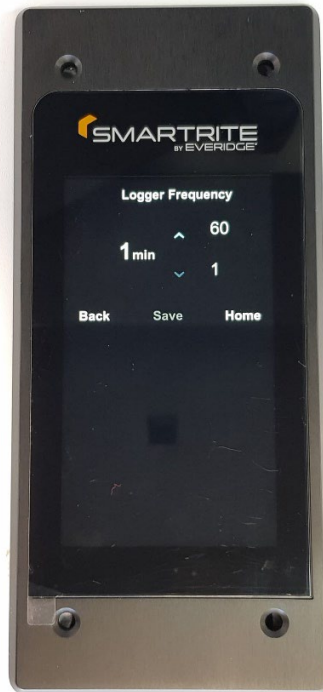


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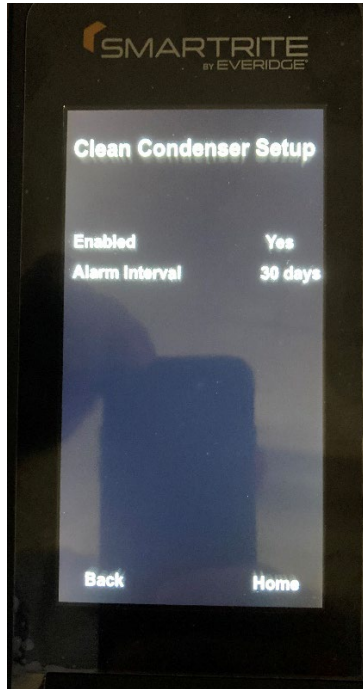
- Logger Frequency – < > to frequency, in minutes, for data collection (Default = 15 min)
Press “Save”, then “Back”



- Clean Condenser Setup”
 - Enabled – < > to Yes or No (Default = Yes)
Press “Save”, then “Back”
 - Alarm Interval – < > to number of days between cleanings (Default = 30)
Press “Save”, then “Back”

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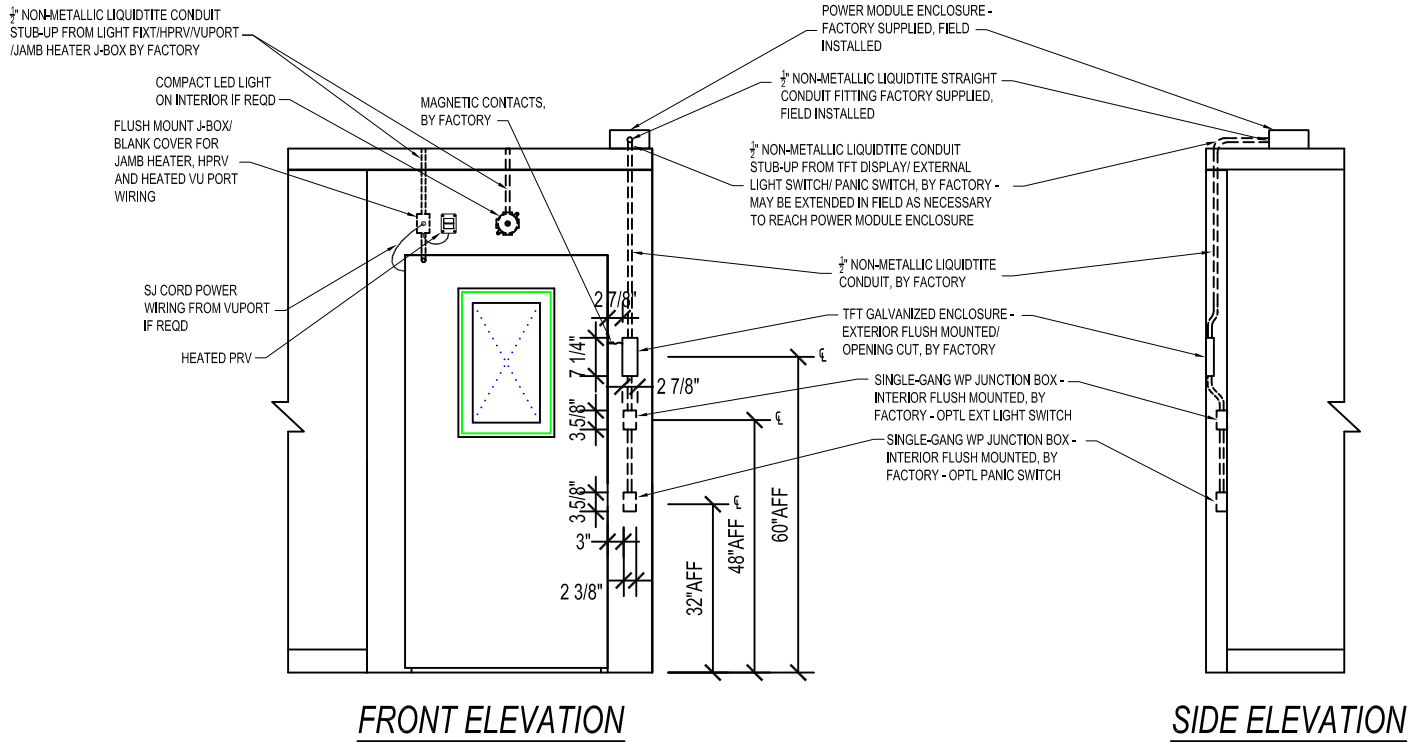


