LOKI

THE SMART WIFI MEAT THERMOMETER

NXP®'s Kinetis® KL16 MCU powers a hot new meat thermometer for the IoT

Loki is the smart Wi-Fi meat thermometer that makes culinary perfection easy to achieve by monitoring the progress of your main dish in any oven, smoker or grill.

Challenge: Create an IoT-ready, Wi-Fi-enabled meat thermometer with the advanced functionality to monitor, track and report on cooking progress.

Solution: NXP's Kinetis KL16 MCU enables Loki to sense cooking temperatures while food cooks, sending a notification via mobile device when it's done.

Benefit: At-home chefs can spend less time checking and double-checking meat on the grill and spend more time enjoying family and friends, confident that the food will be cooked perfectly.

THE SECRET TO COOKING MASTERPIECES WITH LESS TIME AND EFFORT

Think it's tough to grill the perfect steak? Smoke a brisket to just the right tenderness? Or serve up a flawless holiday turkey? No doubt about it. And it's even tougher in the company of family and friends, when people who love to entertain would much rather be devoting attention to guests instead of checking on the main course every five minutes. With Loki, the smart Wi-Fi meat thermometer, getting the meal just right doesn't have to mean missing the party. Loki makes it possible to cook a masterpiece every time — without obsessing over the cooking process.

Loki uses a dual probe to sense and capture both internal food temperature and ambient cooking temperature data. Then it uses Wi-Fi to report data from the probe back to the home chef on a mobile app. So when the meat reaches the internal temperature that signifies it's done, a notification pops up. And if a smoker or gas grill runs out of fuel, or an oven malfunctions, Loki can sense there's a problem — and let the host know while there's still time to do something about it.

LOKI MAKES SHORT WORK OF MULTI-COURSE MEALS

Loki works with up to four color-coded probes — each probe corresponds to a different dish that's in the oven or on the grill or smoker. The probes can be preset to different temperatures, so all the food will come out perfectly. For convenience and ease of use, each probe is slimmer than a pencil. They all connect back to a small, baseball-size Loki Sphere that houses the electronics, and the whole thing runs off either an ordinary 9V battery or a micro-USB cord.

Loki sends a notification when meat reaches — or drops below — a certain temperature set by the user. And unlike some remote thermometers, it uses both Wi-Fi and the Internet, so it's possible to connect with it from any iOS or Android™ device anywhere — to set temperature alerts, monitor temperatures in real time and even see the temperature profile over the duration of the cooking process.

So the cook doesn't have to be anywhere near the kitchen or grill — or even near the house, in the event that hours and hours of smoking or slow cooking are involved. Want to prepare a post-game feast but still go to the game? No problem.

LOKI MAKES IT POSSIBLE. NXP MAKES IT WORK.

The brain of Loki is the NXP Kinetis KL16 MCU, which runs software to communicate with the connected sensors and the wireless network. But there's more to Loki's ability to connect and communicate than the MCU. As Loki Products CEO James Hammer says, "NXP has everything we need from the device side to make Loki possible. Working with NXP is a convenient one-stop experience for us."

Other NXP products that enable Loki's sophisticated sensing and communications capabilities include logic controlled high-speed and high-power switches, as well as interface and system management solutions for communications between the MCU and peripheral sensors inside the probes that connect to Loki.

By combining the Kinetis KL16 with NXP's high-speed power switches, Loki Products have been able to realize a lower bill of materials (BOM) cost and a smaller form factor, as well as power optimization. The high-speed power switches provide efficient power management to optimize Loki's power consumption, which is essential for Loki to successfully run off a battery.
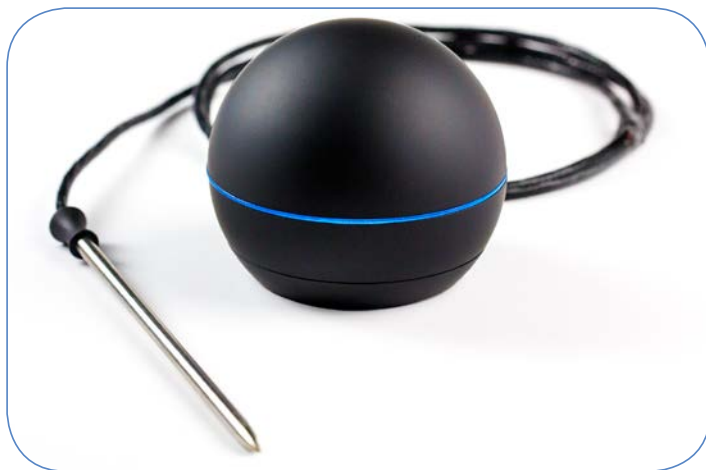
As for the high-side power switches, Hammer says "the fact that ESD protection is built into the power switches means that one part can do the work of several. The efficiencies gained as a result were another important reason Loki Products chose NXP."

In the end, there was one more factor in NXP's favor beyond the large, diverse product portfolio. "We've had consistently great experiences with the NXP team over the years, which have developed into a strong and trusted relationship," says Hammer. "Working with them is effortless."

WHAT'S INSIDE LOKI?

‣ Kinetis KL16 MCU: Ultra-low power microcontroller based on the ARM® Cortex®-M0+ core

‣ NXP logic controlled high-speed power switches

‣ NXP logic controlled high-side power switches and protection diodes

‣ NXP interface and system management solutions

LOKI: THE SMART WI-FI MEAT THERMOMETER DELIVERS FREEDOM FROM THE GRILL

NXP: SMART HOME SOLUTIONS FOR THE INTERNET OF THINGS

NXP's robust portfolio of smart home solutions makes homes more connected, convenient and secure. We offer comprehensive solutions, each integrating a vast array of technologies critical for the creation of end products like smart gateways, smart lighting and smart access for buildings and homes. If you're designing innovative connected consumer applications, you need cost-effective solutions that raise the performance bar in integration, efficiency and functionality. To complete or customize your consumer system, our portfolio gives you an outstanding choice of leading ICs and discrete components.

LOKI PRODUCTS: LESS TIME COOKING, MORE TIME FOR FAMILY

Based in the Seattle area, Loki Products is a family owned and operated company born out of the owners' large traditional weekly gatherings around the dinner table to share a delicious meal. A family of engineers, marketers, creatives and amateur chefs who love food, their conversations naturally turned to brainstorming an easier, more convenient way to keep an eye on the progress of their favorite slow cooked meats. They wanted to spend more time visiting with each other, instead of babysitting the oven, smoker or grill. The result is Loki, the smart Wi-Fi meat thermometer. For more information, visit **lokiproducts.com**.

For more information on NXP's smart home solutions, visit nxp.com/SmartHome

To learn more about how Loki, the smart Wi-Fi meat thermometer, is powered by NXP technology, visit nxp.com/Loki

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