



Snow Melting Solutions

Improve efficiency, safety & reliability in residential & commercial systems



Photo courtesy of Advanced Radiant Design



HVAC Systems



Multi-Staging



Alternative Energy



Zoning



Snow Melting



Setpoint

tekmar[®]
Better Control. Better Systems.
A Watts Water Technologies Company

Reliable, Efficient Snow Melting

Snow Melting Benefits

- Offer safe building access to residents, customers, visitors, and employees
- Reduce potential liability
- Save time and eliminate strains caused by shoveling
- Melt snow in difficult to access and steep locations
- Prevent damage to pavers, concrete, and structures caused by snow clearing equipment
- Eliminate the use of harmful chemicals
- Ensure critical locations such as emergency entrances and ramps are free of snow and ice 24-hours a day

Automatic or Manual Operation

Automatic operation offers the highest level of safety and convenience.

- Fully automatic operation is enabled through the use of an in-slab Snow/Ice Sensor 090 or 094.
- Systems without an in-slab sensor can be updated to provide automatic start with timed stop operation using an aerial mounted Snow Sensor 095.
- Manual systems are started with a button press and timed or manually stopped.

Automatic Start and Stop



Automatic Start/Timed Stop



Manual Start





Choose Your Level of Control

Choose from 3 different product lines to suit your application needs. Classic, Performance and Designer series products offer distinct features and benefits to perfectly match your existing system or design requirements.

Classic Series



The Classic series provides stand-alone operation of a hydronic or electric snow melting system.

Performance Series



The Performance series offers the benefits of tekmarNet communication to the operation of the hydronic and electric snow melting system. Benefits include remote start/stop, monitoring and adjustment through the Internet or Home Automation system and the prioritization of up to 12 melting zones.

Designer Series

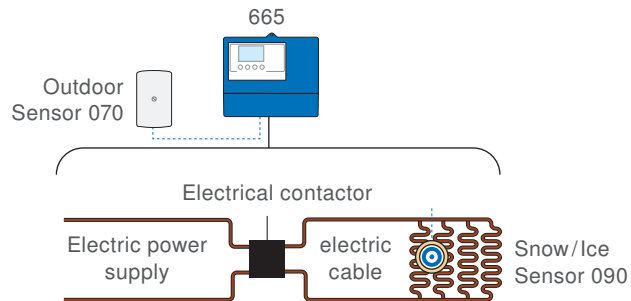


The Designer series communicates to commercial-grade building automation systems using BACnet® or Modbus® for start/stop, alert notification, remote monitoring and adjustment. Two automatic snow/ice sensors can be installed for greater detection coverage, reliability, and redundancy.

Single Zone Electric

The Snow Detector & Melting Control 665 operates an electric snow melting system using an electrical contactor. A Snow/Ice Sensor 090 is used to provide automatic start and stop operation.

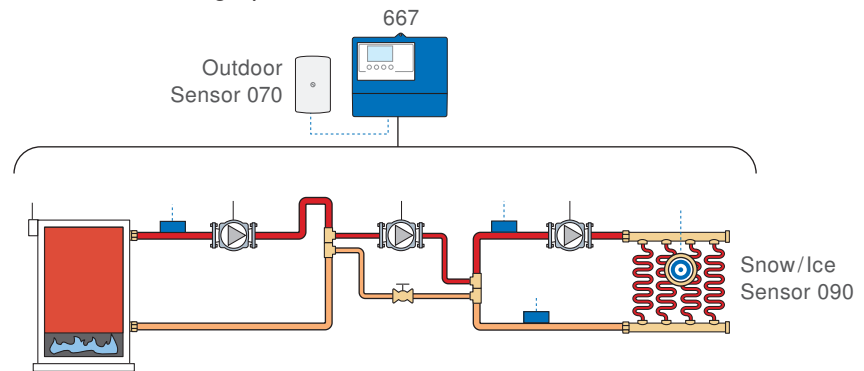
- Electric or hydronic snow melting
- Automatic or manual start & stop



Single Zone Hydronic with Variable Speed Injection Mixing

The Snow Detector & Melting Control 667 operates a single zone snow melting system with heat provided by a dedicated non-condensing on/off boiler. The supply temperature to the slab is controlled using variable speed injection mixing. A Snow/Ice Sensor 090 enables automatic melting operation.