Change Password – for customization of password (Default = 1234):

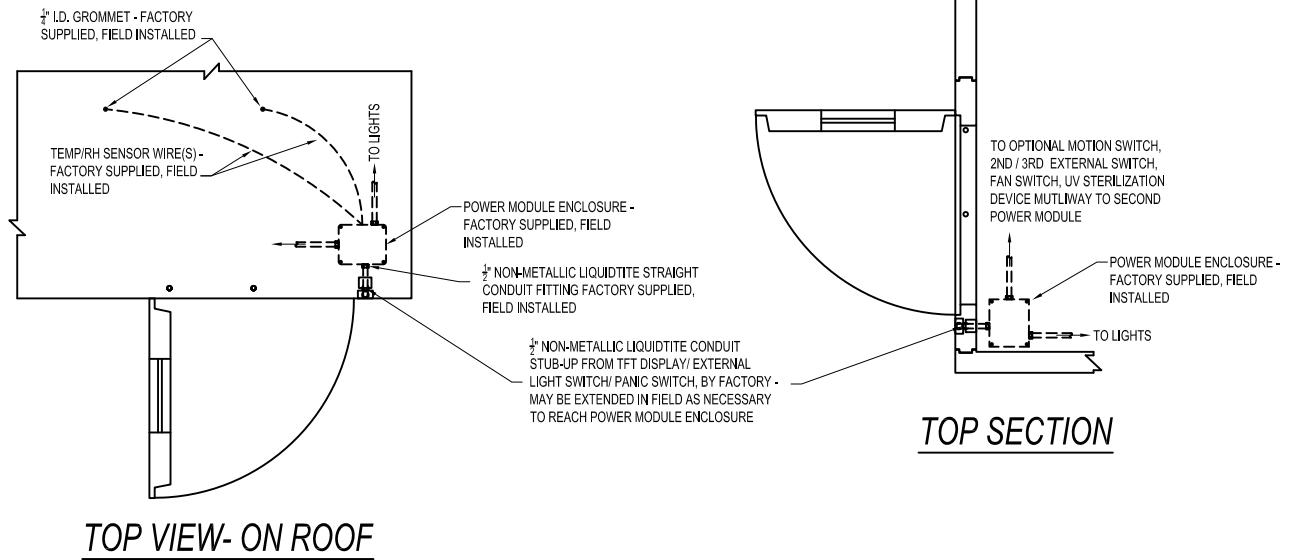
- Enter old password, “OK”
 - Enter new password, “OK”
 - Confirm new password, “OK”
- Password Saved, automatically returns to Main Menu Settings Screen

Select Language:

- < > to English or Spanish (Default = English)
- Press “Save”, then “Back”



