SEQUENCE OF OPERATION - SNOW MELT SYSTEM

WHEN THE SYSTEM IS ENABLED THROUGH OPERATOR INPUT THE DIGITAL CONTROLLER MONITORS THE SNO-WARMTAC SENSOR (5G) AND WHEN WATER IS DETECTED AND IF THE SYSTEM IS NOT IN "OFF" OR "ON" MODE, MELTING MODE WILL BEGIN.

MELTING MODE:
ONCE THE SYSTEM IS IN MELTING MODE, THE MELTING POINT TURNS ON AND AFTER 60 SECONDS, HEAT IS APPLIED TO THE SNOW MELT SYSTEM THROUGH THE STEAM VALVE (2A), THE SYSTEM REMAINS IN MELTING MODE UNTIL NO WATER IS DETECTED ON THE SNO-WARMTAC SENSOR FOR AT LEAST 12 HOURS AND THE SLAB IS UP TO TEMPERATURE FOR AT LEAST 30 MINUTES. COLD WEATHER OR WARM WEATHER CUT-OFF CAN ALSO TERMINATE MELTING MODE.

BLIND MODE:
WHEN THE MELTING SYSTEM STARTS OFF FROM A COLD TEMPERATURE, THE TIME REQUIRED FOR THE SLAB TO REACH MELTING TEMPERATURE CAN BE EXTENSIVE TO DECREASE THIS START UP TIME, THE SLAB WILL BE MELTED AT AN "ON" TEMPERATURE (20°C F, ADJUSTABLE) UNTIL MELTING IS REQUIRED. THE BLIND FEATURE IS ALSO USEFUL TO PREVENT ICE FORMATION, WHEN THE SYSTEM IS IN BLIND MODE, THE CONTROL OPERATES IS SIMILAR TO MELTING MODE EXCEPT THE MELTING POINT IS OFF AND THE TEMPERATURE IS ON.

SNOW MELT SYSTEM PROTECTION FEATURES


SNOW MELT SYSTEM CONTROL DIAGRAM


RAPID RAMPING DELTA-T DURING MELTING SYSTEM START UP:
WHEN THE SYSTEM TURNS ON THE DIGITAL CONTROLLER "TARGET DELTA-T" POINT IS SLOWLY RAMPS UP TO THE MAXIMUM DELTA-T TO PREVENT THERMAL SHOCKS OF THE SLAB. THE RAMPING TIME WILL BE 20 MINUTES.

WARM WEATHER CUT-OFF (WWCO):

COLD WEATHER CUT-OFF (CWCO):
MAINTAINING THE SLAB AT A "MELTING" OR "WARM" TEMPERATURE IN EXTREME COLD WEATHER CAN BE EXPENSIVE AND MAY BE IMPOSSIBLE, WHEN THE SNOW DROPS, THE DIGITAL CONTROLLER WILL USE AN OUTDOOR SENSOR TO DETERMINE THE SYSTEM'S MELTING STATUS. THE SYSTEM WILL THEN OPERATE THE VALVES TO MAINTAIN THE SLAB AT AN APPROPRIATE "MELTING" TEMPERATURE.

ALARMING:
NORMAL:
- PUMP FAILURE
- SUPPLY WATER TEMPERATURE
- SLAB TEMPERATURE