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THE OFFICIAL NEWSLETTER OF A.E.F. SALES ENGINEERING COMPANY

VOLUME 17
ISSUE 3

"America's
Favorite Newsletter"

MARCH 2008

TEAM AEF

aef

HAPPY - BRAVE - NICE

Our 44th Year

CONTENTS:

CONTROL FREAKS

A new era begins in
thermostatic control of heater
cable. TEAM AEF proudly
presents the SST-2.

NATIONAL TREASURE?

Can you decipher the
mysterious codes of an
inferior, non-AEF heat trace
'monitor'? Or do you have
more important things to do?

EVERYDAY MIRACLE

How much do we take for
granted? Lots of things, big
and small.

ASK BERNADETTE

She's black and white and
read all over, dishing out
uncommonly common sense.

Team AEF: Control Freaks

*A brand new kind of freeze protection heat trace controller
just came on the scene, and AEF Sales was among the first
in the country to be able to bring it to our customers.*

Mechanical thermostats have been around forever, it seems, and the basic "technology" is the same its ever been: a bulb, bellows, and capillary are filled with a temperature-responsive liquid. The vapor pressure of the liquid increases as the temperature of the bulb increases. Temperature is converted to pressure through the bulb and capillary and applied to an actuator. As temperature rises, the bellows exerts the force on a spring, and when the force of the spring is overcome, it transfers the motion to the contact block and actuates the contacts.

Simple? Yes.

Elegant? No.

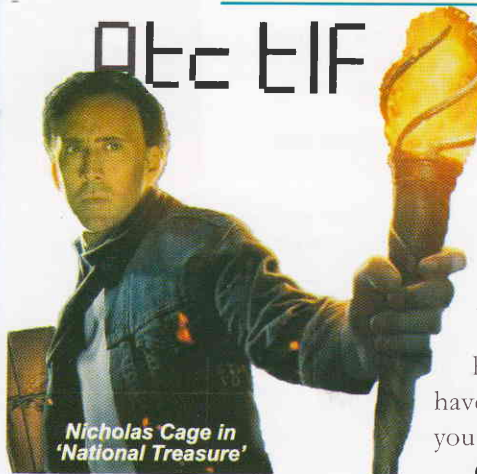
Precise? Not hardly. Mechanical thermostats typically have a deadband of about 10 degrees Fahrenheit between when the switch opens (or closes) and when it closes (or opens). Add that to the imprecise nature of a rotary dial and three or four degrees of "slop" in accuracy and you start to get the picture.

But wait! There's more! (Go to 3)



Galileo.

*The 'technology' for mechanical
thermostats is based on his
thermometer, built in 1593.*



Nicholas Cage in
'National Treasure'

Abc bIF CAL Un I Pr I Fr P

**If you can't understand this headline
you won't understand our competitor's
heat trace control system either**

One of the other heat trace companies out there has a control panel they'd like to sell you. If you love mysterious codes it might be just what you're looking for. (The headline for this article is made up of their hieroglyphics.) On the other hand, if you don't really have the time or energy for unnecessary mysteries at work, you might want to tell them 'No, thanks!'

Call us crazy, but here at AEF Sales we think a heat trace monitoring system should actually give you some real, understandable information about the complete status of each heater circuit, not some cryptic system that leaves you feeling like you want to buy a vowel.

TEAM AEF has a wide selection of control and monitor systems that actually make sense, and we're more than happy to help you find the perfect fit for your application. We'd tell you more about them, but we're almost at the bottom of the page, so ask your favorite AEFer for the inside skinny. (Nick Cage action figure sold separately.)

AEF

*Of all the strange little
symbols our competitor's
monitor uses, this is our
favorite. We're not sure,
but we think it's trying to
tell you to call AEF.*

Man is the only kind of varmint who sets his own trap, baits it, and then steps in it.

John Steinbeck

Not all people wearing blue oil-stained overalls are mechanics, even if they look like mechanics, even if they say 'We are mechanics'.

Steve Whysall

I have called out but you keep refusing. I have stretched out my hand but there is no one paying attention.

Proverbs 1:22

Don't judge each day by the harvest you reap but by the seeds that you plant.

Robert Louis Stevenson

If somebody thinks they're a hedgehog, presumably you just give 'em a mirror and a few pictures of hedgehogs and tell them to sort it out for themselves.

Douglas Adams

I don't know but I've been told it's hard to run with a weight of gold; other hand I've heard it said it's just as hard with a weight of lead.

