

Submittal

Job _____ Designer _____ Contact _____

Model 681

BACnet Snow/Ice Sensor Interface

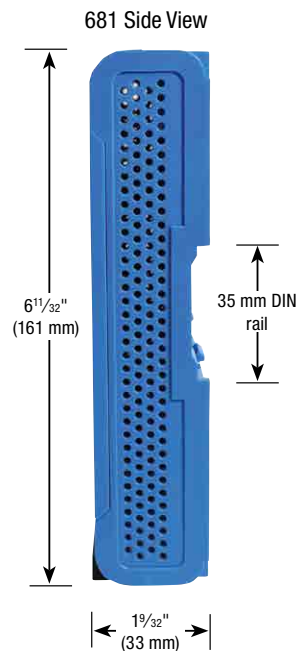
The BACnet Snow/Ice Sensor Interface 681 is designed to measure the presence of snow and ice and interfaces with the Building Automation System (BAS) to operate electric or hydronic snow melting systems. The 681 uses tekmar® sensor technology to automatically detect snow or ice, and upon detection communicates with the BAS through BACnet MS/TP. This operation allows the BAS to automatically turn on/off a snow melting equipment and cycle a heat source and mixing device to maintain temperature setpoint. The 681 is suitable for any snow melting commercial application including, hospitals, schools, airports, ski resorts, business entrances, driveways, loading docks, and shopping malls.

Features

- Automatic snow and ice detection
- Supports both in-slab and aerial sensors
- Color touchscreen for easy setup
- BACnet MS/TP
- BTL Certified
- DIN rail or screw mounting options
- Warm weather shut down
- Cold weather cut off
- 24 V (ac) power supply required

Specifications

BACNET SNOW/ICE SENSOR INTERFACE 681	
Literature	681_A, 681_B, 681_C, 681_D
Control	Microprocessor control. This is not a safety (limit) control.
Packaged weight	4.3 lb. (1960 g)
Dimensions	6.35" H x 5.13" W x 1.30" D (161 x 130 x 33 mm)
Display	3.5", color touchscreen
Enclosure	Blue PVC plastic, NEMA type 1
Approvals	BTL Certified & FCC Part 15
Ambient conditions	-4 to 122°F (-20 to 50°C), < 90% RH non-condensing, outdoor use permitted when used in NEMA 3 enclosure
Power supply	24 V (ac) ±10%, 50 and 60 Hz, 17 VA Class 2
Communications	BACnet MS/TP
Sensors	NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) B=3892
- Required	Snow/Ice Sensor 090 and Snow / Ice Sensor Socket 091 or Snow Sensor 095 & Slab Sensor 072 (depends on the bundle configuration)
- Optional	tekmar® type: 070



tekmar product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact tekmar Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on tekmar products previously or subsequently sold.

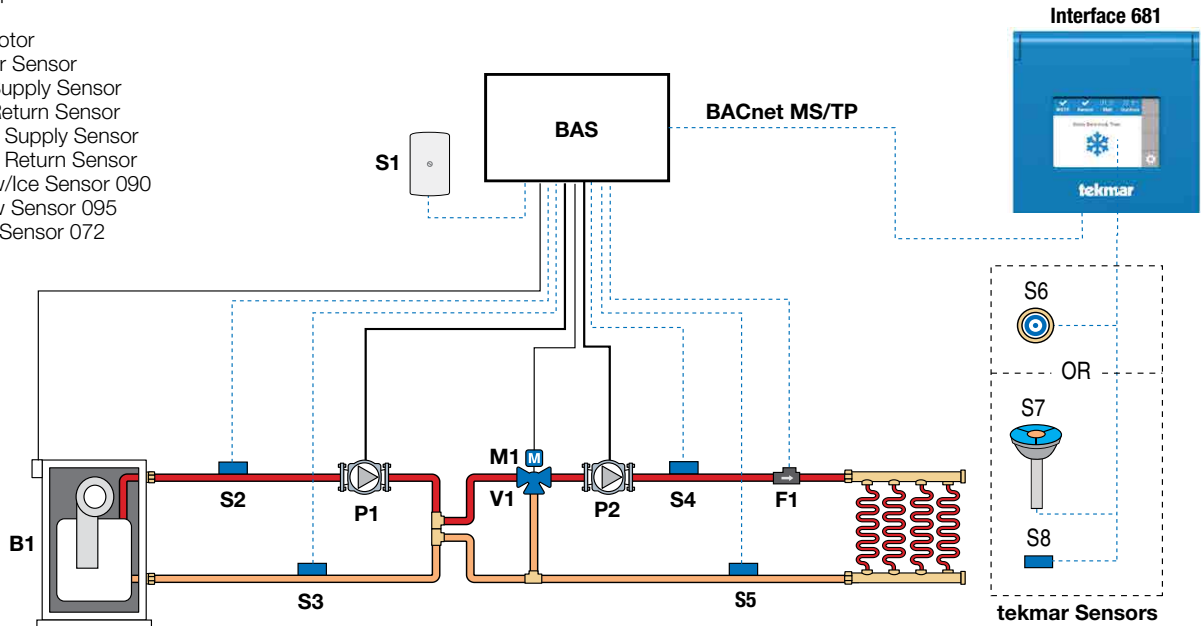
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Sample Application Drawing

