

# tekmar® Submittal

## Snow Melting Control 680

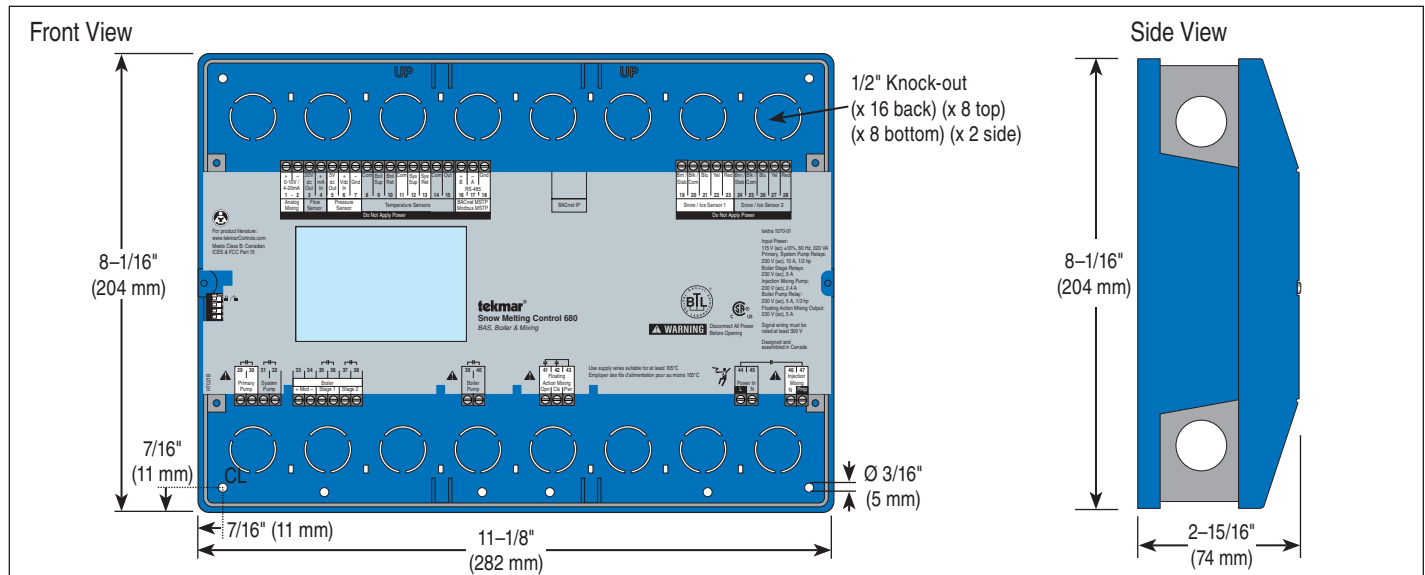


**680\_C**  
10/15

Snow Melting Replaces: 01/15

Job \_\_\_\_\_ Designer \_\_\_\_\_ Contact \_\_\_\_\_

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	
Literature	680_A, 680_B, 680_C, 680_D
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)