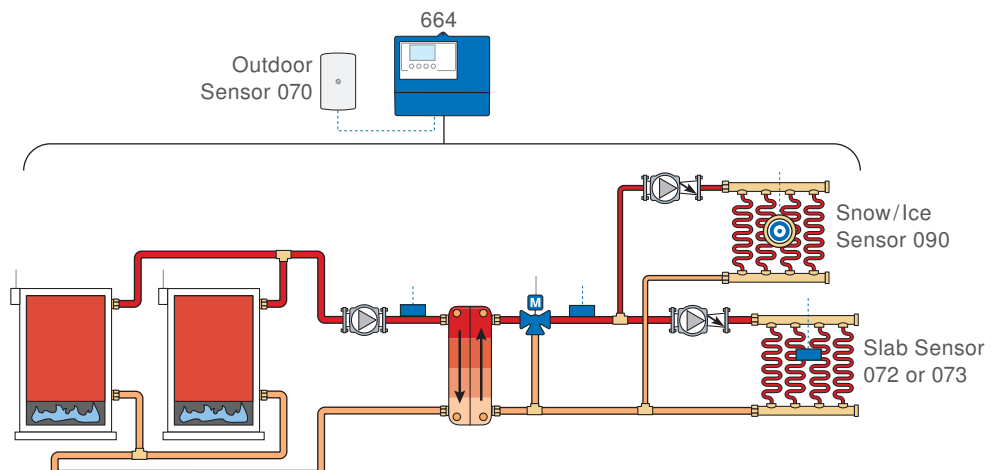
- Operation of one dedicated non-condensing boiler
- Variable speed injection mixing
- Automatic or manual start & stop



Dual Zone Hydronic with Floating Action Mixing

The Snow Detector & Melting Control 664 operates two zones of snow melting with heat from two non-condensing boilers. The 664 adjusts the supply temperature to the zones using a 3-way mixing valve and actuator. A Snow/Ice Sensor 090 in zone one enables automatic melting operation. Zone two includes a Slab Sensor 072 for monitoring the slab temperature.

- Staging & rotation of two dedicated non-condensing boilers
- 4-20 mA, 0-10 V (dc), floating action or variable speed injection mixing options
- Two melting zones with priority
- Automatic or manual start & stop

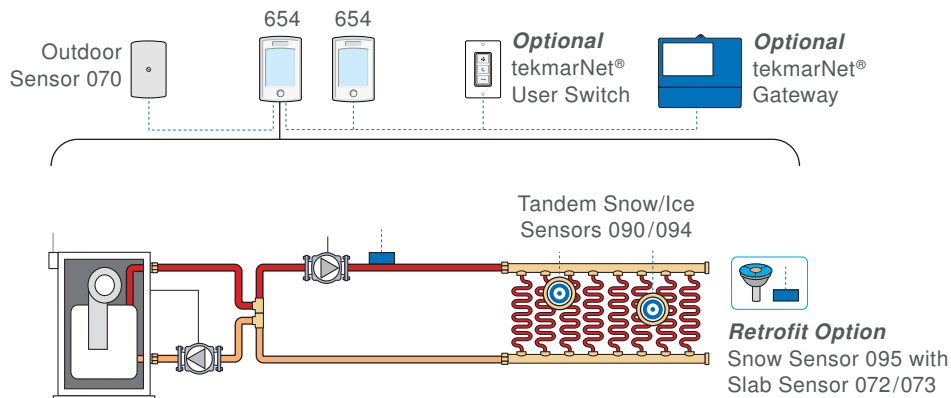


Performance Series

Single Zone Hydronic with Dedicated Boiler

The Snow Melting Control 654 provides a reset water temperature to the melting zone by operating a modulating boiler piped in primary-secondary to the snow melt system. This allows the system pump to operate continuously during melting or idling while the boiler is operated as required. Two Snow/Ice Sensors work in tandem to improve detection of snow over a large melting area. The second 654 is required for tandem operation. A tekmarNet® Gateway offers remote adjustment and monitoring capability. A tekmarNet® User Switch 480 or 481 makes it easy to change the operation of the system from anywhere in the building.