Sample Mechanical Diagram

Legend

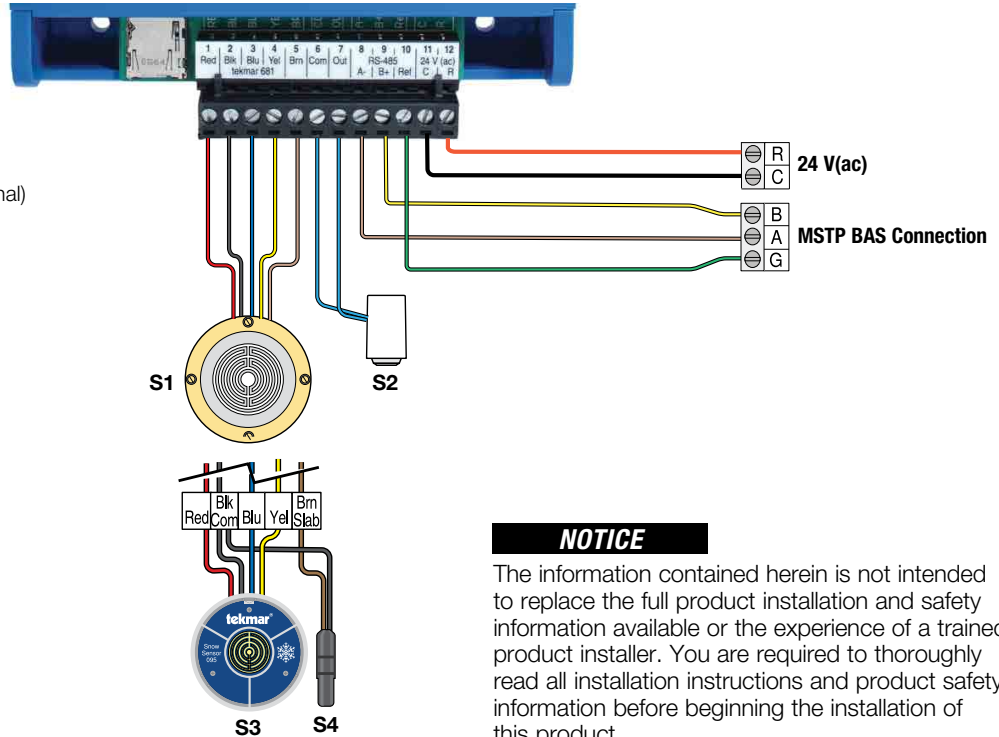
- B1 = Modulating Boiler
- P1 = Primary Pump
- P2 = System Pump
- V1 = Mixing Valve
- M1 = Actuating Motor
- S1 = BAS Outdoor Sensor
- S2 = BAS Boiler Supply Sensor
- S3 = BAS Boiler Return Sensor
- S4 = BAS System Supply Sensor
- S5 = BAS System Return Sensor
- S6 = tekmar Snow/Ice Sensor 090
- S7 = tekmar Snow Sensor 095
- S8 = tekmar Slab Sensor 072
- F1 = Flow Sensor



Sample Electrical Diagram

Legend

- S1 = tekmar Snow/Ice Sensor 090
- S2 = tekmar Outdoor Sensor 070 (Optional)
- S3 = tekmar Snow Sensor 095
- S4 = tekmar Slab Sensor 072
- BACnet MS/TP Communication



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