Volume 6 Issue 2

The eti® Interface™

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Three New Product Announcements

EUR–5A Snow and Ice Melting Control Panel.

For the past 30 years, the APS brand of Control Panels have served the industry as the "gold standard" of reliable, energy efficient, automatic snow and ice melting controls. In a majority of applications, the APS–3B serves as a pilot device that initiates external heater contactors.

The EUR–5A answers the need for a control having the capabilities of the APS–3B, plus more, for a location within an electric panel.

Continuing heater operation, after snow stops, is often necessary to ensure complete melting. The EUR–5A provides an adjustable, 10-hour, hold-on timer for this purpose. Blowing, drifting and tracked snow sometimes occurs without contacting a sensor. In this case, heaters can be manually toggled on for the hold-on time.

The EUR–5A includes an RCU–3 Remote Control to be placed at a convenient location for personnel to observe melting. It provides status indicators, a calibrated hold-on time adjustment and a heater toggle switch. So, melting can be manually initiated should the need ever arise.

The EUR–5 interfaces a low voltage push-button switch that toggles the heaters for the hold-on time. When mounted on the front panel of the electrical enclosure, this feature eliminates the need to open the panel which promotes safety.

Building and energy management computers are becoming common in commercial applications. The EUR–5A has a separate interface for this purpose. In the event that the computer fails, the EUR–5A reverts to its normal automatic control mode.

The EUR–5A interfaces up to eight sensors from the CIT–1, GIT–1, SIT–6E family. Another new feature accommodates the trend toward the use of MI heaters in snow melting applications. The EUR–5A provides an adjustable, 40° to 50°F, high temperature limit, that prevents damage due to inadvertent heater operation in high ambient temperatures. The temperature sensor, which can be mounted above ground or imbedded in pavement, is included.

The EUR–5A mounts on a DIN rail and includes an NEC Class 2 control transformer rated for a 120 volts input and 24 volts output. An isolated 1 amp Form C SPDT relay contact interfaces the EUR–5A with the electric heater contactors.

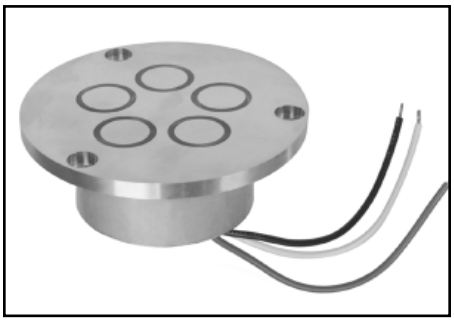
GPT–3 Tracon® Freeze Protection Thermostat

The patented and patent pending, C–UL US Listed, GPT–3 is an enhanced feature alternative to quality electromechanical thermostats in freeze protection applications requiring an adjustable set point from 41° to 77°F. It operates from any standard line voltage between 120 and 277 volts automatically while controlling up to 30 amp heater loads with its definite purpose contactor. Its NEMA 4X polycarbonate enclosure provides a wide choice of indoor and outdoor locations.

Scanning This Issue

The GPT–3 accommodates both self-limiting and constant wattage heaters with two modes of continuous failure detection in addition to the selectable trip current GFEP. For mission critical fire protection applications, the GFEP can be programmed to automatically reset. The GPT–3 provides additional safety by periodically checking the GFEP for proper operation and the heaters for ground fault.

The GPT–3 provides an extensive self-test and diagnostic capability so as to assist maintenance personnel. A summary alarm relay with an isolated reverse acting SPST contact provides remote annunciation of problems.



HSC–2R and HSC–3R Replacement Embedded Snow Sensors

Production of the HSC–2 and HSC–3 Pavement Mounted Sensors ended several years ago when their successors, the HSC–4 and HSC–5, became available. Supporting the many hundreds of these in the field is essential. Since the passage of time makes support of them increasingly difficult, the most practical solution was to engineer an interchangeable replacement.

The replacements, the HSC–2R and the HSC–3R use the latest SIT–6E sensor and electronic technology. As the SIT–6E continues to evolve, so will the replacements. So, support of the HSC–2 and HSC–3 is assured for many years to come.

SnoTalk

The importance of clearing melt water should never be underestimated. The most important reason is safety. Melt water, not managed, can refreeze and create hazards for both pedestrian and vehicular traffic.

The term melt water, whether it be caused by nature or man, is used in a general sense to describe what happens to the ice after it becomes melted.

Natural sources of melt water include snow and ice other than the deiced area. At various times, during the winter months, snow and ice melt due to solar radiation or other natural causes which can cause problems. Melt water can flow onto pedestrian and vehicular traffic areas and refreeze. A safety hazard results. The snow melting system can evaporate the natural melt water providing that it contacts an embedded snow sensor. If not, operating personnel observe the problem and toggle the deicing heater on for a hold-on time of up to 10 hours. Failure to clear the frozen melt water can create an actionable legal problem.

Consider a strip mall in a downtown shopping area with selective deicing. That is, some merchants choose to deice and some don't. The boundary between the merchant with deicing and the one without creates an opportunity for a melt water problem. Sloping ground exasperates the problem.

Intentional evaporation of melt water consumes much more energy (BTU's or KW-HR) than melting. Thus, energy efficiency requires draining as opposed to evaporation.

For an example of how expensive melting and defreezing can be, read the "Snow and Removal" case study from Zurich North America's Risk Topics. Point your web browser to http://tinyurl.com/3zk3g. This article and the case discussed illustrate how expensive a slip and fall accident can be and what the Minnesota Court of Appeals ruled the responsibility of a hotel owner to be. Loosely quoted, the court found that the failure to salt and sand a breach of reasonable care considering the freeze and thawing weather conditions existing. For a complete explanation, refer to (Myers v. Winslow R. Chamberlain Co., 443 N.W., 2nd, Minn., 1991) or the article cited. This problem cost the defendant $243,000!

In conclusion, always consider safe draining of melt water from both deiced and adjacent areas. Use heat to make certain the drainage flows freely at least to the frost level. A failure to do this can cause a slip hazard and will waste energy.

Code Corner

The NEC originates from the National Fire Prevention Association chapter 70 and is updated in three year cycles. The majority of the changes are "Proposal Changes" drafted and submitted by those in the electrical industry. Each code book contains a proposal form and directions assisting with the draft structure of the proposed change and its submission to committee.

Notable changes to the NEC occured in the 1999 cycle when its size changed. The 1996 and earlier codes were printed on 5.5" by 7.5" sheets. Since 1999, the code has been published using a more standard 8.5" by 11" letter-sized sheet. The 2002 code cycle added metric dimensions to American Standard values and today both dimensions are listed. Every text and or table change is identified in its first code by a line adjacent to the change in the left hand index.

Finally, beginning with the 1999 NEC a support text has been published. That text is entitled, "Analysis of the (cycle year) NEC Changes." It has become the primary support text to each new code cycle. The analysis provides not only commentaries explaining the changes but also the insight into why the committee elected to make the change.

Remember, "The purpose of this code is the practical safeguarding of persons and property from the hazards of electricity." This is only possible with the continuous updating and changing of the NEC to keep pace with new technology and work practices.

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We Manage Heat

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