Technical Article

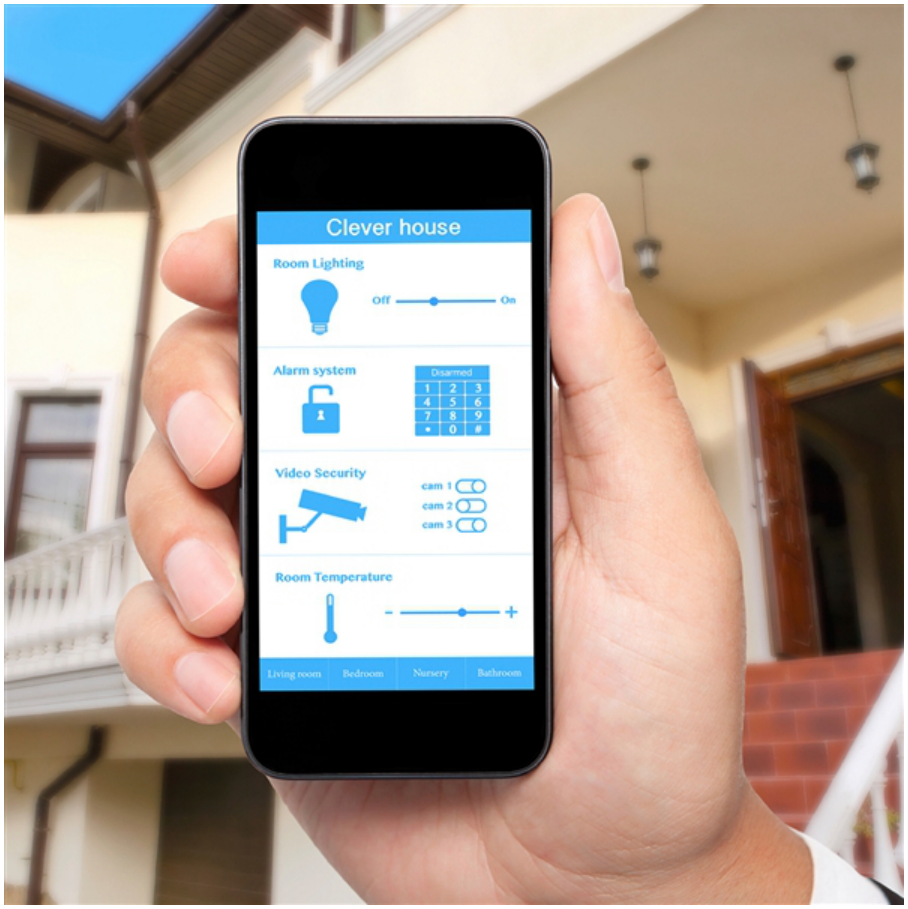
What Is the IQ of Your Home or Building? Is It Indeed Smart?

Marc Royer

It's hard to believe that just a few short years ago, the only automation commonly found in homes consisted of a security system communicating to an alarm company through a plain old telephone service (POTS) line. The reality of a smart home was more or less nonexistent, and while home automation beyond a simple security system was available, the installation base was typically limited to only very high-end homes, making the technology out of reach to most.

The landscape looks much, much different today. Technological advancements have made what was unaffordable just a few years ago (and what required professional installation) affordable and targeted to the "do-it-yourselfer." Take a stroll through your favorite home improvement store or search the Internet for "smart home" to see what's available. You'll find many install-it-yourself products enabling you to enhance the IQ of your home. You can control the heating, ventilation and air conditioning (HVAC) system and other home appliances; unlock and open doors; turn lights on and off; and view video surveillance, all controllable from nearly anywhere in the world through your smartphone.

But what fun is there in just installing off-the-shelf products when you can (relatively) easily create your own custom solution using a TI Designs reference design as a starting point? With over 150 TI Designs reference designs for Building Automation there is an easy, searchable starting point for you to find a proven reference design to increase a home or building's IQ. Here are a few selected examples from the library: the advancement of low-power wireless transmission and environment-sensing electronics now make it easy and affordable to do things like sense and transmit humidity and temperature from nearly any room in a home or building (without knocking holes in walls and running meters of cable), control power-efficient LED lighting wirelessly, or get super fancy and automate your HVAC based on the number of people in a room.



Additional Resources:

Smoke detector with ultra-low power MCU

Thermostat implementation with FRAM microcontroller reference design

Dual camera reference design with AM437x

Gas sensor platform with Bluetooth low energy

SimpleLink™ Wi-Fi® CC3200 Module LaunchPad

LMP91000 – Gas chemical sensing product

HDC1000 – Digital humidity sensor with integrated temperate sensor

To read more posts related to Smart Home/Buildings, check out the blogs below:

- What is the IQ of your home or building? Is it indeed smart?
- PMICs – The smart, high-efficiency power solution for smart home applications
- NFC/RFID for access control: Sniffing for cards
- Making smart energy smarter with renewable power storage
- Why time synchronization is essential (Part 1)
- Enhancing your Internet connected home device
- Smart meters provide foundation for smart cities

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265