ELECTRICAL LAYOUT



NOTE:
 ALL WIRES STUBBED UP FROM INTERIOR OF ROOM FOR CONNECTION TO POWER MODULE MUST BE TAGGED AND LABELED FOR FIELD CONNECTION PER THE FOLLOWING CONVENTION (REFERENCE SMARTRITE 100 WIRING DIAGRAM SMRT100WD):

STUB-UP WIRE TAGS		
TAG	DEVICE NAME	CABLE/WIRE TYPE
ELS	EXTERNAL LIGHT SWITCH	LOW VOLTAGE
PS	PANIC SWITCH	LOW VOLTAGE
DS#_	DOOR SWITCH #1, #2	LOW VOLTAGE
MD	MOTION DETECTOR	LOW VOLTAGE
TFT	SMRT-100 TFT DISPLAY	LOW VOLTAGE
DH#_	DOOR JAMB HEATER #1, #2	#14-16 AWG - BK, W, G
VP	HEATED VU PORT	#14-16 AWG - BK, W, G
UV	UV STERILIZATION RECEPTACLE	#14-16 AWG - BK, W, G
LGT	JAMB LIGHT	#14-16 AWG - BK, W, G

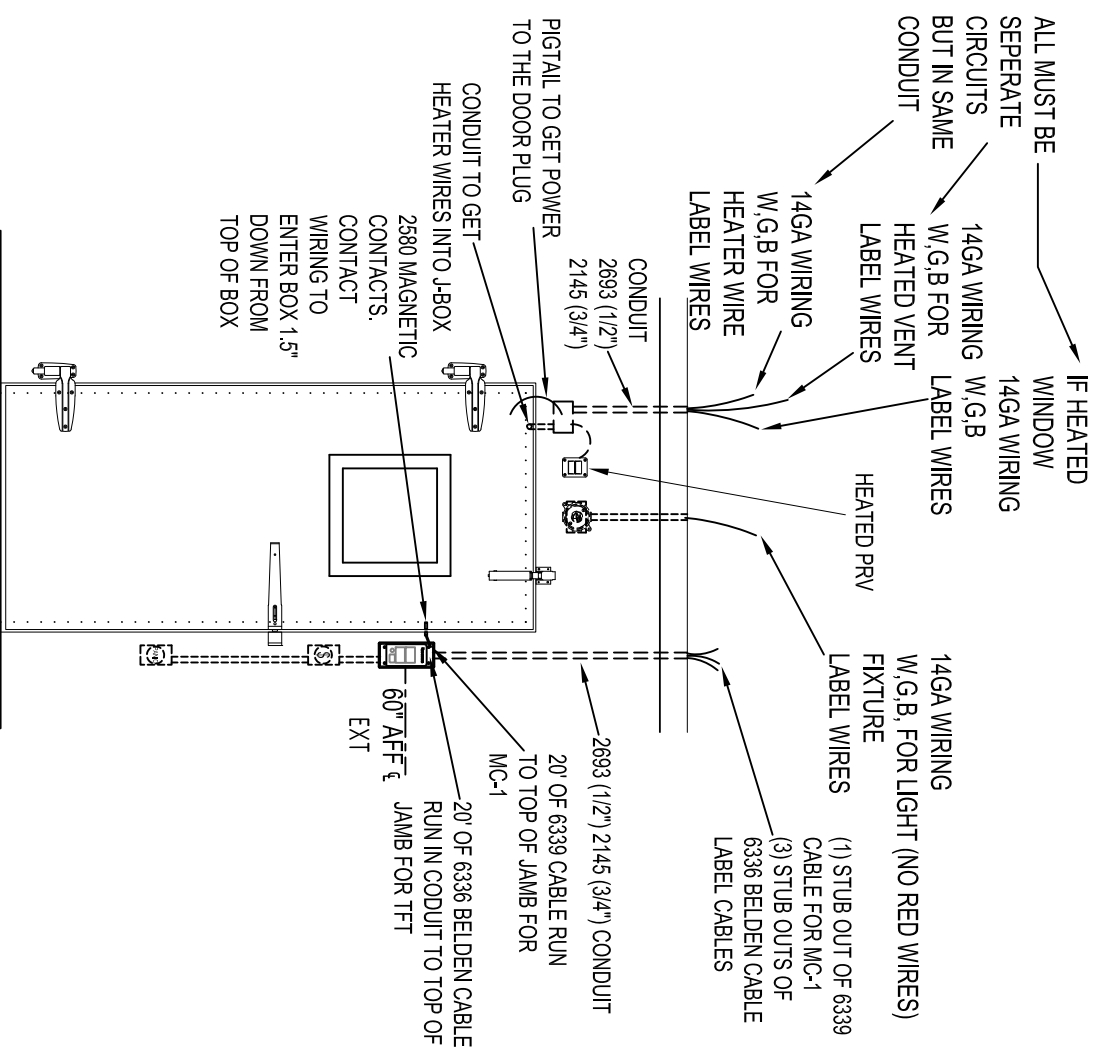
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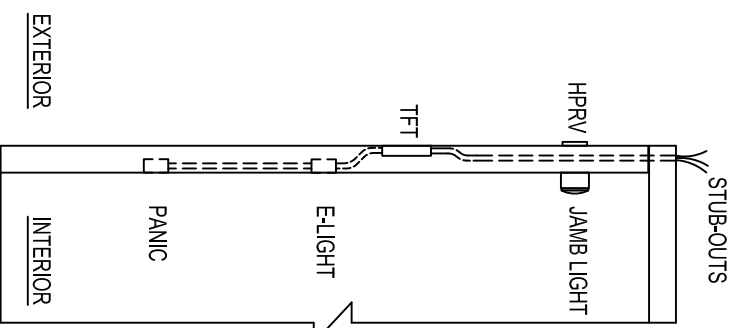


