

# Residential Snow-Melt Control

## DiGi-SPAN<sup>®</sup> Elite Series RSM



### Description:

#### *Simple Affordable Snow-Melt Controls for Residential and Small Commercial Applications.*

The RSM-Elite controls under-slab heating systems to prevent accumulation of ice or snow. It monitors three different temperatures: outdoor, slab supply, and slab return. Based on this information and using a PID algorithm, the RSM precisely controls the fluid temperature circulating the slab using a 3-way motorized mixing valve. To prevent frozen accumulations on a slab, the slab surface must be above freezing before precipitation begins. A typical slab could take up to 24 hours to reach the melting temperatures. This is not only because slabs are dense, but also because slabs must be heated up slowly to prevent thermal shock causing slab deterioration. Therefore, the RSM-Elite ramps up the supply temperature slowly as the slab is heated.

If precipitation is allowed to accumulate before the slab is heated, an effect called “bridging” can occur. The snow or ice directly in contact with the slab will melt, but the snow above will act as an insulator reflecting the heat back into the slab. To prevent this, the RSM-Elite activates the slab heating system whenever the outside temperature falls below an adjustable outdoor cutoff temperature.

- **No Slab Sensor Required.** Since the RSM-Elite’s PID logic relies on the outdoor, and fluid temperatures entering and exiting the slab, a separate slab sensor is not needed. This makes it the ideal control in retrofit applications.
- **Enable/Disable.** No Need to turn the RSM-Elite power off. The Enable/Disable terminals allow the use of an external device or switch to activate/deactivate the control operation. Thus, the operating switch can be installed in a remote location.
- **Maximum Slab  $\Delta T$ .** The maximum difference between the slab supply temperature and the slab return temperature is adjustable. This allows the slab to heat slowly, helping to prevent its deterioration due to rapid temperature changes.
- **Maximum Supply Temperature.** The maximum supply temperature to the slab is adjustable, helping to protect the slab from damage due to overheating.
- **Simplified Menus on an Easy-to-Read 2-Line Digital Display.** Now, with two 16 alphanumeric line display and easy-to-ready menus makes setting and understanding control operation a snap.
- **Can be Powered by 120VAC or 24VAC.** The Elite Series is normally powered by 120VAC. However, it has an alternate 24VAC power inputs.

# RSM-Elite Specifications:

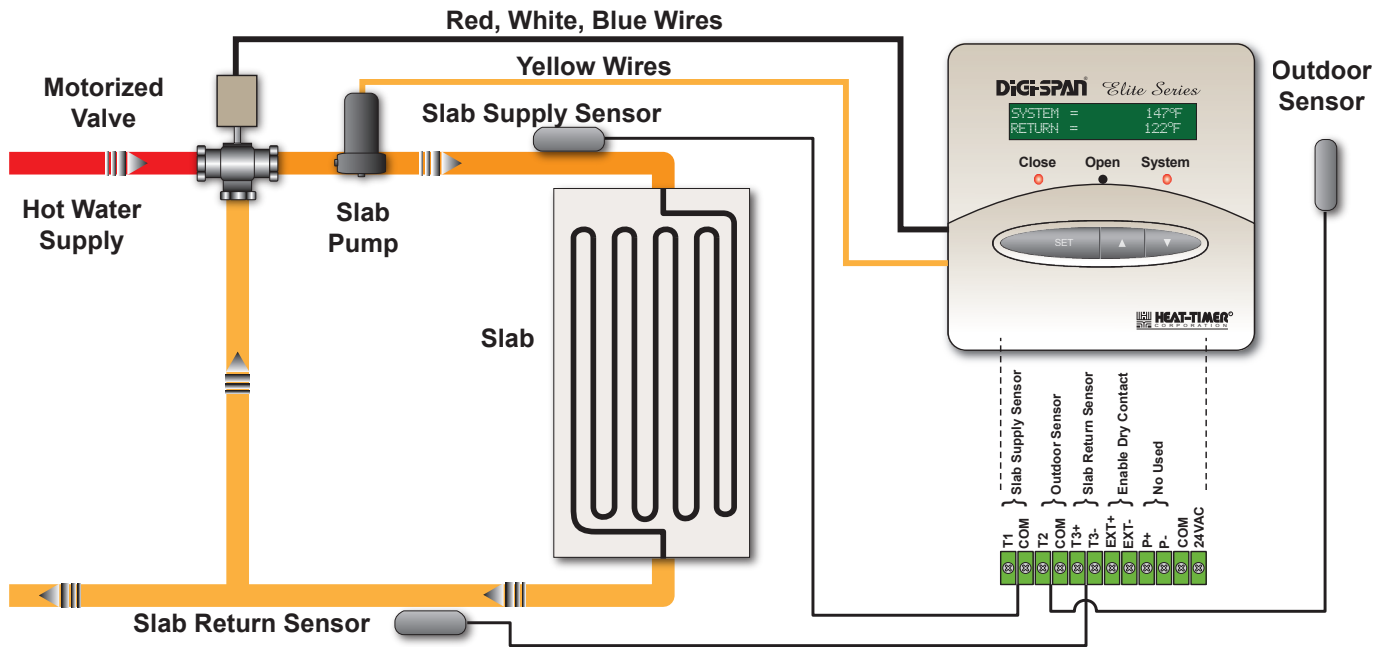
<b>Voltage Input:</b>	120 VAC 60 Hz(2 Black wires) /24VAC 60 Hz (24VAC terminals) (Only One Power Source)
<b>Power Consumption:</b>	3 VA Max
<b>Operating Temperature:</b>	20°F / -7°C to 120°F / 49°C
<b>Operating Humidity:</b>	20% to 80%
<b>Dimensions:</b>	4"W x 4"H x 2½"
<b>Weight:</b>	1 pound
<b>Display:</b>	Back Lite 2 Line Alphanumeric LCD Display
<b>Display Units:</b>	Fahrenheit (°F) and Celsius (°C)
<b>Outputs:</b>	3 S.P.S.T (Yellow = System Pump.), (White = Open MOV.), (Blue = Close MOV), (Red = Common MOV)
<b>Output Relay Ratings:</b>	1 Amp inductive (Maximum of 1/8 HP), 6Amp resistive at 120 VAC 60 Hz
<b>Curve:</b>	from -10 to +10
<b>Slab ΔT:</b>	5°F /3°C To 50°F /28°C
<b>Maximum Temperature:</b>	from 70°F / 21°C to 180°F / 82°C
<b>Outdoor Cutoff:</b>	from 20°F / -7°C to 50°F / 10°C, On, Off
<b>Pump Run-On:</b>	from 0 to 60 minutes
<b>Valve Mode:</b>	Auto, Close , Open
<b>Gain:</b>	from -10 to +10
<b>LED:</b>	3 representing the Output relays (Left=Close, Middle=Open, Right=System Pump)
<b>Inputs:</b>	3 Temperature Sensors (Slab Supply, Slab Return, and Outdoor), and Enable/Disable input
<b>Buttons:</b>	3 (Set, Up, Down)
<b>Enable/Disable:</b>	Terminals EXT+, EXT-

## Item

RSM-Elite Comes complete with three sensors

## Part #

929195-00



HT# 056157-00 B



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CERTIFIED



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