Grateful Dead

Never go to bed mad; stay up and fight.

Phyllis Diller

memo

FROM
PETER FASOLINO

People who are not big fans of all things Disney may never have heard of "imagineering". A combination of the words "imagination" and "engineering" it embodies the idea of having the technical resources to solve difficult problems, and the creativity to figure out really good problems to solve.

On the other hand, pretty much everybody is familiar with light bulb jokes: "How many [insert a cross section of humanity here] does it take to change a lightbulb? So . . .

Question: How many imagineers does it take to change a lightbulb?

Answer: Does it have to be a light bulb?

Rather than narrowly and by rote starting to grind out an answer, the imagineer takes a step back and looks at the problem from every angle, making no assumptions and leaving no options off the table.

I'd like to think that when customers come to A.E.F. Sales with an application, we apply our own brand of imagineering -- it's certainly something that we aspire to. With over forty years in the heater business, it might be easier to look back and see what we did five or ten or twenty years ago. But it also pays to look ahead, to see what's next, what's the best solution we can offer our customers right now? And down the road?

A case in point is the electronic heat trace controller you will be reading about in this issue. It seems to me that for the last twenty years I have been saying that we would have to explain to our grandchildren what a mechanical thermostat was but we never seemed to turn that corner. My granddaughter turned three in January, and being the offspring of a third generation heat trace maven, she's bound to have questions pretty soon. So, in the nick of time, I'll have an answer -- or another question.

Does it have to be a thermostat?

Beware the Ides of August

An astute reader has alerted us to a teensy weensy problem with the AEF Calendar for 2008.

There are 3 extra days that technically don't exist (i.e. January 32, July 32, and September 31) that the Calendar Department inserted in a feeble attempt to be 'whimsical' and 'humorous'.

There was also an unintended error, in that August 1, which is a Saturday in 2008, is shown as a Friday, which throws all of August off by one day.

The responsible parties have been dealt with harshly.

IEEE PES
Transmission and Distribution
CONFERENCE and EXPOSITION

McCormick Place

CHICAGO

Central Moloney - Booth 826



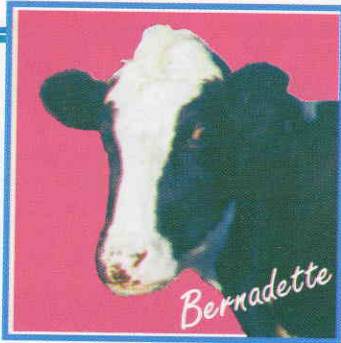
900 square foot display
featuring single-phase and
three-phase transformers
and components

Stop By and Say Hello!

-Official Thermostat Comparison Chart -

Feature	Toaster * Oven	Mechanical Thermostat	SST-2	TraceMate
On/Off Control	NO	YES	YES	YES
Loss of Voltage Alarm	NO	NO	YES	YES
Ground Fault Alarm/Trip	NO	NO	YES	YES
Sensor Failure	NO	NO	YES	YES
Automatic Testing	NO	NO	YES	YES
Remote Alarm Contacts	NO	NO	YES	YES
Low Current Alarm	NO	NO	NO	YES
High Temp Alarm	NO	NO	NO	YES
Low Temp Alarm	NO	NO	NO	YES

* Toaster Oven included for comparison purposes only. NEVER attempt to control a heater cable using a Toaster Oven!



Bernadette
The AEF Sales Answer Cow

DEAR BERNADETTE:

I'm looking at a bunch of quotes for a transformer requirement. From what I can see it doesn't look like any of these manufacturer's even *read* the spec, let alone quoted to it. Impedance, paint finish, dimensions---hey, if I didn't need what I specified I wouldn't have specified it. But all these guys just send me a quote on the closest 'standard' unit, and give me a pile of boiler plates to sift through, so I can guess at

what they're quoting. I don't have time for this kind of nonsense.

Plus another thing scares me: if they can't *quote* what I want, how the heck could they *build* the transformer I need? Doesn't anybody know what they're doing anymore? R.B.

DEAR R.B.:

Happily, yes. R.E. Uptegraff has been building transformers since 1922. They're still family-owned (President Susan Endersbe is the granddaughter of founder Roy Uptegraff, Sr.). And they've still got transformer people who know what they're doing and can quote the unit you need, and then build it. So when your requirements include distribution, specialty, LTC, station service, or small power transformers, you know who to call.