SMARTRITE OEM MANUFACTURING
 DETAILS

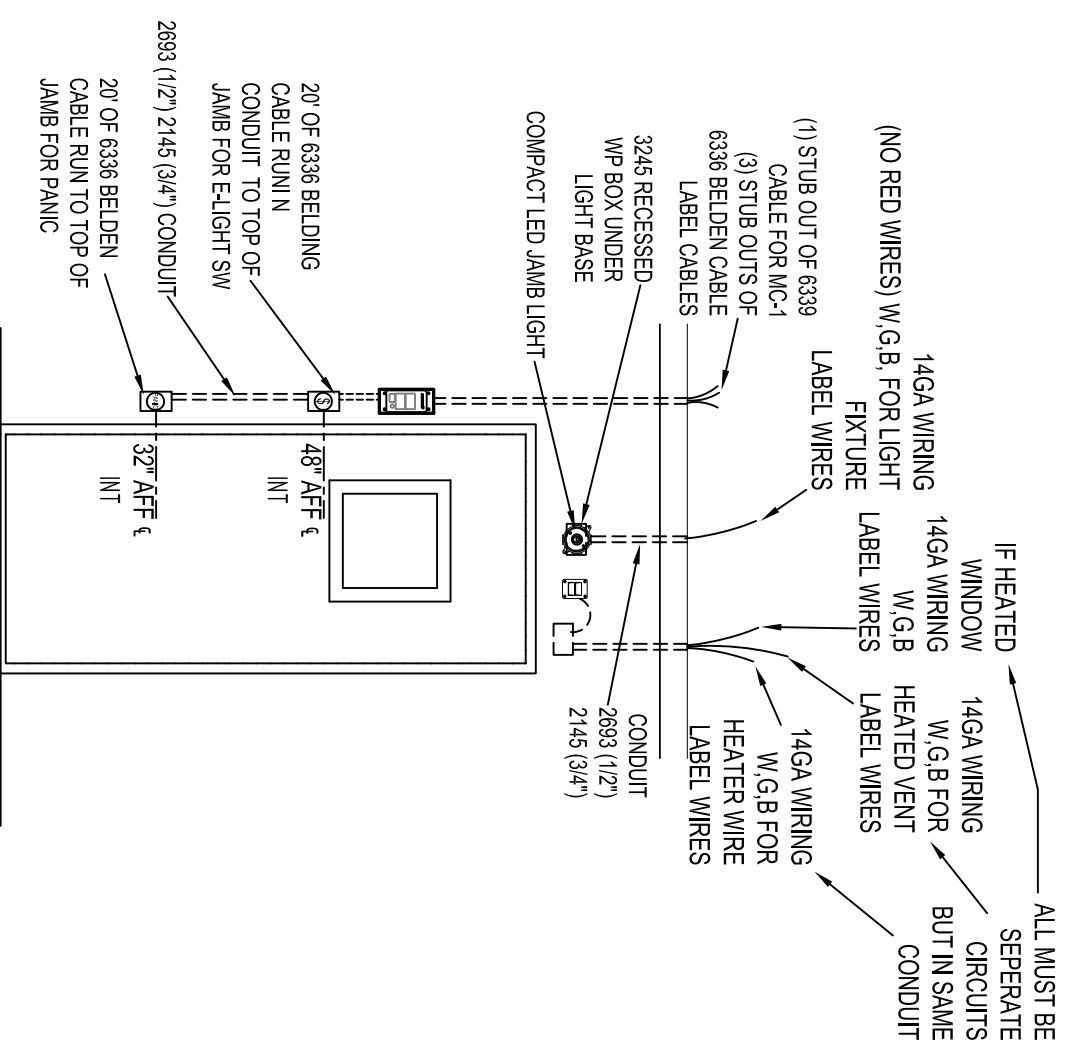
05 MAY 2023 SC DWG# SMRT100MFG



FRONT/EXTERIOR ELEVATION



SIDE ELEVATION



INTERIOR ELEVATION