- Tandem Snow/Ice Detection
- Automatic start & stop or automatic start with timed stop
- Optional remote access via tekmarNet® communication

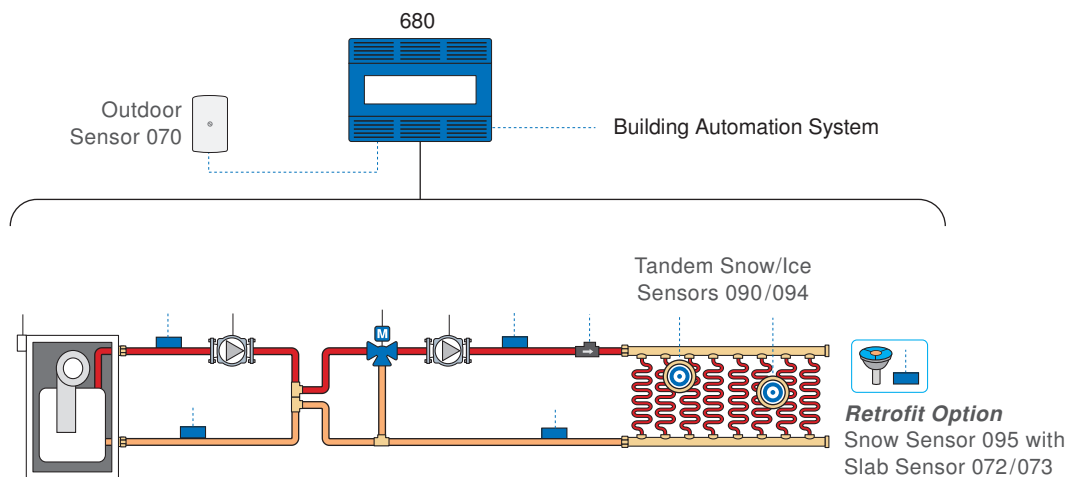


Designer Series

Single Zone Hydronic with Boiler and Mixing

The Snow Melting Control 680 operates a hydronic boiler and mixing valve to heat the slab to the melting temperature. The mixing valve protects the boiler from damage caused by cold return temperatures. The control communicates with a building automation system using BACnet or Modbus for remote start/stop, monitoring, adjustment and alert notification.

- BACnet or Modbus communication
- Energy Monitoring
- Tandem Snow/Ice Detection
- Automatic start & stop or automatic start with timed stop
- 4-20 mA, 0-10 V (dc), floating action or variable speed injection mixing options





Snow Melting

Controls & Snow / Ice Sensor

▶ Compare Snow Melting Controls



System Requirements

	664	665	667	654	680
Heat Source Electric (E), Hydronic (H), Steam (S)	H/S	E/H/S	H	E/H/S	E/H/S
On / Off Boilers	•	•	•	•	•
Modulating Boilers	-	-	-	•	•
Number of Stages One or two on/off boiler stages	2	1	1	1	2
Mixing Operation Protect non-condensing boilers by controlling return water temperature	•	-	•	•	•
Floating Action Output Control for floating motor	•	-	-	-	•
Analog 4-20 mA or 0 - 10 V (dc) Options for control of valve actuators	•	-	-	•	•
Variable Speed Output Precise mixing injection using a standard wet-rotor circulator	•	-	•	-	•