Confidential to G.W.: Personally I wouldn't trust any of them to take care of my cat for the weekend, let alone run a country.

If you put the federal government in charge of the Sahara Desert, in five years there would be a shortage of sand.

Milton Friedman

The more you observe politics, the more you've got to admit that each party is worse than the other.

Will Rogers

Those who continue to live by the sword will get killed by a guy with a gun.

William Watkins

The less I know about a subject, the more confidence I have, and the more new light I throw on it.

Mark Twain

This is a small industry we're in. People move from one place to another. If you've treated them right, you'll have a friend everywhere they go. If you've treated them badly you'll have a black eye wherever they go.

Tony Fasolino

I'll gladly pay you Tuesday for a hamburger today.

Wimpy

In order to get power and retain it, it is necessary to love power; but love of power is not connected with goodness but with qualities that are the opposite of goodness, such as pride, cunning and cruelty.

Leo Tolstoy

Control Freaks . . .

The limited capillary length available with mechanical thermostats means that if the pipe is twenty feet in the air, the stat will have to be twenty feet in the air as well --- not handy for maintenance or periodic testing.

And even when they can be mounted accessibly, a mechanical thermostat pretty much tells you . . . Nothing. OK, you can put a pilot light on the thermostat and an end-of-circuit light on the heater cable too --- but if the lights go out what does it mean? Has the thermostat cycled off? Or is there a tripped or open circuit breaker? Or a burned out pilot light? There's gotta be a better way!

There is, and AEF Sales has it: The SST-2 Electronic Thermostat. So let's take a look at the little beauty.

Simple? Yes.

Elegant? Yes.

Precise? You bet. Pre-set at 40 degrees F, this controller has a deadband of 2 degrees F. The temperature sensing thermistor comes with a 20 foot lead, and can easily be extended up to 2000 feet. And the thermostat provides digitally filtered 30 mA ground fault protection. The ground fault function is tested automatically every 24 hours, and every time the heater is energized. SO NO MORE EXPENSIVE GFI BREAKERS!!!!

LED indicator lights under the sleek transparent cover verify that power is available, tells you when the thermostat is calling for heat, provides ground fault status, and lets you know that the thermistor is fully functional. And for remote indication of an alarm condition, an alarm relay with an isolated contact is built right in.

And best of all, the SST-2 provides all these functions at a cost lower than a standard mechanical thermostat. Have we got your attention now?

Now suppose your application requires an adjustable set point, or more advanced features like high and low temperature alarms? Not to worry --- AEF's warehouse is loaded with Tracemate controllers that provide high and low temperature alarms, and a whole lot more.

In case you're starting to lose track, we've put together a simple chart to help you.

Does all this mean that AEF won't sell you a mechanical thermostat? Not at all. For our customers who prefer a mechanical stat we still have almost 300 of them in stock in our warehouse, and we'll carry them as long as our customers ask for them.

For 44 years people have been coming to AEF Sales for leading edge heat trace technology and good, solid advice. That's one thing that won't ever change.

Did we mention that the SST-2 provides all these functions at a cost lower than a standard mechanical thermostat? Like that crab in 'The Little Mermaid' said: "What more is you looking for?"



If your maintenance guys look like this it doesn't matter how high up your stats are mounted. If they don't you need SST-2s.

Small Things?

Our days often seem to be filled with frenetic activity, crises large and small, and what seems like millions of decisions to be made. We rarely find time to stop and smell the roses, let alone really appreciate them. Forrest Gump's mother told him 'Miracles happen every day. People don't believe it, but it's true'. And she was right: we walk by stuff every day, from babies to stars, without ever appreciating them.

So we recently spent some quality time with one of those overlooked wonders: an appleseed. It was small, probably take a hundred of them to make an ounce. And it didn't seem particularly alert or interested in its surroundings. In fact you could carry it in your pocket for years and it wouldn't change a bit. But if you took it and put it in the ground it would perk up considerably, awakened by the desire to create more apples.

To create apples it first has to build a tree. So the roots go down and the leaves go up (nobody really knows why), and it begins to build a tree, out of sunlight and rain and little invisible things in the dirt. This is a long term project---the first apple is six or seven years away. But eventually the job is done, the tree is built: fifteen feet tall, weighing in at maybe 1500 pounds. Then every year for the next forty years it will put out 8,000 leaves, plus a couple of hundred outrageous smelling blossoms. And, oh yeah, apples.