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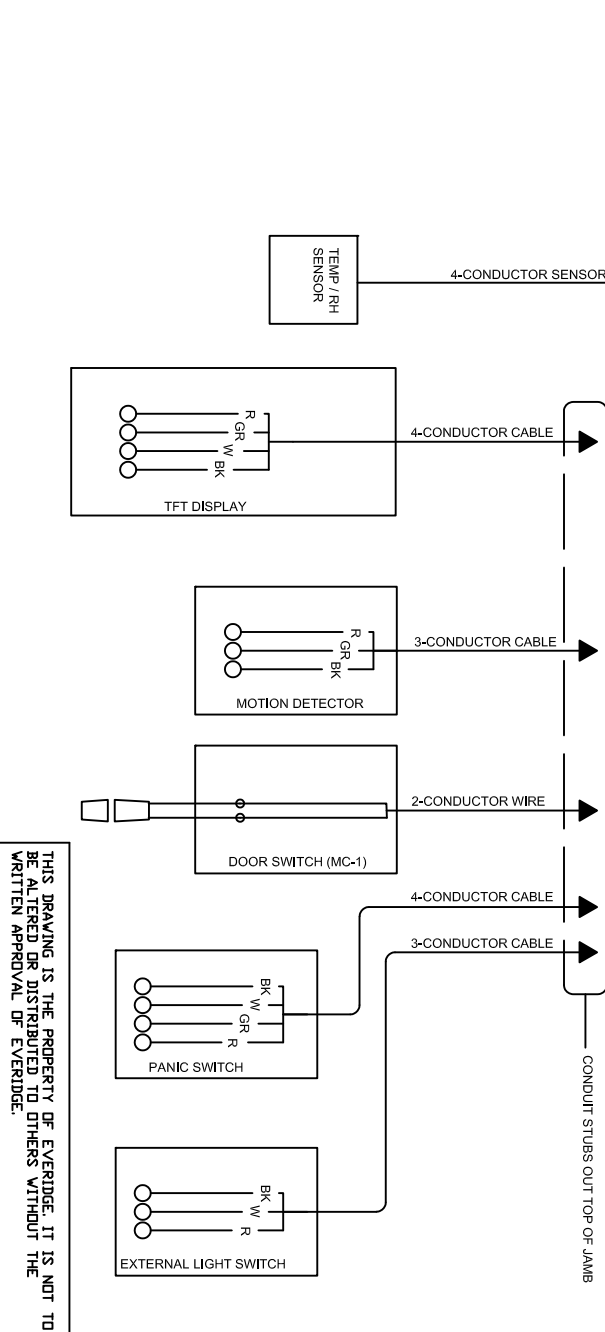
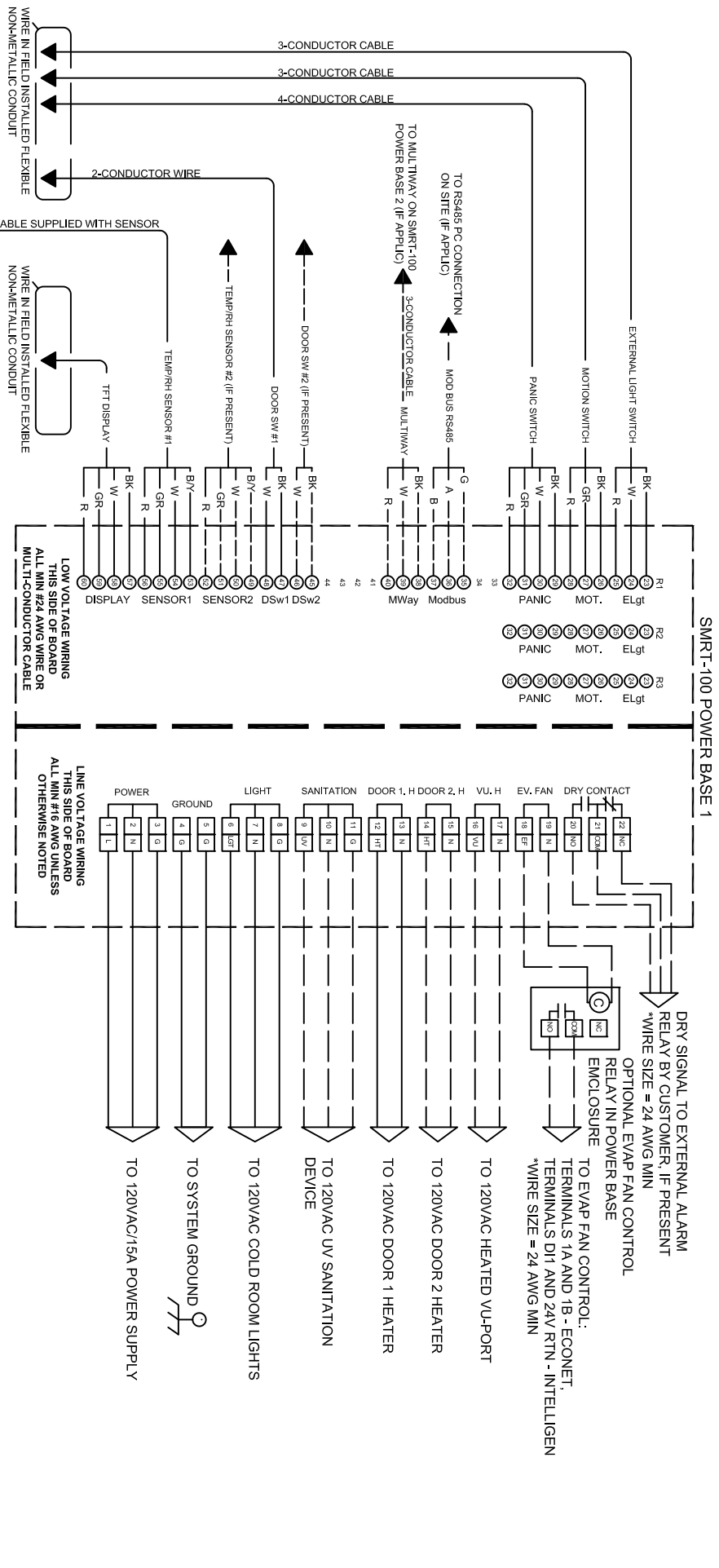
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SMARTRITE ELEVATIONS

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SMARTRITE 100 WIRING DIAGRAM
 22 FEB 2023 SC DWG# SMART100WDA



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