

## Fluke cooks up some tasty ideas for digital recording thermometers

### Application Note

For Joe Huerta, barbecuing is more than a method of cooking. It's a passion. Rubs, sauces, cooking time, wood chips for different flavoring – these are all tools that Huerta carefully selects and blends together to create his culinary masterpieces. So it's no surprise that when he was looking for a way to demonstrate to customers the benefits of a two channel, data logging digital thermometer, Huerta turned to his barbecue.

"It's the perfect way to show the value of being able to measure temperature over time," said Huerta, who is a territory sales manager for Fluke. "Everyone's barbecued, or eaten barbecue, so it's a universal experience that people are familiar with."



And anyone who has ever struck a match to charcoal or propane has had bad experiences: recipes that just didn't work, overdone or underdone food, friends and family members anxiously peering over your shoulder wondering when dinner will be ready.

So when Huerta prepares the coals – a true barbecuing traditionalist – for his famous chops, he hangs his Fluke 54II, Dual Channel Recording Thermometer from his barbecue. He then positions one bare wire thermocouple inside the barbecue and the other – one for each channel – dangling from the thermometer, then

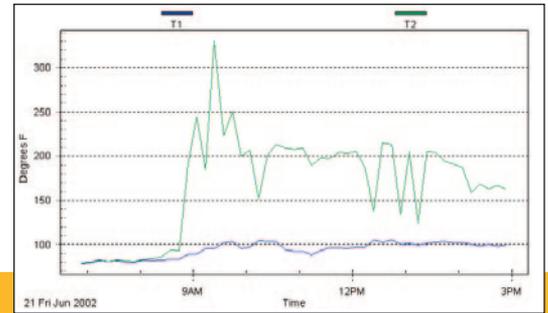
triggers the thermometer to begin logging the temperatures from both channels. This provides him constant readings of both the ambient temperature and the temperature inside the barbecue. Tracking ambient temperature allows him to determine how long it will take to cook the chops, while the thermocouple inside the barbecue enables him to maintain a constant temperature between 180 and 210 °F by adjusting dampers. The combination of time and constant temperature is what gives Joe's chops that smokey, rich taste that leaves you grabbing for more.



Afterwards, Huerta can download the data to a PC and, using FlukeView Forms software, chart the temperature of both channels over time. (See accompanying charts). The charts show sharp drops in temperature inside the barbecue that coincide with Huerta opening the lid to add wood chips or slather sauce on the meat.

“When I show these to customers and explain how they can hook up the thermometer, walk away, then come back

later, then download and view the data in many formats, they can really see the benefits of data logging temperature,” said Huerta. “Heat can really damage equipment. Plotting data over time can reveal trends and help pinpoint problems. With two channels, you can look at corollary relationships between two different pieces of equipment, providing you even more power. And you can always use it to make some really great ribs.”



**A note from Joe:**

Here's the chart from my last rib smokin'. You can see I started logging a little before 7am. The max temp in the smoker reached about 330 °F and then I opened the smoker and put the wood-chips on the coals. You can see all the dips in the temperature after 12 pm when I had the smoker open for various reasons. This was a pretty good run. T1 is the outside temperature (ambient) and it was pretty hot that day, between 90-100 °F.

## Joe's Smoked Pork Chops

- Hickory wood chips (soak in water for a couple of hours before smoking)
- Olive oil
- Salt & pepper
- Your favorite barbecue rub
- White onion
- Aluminum foil

Lightly coat either side of the chop with olive oil then sprinkle with salt and pepper. Generously coat either side of the chop with your favorite barbecue rub and, using your hands, rub seasoning into the meat. Cover with plastic wrap and set aside for 30 to 60 minutes. Slice up onion and set aside. These chops are cooked for a few hours with indirect heat so make as many chops as your grill can hold without having any of the chops right over the top of the coals. Light the charcoal grill and get the temperature up around 300 °F. The key here is to keep the temperature inside the grill around 200 °F to 225 °F for about the next three hours. You'll have to keep adding charcoal and wood chips. Keep a water bottle handy to squirt the coals if they start getting too hot. A good thermometer is very helpful. When the temp is up around 300 °F put the chops on the

grill (not directly over the coals) and then put a few new coals on top of the white hot coals. Then load up the soaked hickory chips on top of the hot coals. In less than 30 seconds you should have some major smoking action. Close that lid and keep an eye on the temperature. You do not want the temperature below 185 °F or above 225 °F for very long. Keep adding hickory about every 30 minutes or so. Try to keep the temperature around 210 °F and keep that lid on!!! After about 60-90 minutes remove chops from grill and wrap in aluminum foil. Put the sliced onion in between and around the chops when you wrap them all together in the foil. Put the wrapped up chops back in the grill (not directly over the coals) and keep the temperature around 200 °F for another 45-60 minutes or until the chops are done. Gotta gas grill? Sorry.



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