Features & Benefits

	664	665	667	654	680
Automatic Snow/Ice Detection	•	•	•	•	•
BACnet & Modbus Communication Remote monitoring & adjustment capability with BAS					•
tekmarNet® Communication Network communication allows for greater functionality	User Switch 480 or 481 enable/disable	-	-	•	-
	Gateway 482 or 483 enable/disable	-	-	•	-
	tekmarNet® System Control communication	-	-	•	-
Remote Enable Supports an external melt or idle demand from an applied voltage	•	•	•	-	-
Compatible with Snow / Ice Sensor 090 or 094 Supports the installation of the inslab, automatic Snow / Ice Sensor 090 or 094	•	•	•	•	•
Tandem Snow / Ice Detection Two Snow / Ice Sensor 090s or 094s in a single zone for added accuracy and redundancy	-	-	-	•	•
Compatible with Snow Sensor 095 Supports the installation of the aerial retrofit Snow Sensor 095	-	-	-	•	•
Melting and Idling Setpoint Control the melting surface temperature for efficient system operation	•	•	•	•	•
Storm or Temporary Idle Timed slab pre-heat for anticipated snow fall	•	•	•	•	•
Slab Outdoor Reset Vary the slab core temperature as the outdoor temperature changes	•	•	•	•	•
Slab Protection Control heat delivery to the slab to prevent cracking	•	-	•	•	•



► Compare Snow Melting Controls



Features & Benefits (continued)

	664	665	667	654	680
Warm Weather Shut Down Avoid snow melt operation in warmer weather for energy savings	•	•	•	•	•
Cold Weather Cut Out Avoid snow melt operation in extremely cold weather for energy savings	•	•	•	•	•
Programmable Schedule Scheduled snow melt operation for commercial applications	-	-	-	•	-
Snow Melt Zoning With Priority Supports zoning and the prioritization of zones	•	-	-	•	•
Number of Snow Melting Zones The maximum number of coordinated snow melt zones in a system	2	-	-	12**	N/A
Snow Melt Zone Tracking Automatic operation for multiple zones with a single Snow / Ice Sensor 090	•	-	-	•	-
EconoMelt Follow mechanical snow removal with a shortened melt cycle *requires the Snow / Ice Sensor 090 or 094	-	-	-	•	•
Manual Start with Timer A manual enable with a timed disable can result in large energy savings	•	•	•	•	•

** Requires one control per zone

► Compare Snow Melting Accessories

Features & Benefits	090	094	095	072	073
Automatic Start & Stop Start the system when snow or ice is detected and stop the system when the slab is dry	•	•	-	-	-
Automatic Start & Timed Stop Start the system when snow is detected and stop the system when a melt time has expired	-	-	•	-	-
Slab Temperature Control Measure the slab core temperature to allow for Slab Protection and Slab Outdoor Reset	•	•	-	•	•
Wire Length Some sensors are available with different wire lengths	65 ft (20 m)	208 ft (63 m)	N/A	20 ft (6 m)	40 ft (12 m)



Snow/Ice
Sensor 090 or
094 (in slab)
with Sensor
Socket 091



Snow Sensor
095 (aerial)



Slab Sensor
072 or 073

Better Design, Better Control, Better Systems.

At tekmar Control Systems, we believe the indoor comfort of a building depends on the performance of its heating, ventilating & air conditioning (HVAC) system. That's why tekmar offers affordable control solutions designed to produce the best in comfort, efficiency & system performance.

Our focus on innovation to add greater value to our products & services allows us to pioneer technologies & anticipate the needs of tomorrow. We stand by our products & offer in-depth technical support & training to ensure our customers are completely satisfied.

World Class Technical Support

Our local Representatives are knowledgeable experts in both HVAC controls & their operating mechanical systems. They offer assistance in system design, product selection & installation support. We're here when you need us most. To contact a Representative in your area, visit tekmarControls.com

Dependable Warranty

We strive to provide the highest quality products to our customers. In keeping with that goal, all of our products are 100% quality tested, & backed by the most dependable 3-year limited warranty in the industry.



We Offer the Complete Solution

- *A wide range of products to match the needs of today's systems*
- *Manufactured in a state-of-the-art Canadian facility*
- *A network of experienced & knowledgeable Representatives*
- *Training & technical tools available to support your success*
- *Dedicated staff focused on innovation & customer service*

For more information regarding tekmar products, visit tekmarControls.com

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