

Project

VCC made smart home technology that much smarter with innovative illuminating buttons

Application Characteristics

Human-machine indicators are becoming more advanced every day, especially in the home. However, these devices must still feel easy to use, no matter how complex the technology inside them may be.

One look at the new Otto thermostat demonstrates the beauty and function of simplicity. With fewer buttons, these high-tech controls still feel extremely simple to operate. To help simplify the device, many of the controls are available through an app rather than taking up space and complicating the thermostat interface.

From door locks to thermostats, Otto Smarthome Systems are built to the exact specifications of a home — because they start with the blueprints.

Here's how the process works:

- Builders upload the specific blueprint of a new home to Otto's website.
- Otto sends a pre-programmed kit tailored to the exact layout of the home.
- Once the kit is registered and installed by the builder, homeowners can move in with a fully integrated control system for temperatures, locks, energy usage, security, blinds, and more (depending on the package ordered).

Having a one-click solution saves the builders time and hassle in installing the system, and homeowners don't have to do anything to set it up once they move in.

When it was time to upgrade Otto's smart thermostat design, the client had big plans and a short timeline.



Application Requirements

Back to Basics with an Advanced, Backlit Device

New product designs and upgrades can take up to a year to develop, test and get into production. For our client and Otto founder, that simply would not do.

He wanted to cut development time by 75%, and when he went searching online for a potential backlit button solution.

VCC's portfolio offered the obvious choice for his design requirements:

- Development timeline of three months
- A solution that no longer requires a mechanical button
- Visibility even when backlighting is off
- Intuitive, capacitive touch sensors

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Solution/Approach

The OEM purchased VCC's off-the-shelf capacitive touch sensor and overlay from one of our distributors. However, additional engineering support was needed to ensure the microcontroller was programmed correctly to control the motor and provide other desired functions on the thermostat.

When the client reached out to us, we worked in close collaboration with the Otto team to ensure all components and circuitry within the advanced thermostat achieved peak performance.

CSM Series: Backlit Buttons That Drive HMI Forward

To meet the client's needs with a standard product to keep the lead time short, Otto used VCC's advanced white 15 mm x 15 mm CSM Series capacitive touch sensor in its smart home thermostat. Here's why:

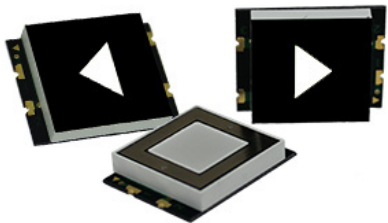
- With an integrated circuit, the CSM LED sensor provides uniform illumination and high clarity.
- Because the device doesn't require any mechanical moving parts, operation is long-lasting and maintenance-free.
- SMD mounting simplifies assembly, and the lack of mechanical switches also speeds up production and reduces costs.
- Also available in green, yellow, red, and blue, the CSM Series enables a user interface that speeds up reaction times and enhances safety by using icons instead of text.

Cap Touch Overlay Arrow

Otto used two standard overlay arrows to provide simple up and down indicators on the home automation system. These reverse-printed, translucent icons are easy to see, even when the backlighting is off, making them ideal for home automation systems.

Standard icons are also available in alarm and on/off. Clients can customize the overlays of their cap touch sensors to anything they want.

Once our team of experts helped optimize the microcontroller, the even smarter thermostat was ready to be enjoyed by homeowners and builders.



Results & Benefits

From the OEM to the end-user, every stakeholder involved can benefit from the enhanced design and smart interface.

For the manufacturer:

- Consistent, reliable indication that aligns with what modern consumers expect
- Streamlined production that no longer requires a high-maintenance mechanical component
- Enhanced user experience to drive customer satisfaction and positive reviews

For the homeowner:

- Smart, intuitive interface that doesn't require reading lengthy instructions
- Seamless integration of security and temperature controls, window coverings, and more
- Convenience in manage their home, whether at home or away
- Algorithms to automatically learn and optimize energy usage

For the builder:

- One-click home automation customized for every blueprint saves time and energy
- Ability to deliver state-of-the-art home automation homeowners will love
- Partnership with an OEM committed to providing the best quality and user experience

Value-Added Service

Our ability to simplify production and maintain an aggressive timeline with a standard product, combined with consultative engineering support add up to a big win for Otto Smarthome Systems.

The smart home automation OEM got the advanced tech it needed, and fast!

Ready to streamline your backlit indicators with advanced technology? Contact our team today.

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