The Snow Melting Control 680 is designed to operate electric or hydronic equipment to melt snow or ice from any surface including driveways, walkways, business entrances, parking ramps, loading docks, hospital entrances, helipads and car wash bays. It communicates with Building Automation Systems using BACnet® or Modbus® for alert notification, remote monitoring and adjustment capability. The 680 uses a tekmar Snow/Ice Sensor 090 or a Snow Sensor 095 to automatically detect snow or ice on the snow melting slab. Up to two snow/ice sensors can be installed, thereby increasing detection area and providing backup redundancy in the case of sensor failure. Upon detection of snow or ice, the 680 operates electric heating cable, a single hydronic condensing or non-condensing boiler, or a steam valve to provide heat to the snow melt load. The 680 provides boiler return protection by operating a mixing valve or variable speed injection mixing. Monitoring of energy consumption is possible when it is connected to an optional flow sensor.

**Specifications**

- **Snow Melting Control 680 BAS, Boiler & Mixing**
  - Control: Microprocessor control. This is not a safety (limit) control.
  - Packaged weight: 6.5 lb. (2950 g)
  - Dimensions: 8-1/16" H x 11-1/8" W x 2-15/16" D (204 x 282 x 74 mm)
  - Display: 3-1/4", color touchscreen, 320 x 205 pixels
  - Enclosure: PC+ABS plastic with steel conduit connection walls, NEMA type 1
  - Approvals: CSA C US, meets class B: ICES & FCC Part 15, BTL Listed
  - Ambient conditions: Indoor use only, 32 to 122°F (0 to 50°C), < 90% RH non-condensing
  - Power supply: 115 V (ac) ±10%, 60 Hz, 43 VA standby, 320 VA max
  - Primary, system pump relays: 230 V (ac), 10 A, 1/2 hp
  - Boiler pump relay: 230 V (ac), 5 A, 1/3 hp
  - Boiler stage relays: 230 V (ac), 5 A
  - Boiler modulating output: 0-10 V (dc) 500 Ω min impedance / 4-20 mA 1 kΩ max impedance
  - Injection mixing pump: 230 V (ac), 2.4 A
  - Floating mixing output: 230 V (ac), 5 A
  - Analog mixing output: 0-10 V (dc) 500 Ω min impedance / 4-20 mA 1 kΩ max impedance
  - Flow sensor: 4-20 mA, 20 V (dc) power supply by control
  - Pressure sensor: 0.5-4.5 V (dc) ratiometric, 10 kΩ min load, 5 V (dc) power supply by control
  - Communications: BACnet IP, BACnet MSTP, Modbus MSTP
  - Sensors: NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
  - Included: Outdoor Sensor 070 and 3 of Universal Sensor 082
  - Optional: tekmar type: 072, 073, 082, 090, 094, 095
  - Warranty: Limited 3 Year (See 680_D for full warranty)

**Features**

- Automatic snow/ice detection
- Supports both inslab & retrofit aerial sensors
- BACnet or Modbus communication
- Energy monitoring
- Tandem snow/ice detection
- Idling
- Storm
- EconoMelt
- Warm weather shut down
- Cold weather cut out
- Slab protection
- Exercising
Below is a sample application drawing for this product. This application may include other tekmar products that are required for installation. More sample applications can be found at tekmarControls.com.