

Storm Delays

On Tuesday, August 26 at 2:30 p.m., a violent thunderstorm passed over Environmental Technology, Inc. Its 80 mph winds ripped off one side of our warehouse roof, exposing its contents to heavy rain. Along with many others, we lost electric power for most of four days. Our computerized phone system was down as well, since it requires electric power.

ETI resumed normal operation September 1. Overtime has been easily making up for lost production time. Any delays in product and literature availability will be between a week and ten days.

New Products

This month we introduce the new HSC-4 and HSC-5 Pavement-Mounted Deicing Controllers as replacement for the HSC-2 and HSC-3. They signal for snow melting at temperatures below 38°F while moisture, in any form, is present and for the hold-on time thereafter to ensure complete melting. The HSC-4 and HSC-5 provide hold-on times of one and five hours respectively.



HSC-4 and HSC-5 Pavement-Mounted Deicing Controllers

The HSC-4 is normally used as an interface with building automation computers that can be programmed to provide additional hold-on time. The HSC-5 provides complete automatic snow melting control based upon pavement conditions at exceptionally low cost since it does not require an

external control panel such as the APS-3B or APS-4. It can be applied to systems using either electric or hydronic heaters.

Both the HSC-4 and HSC-5 operate from a customer-supplied NEC Class 2, 24 Vac source. Their internal relay provides a SPST floating low voltage one amp contact for controlling small heater contactor solenoids or a customer-supplied intermediate relay with contacts rated for line voltage operation.

The new products are supplied with an adjustable mounting base permitting precise alignment of the sensor assembly with the pavement surface after concrete hardens.

The list price for either the HSC-4 or HSC-5 is \$844 FOB South Bend. Delivery is from stock. Our standard two-year limited warranty applies. Contact Customer Service for data sheets and channel-based discounts.

Changes in Product Classifications

Thirty-five years ago, ETI introduced its first product: the Model 100 Snow Detector for pavement applications. Since ETI now offers more than four dozen products for freeze protection and temperature control applications, selection is now a real issue. Solving this problem first requires grouping products by market segments as follows:

- Consumer — Through high-end residential
- General Purpose — High-end residential through small commercial
- Commercial — Commercial, institutional, governmental and industrial

It will take a few months to completely implement this change since it requires reorganizing a lot of catalog and other promotional material.

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New Pricing

New Price Lists will be available from Customer Service on 1 October. Our last Price List was published more than four years ago. Increases vary between zero and four percent. We expect price stability through the balance of the current heating season and well into the next.

Web Sites Overhauled

Check out our new web site at www.networketi.com. ETI Telecom and ETI Heat Systems have separate sites at www.etitelecom.com and www.etiheatsystems.com.

Included is a new slide-show presentation, featuring a summary of all of our products that is quite useful as a sales tool or for product familiarization. It is available for download at www.networketi.com/ppt/. You can obtain a free copy of the presentation on CD-ROM from Customer Service.

Sno-Talk

How do gas and electric energy costs compare? As you will see, this simple question has no simple answer.

Electric utilities sell energy in kilowatt-hours (Kw-hr) and gas utilities in therms. The energy units are related as follows:

$$1 \text{ BTU} = 0.000293 \text{ Kw-hrs}$$

$$1 \text{ Kw-hr} = 3412 \text{ BTU}$$

$$1 \text{ therm} = 100,000 \text{ BTU}$$

Putting the above factors into a form convenient for a cost comparison:

1 therm = 29.3 Kw-hrs

1 Kw-hr = 0.03413 therm

In South Bend, IN, electric energy costs \$0.05707 per Kw-hr for the highest use residential customer and gas costs approximately \$0.60 per therm averaged over one year.

For electric, energy costs \$1.6722/therm = 5.707/Kw-hr ÷ 0.03413 therm/Kw-hr.

For gas, energy costs \$0.020478/Kw-hr = 60/therm ÷ 29.3 Kw-hr/therm.

Comparing the energy costs:

Electric energy costs 2.7869 times the cost of gas.

= \$5.707/Kw-hr ÷ \$0.020478

This result is close to the rule of thumb that electric energy costs three times more than gas. How meaningful is the above theoretical result? It depends upon your purpose. The mathematics provide a good basis for comparison when using fixed energy costs.

Anyone examining a utility bill will be impressed with the number of variable charges including quantity discounts. Electric power costs can vary by a factor of more than 5:1 for off-peak versus peak usage. Gas rate can vary depending upon the season. Electric energy costs vary between utilities and regions. South Bend

is served by two utilities. Electric purchased from NIPSCO costs nearly twice that purchased from AEP.

In conclusion, making an exact energy cost comparison is nearly impossible. However, the approximate calculations described herein can provide useful insight.

Code Corner

What's wrong with cord connected heaters for gutter ice melt? Look at what the National Electric Code requires as minimum:

Article 90 Introduction... 90.1(A) Practical Safeguarding. The purpose of this Code is the practical safeguarding of persons and property from hazards arising from the use of electricity.

Article 110.3(B) Installation and Use. Listed or labeled equipment shall be installed and used in accordance with any instructions included in the listing and labeling.

Article 400.8 Uses Not Permitted (Cables/Cords)...(3) Where attached to building surfaces.

Article 406.8 Receptacles in Damp or Wet Location...(B) Wet Locations. (1) 15 and 20 Ampere Outdoor Recepticals... recepticals installed

outdoors in a wet location shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted.

Article 426.28 Equipment Protections. Ground-fault protection of equipment shall be provided for fixed outdoor electric deicing...

The National Electric Code requires the homeowner to meet the minimum installation requirements noted above. First, review the heater literature and verify that it is Listed for roof and gutter applications. Second, the heater power cord must not be attached to the dwelling. Third, conventional outlet covers do not meet wet location requirements. Bubble covers, which protect the cord and cap while installed, meet this requirement. Electrical extension cords used to power the permanently installed heating cable are prohibited. Fourth, the branch circuit must contain ground-fault equipment protection.

Fixed length outdoor electric heating cable is aimed specifically at the Do-It-Yourself market. In the hands of an untrained installer it presents shock and fire hazards to both the installer and the dwelling occupants.

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