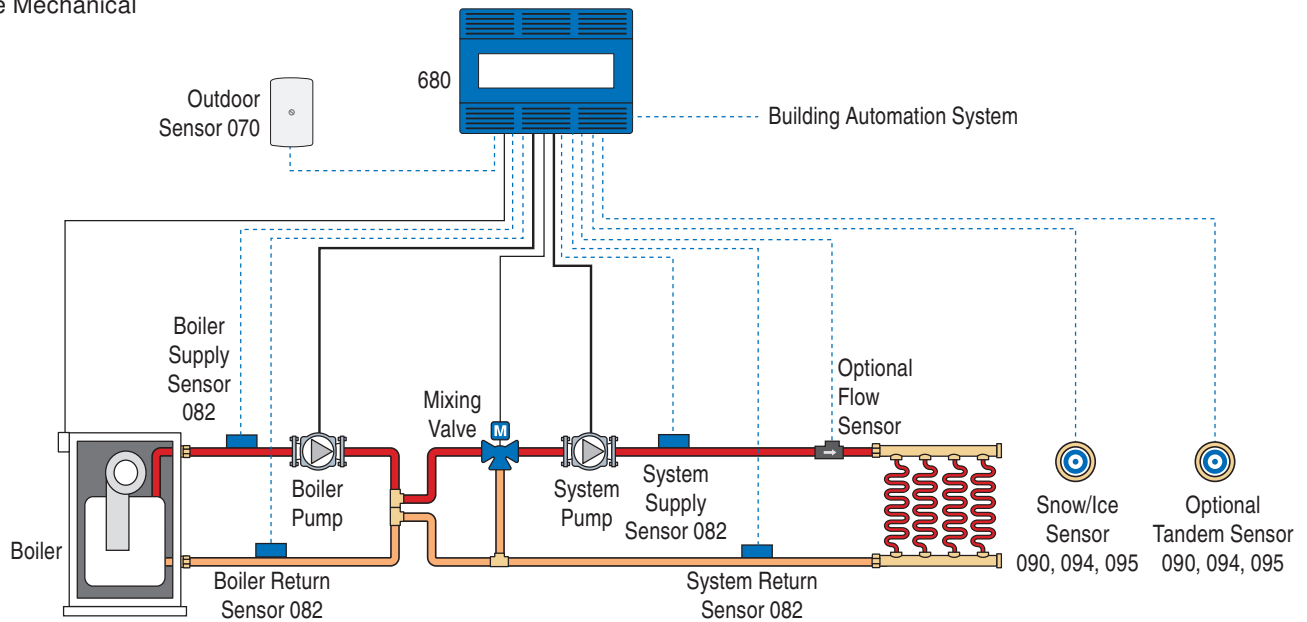
### Features

- 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

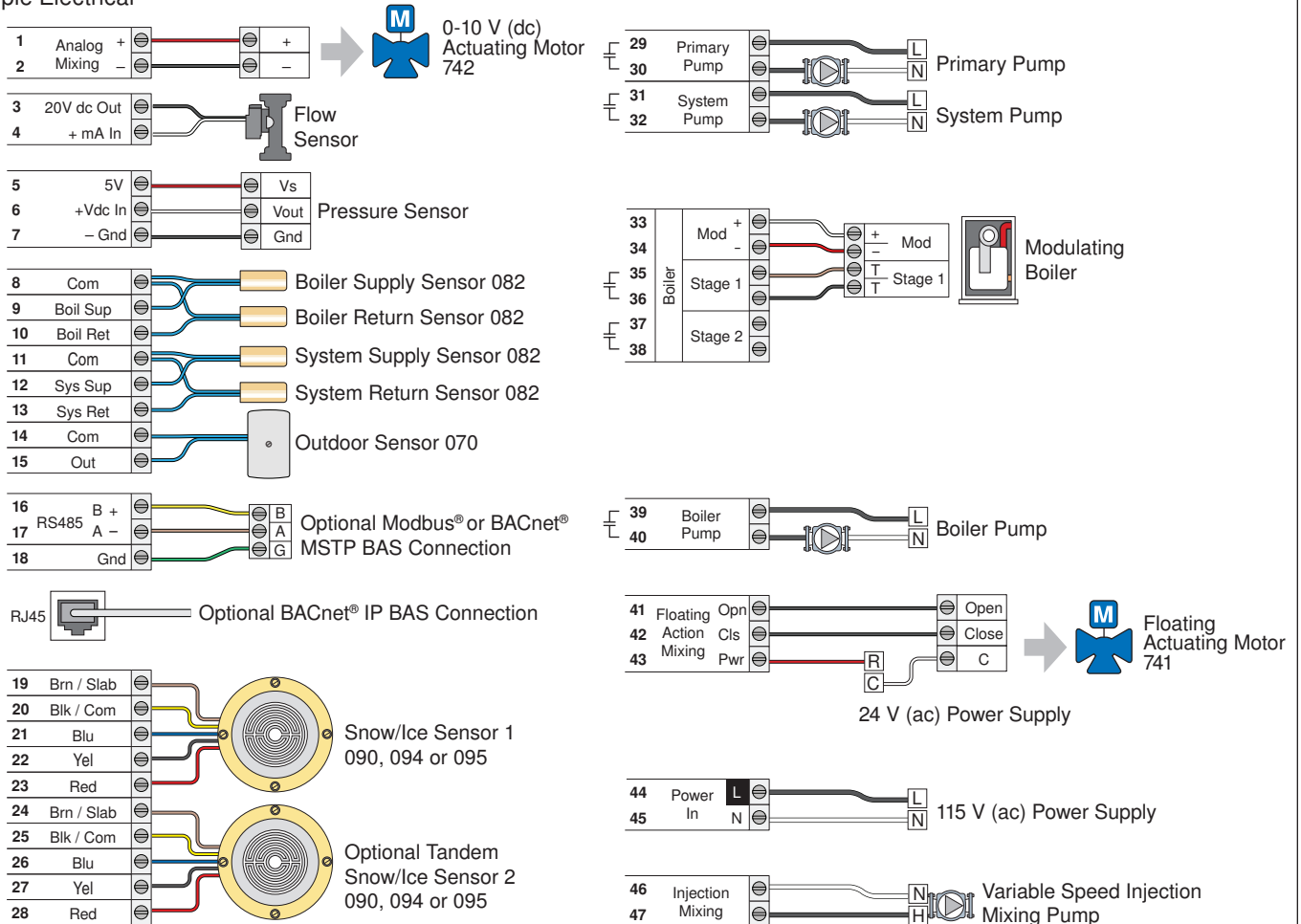
## Sample Application Drawing

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](http://tekmarControls.com).

### Sample Mechanical



### Sample Electrical



tekmar Control Systems Ltd., A Watts Water Technologies Company. Head Office: 5100 Silver Star Road, Vernon, B.C. Canada V1B 3K4, 250-545-7749, Fax. 250-984-0815 Web Site: [www.tekmarControls.com](http://www.tekmarControls.com)