And maybe, if we pay attention, a lesson of some sort.

Backwords

Who Says the UN Doesn't Work?

While many folks see the UN as a nightmare bureaucracy that can't get anything done, we beg to differ. Exhibit A: the nations of the world have come together and declared 2008 the 'International Year of the Potato'. With the theme 'Hidden Treasure' (potatoes grow underground, get it?) the IYP comes complete with a schedule of conferences spanning the globe, an International Year of the Potato Secretariat, based in Rome, and a nifty logo. In a note that is sure to warm the heart of Mayor Mike, the logo may NOT be used to promote deep-fried potato products. We highly recommend a visit to IYP's informative website, www.potato2008.org.

Alliance Against Expensive GF Breakers Salutes AEF

A newly-formed Alliance, protesting against 'outrageous' pricing of GF breakers, has just awarded TEAM AEF its highest honor. AAEGB spokesperson Ty Braker announced the award saying: 'Although GF breakers undoubtedly serve a very useful purpose, there is no reason in the world that a GF breaker should cost THREE TIMES what a standard breaker costs. By offering their customers the widest possible range of heater cable controllers and monitoring systems that provide the needed GF protection using standard breakers, and not requiring the use of over-priced GF breakers, AEF is saving their customers a lot of money, and striking a blow for all mankind. Thanks, AEF!'

Hard to Believe

It was recently brought to our attention that Bob Hayes, 'the World's Fastest Human', who changed the game of football as a wide receiver for the Dallas Cowboys, is NOT in the NFL Hall of Fame. His speed forced the advent of the zone defense, and he still holds 22 franchise records. Hayes died of kidney failure five years ago, but his cause is still championed by his 68 year old sister, Lucille Hester. Lucille attends the Enshrinement ceremonies at the Hall of Fame every year, cheering for the players who made it in, and waiting.

aef

A.E.F. SALES ENGINEERING COMPANY



TRANSFORMERS Central Moloney

Single Phase Transformers: Pole Type, Padmounted, Vault, and Stepdown
Three Phase Padmounted Transformers
Components: Bushings-Switches-Accessories
JSRP Job Site Ready Padmounts

R.E. Uptegraff Manufacturing
Liquid Filled Transformers to 20mva
Subsurface, Load Center, Station Type
Rectifier Applications, Zig Zag Grounding
Phase Changing and Phase Shifting
Traction Power, Current Limiting Rectifiers
Rebuilding and Rewinding Services

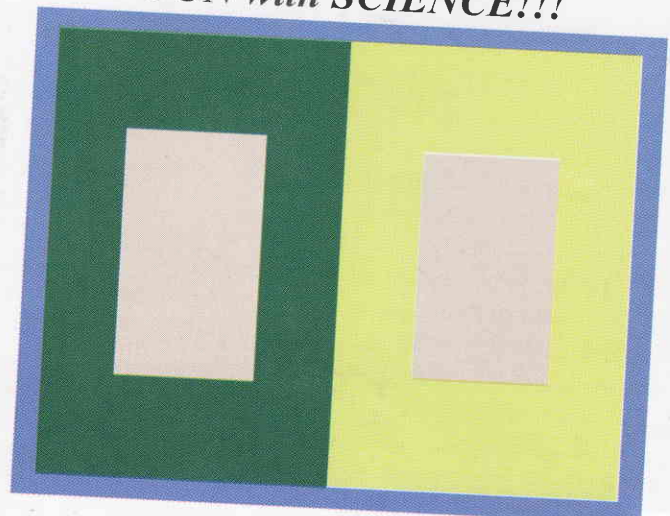
HEATER CABLE & CONTROLS
MI Cable for Pipe Tracing & Snowmelting
Self-Regulating Cable for Pipe Tracing
Hot Water Maintenance Cable
Self-Regulating Cable for Roof & Gutter De-Icing
Thermostats & Controls
CM-1 Cable Monitoring Systems
CM-2 Heat Trace Management System
CM-3 PLC Based Circuit Management System
Heat Tracing Since 1964

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- IN OUR NEXT ISSUE -

Frankly at this point we have NO idea at all what will be in the next issue, but we're not gonna worry about it now.

FUN with SCIENCE!!!



Amaze Your Friends! Win Large Bets!
The gray rectangle on the left appears to be bigger than the gray rectangle on the right, but they are EXACTLY THE SAME SIZE!