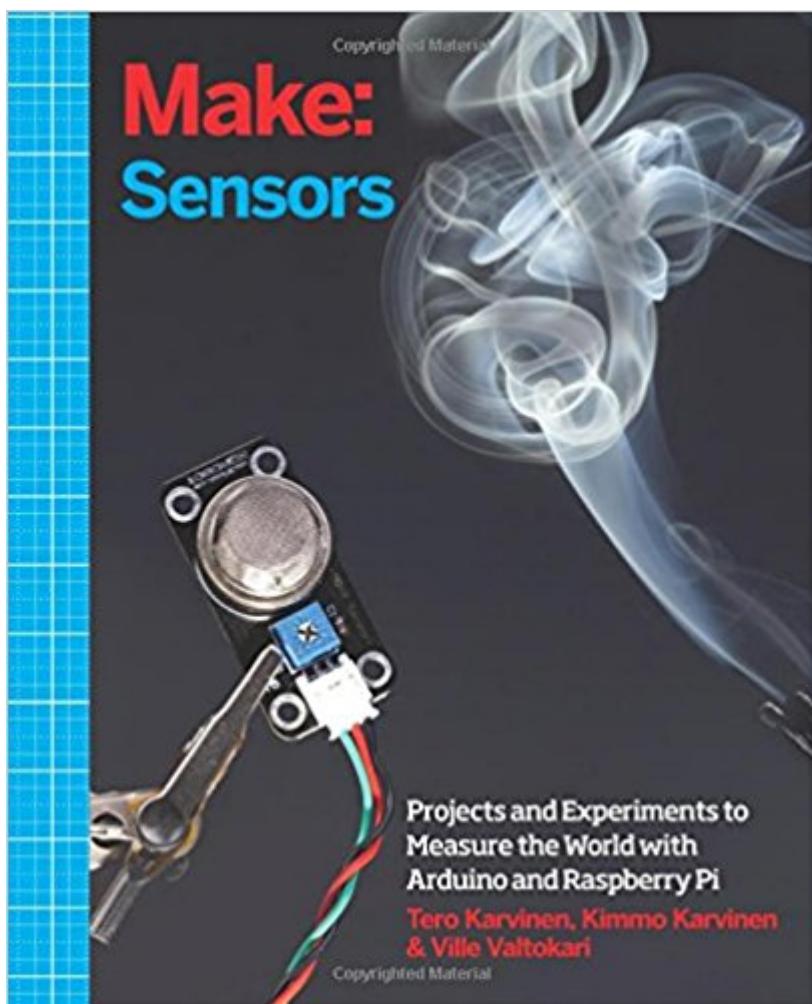


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# Make: Sensors: A Hands-On Primer For Monitoring The Real World With Arduino And Raspberry Pi



## Synopsis

Make: Sensors is the definitive introduction and guide to the sometimes-tricky world of using sensors to monitor the physical world. With dozens of projects and experiments for you to build, this book shows you how to build sensor projects with both Arduino and Raspberry Pi. Use Arduino when you need a low-power, low-complexity brain for your sensor, and choose Raspberry Pi when you need to perform additional processing using the Linux operating system running on that device. You'll learn about touch sensors, light sensors, accelerometers, gyroscopes, magnetic sensors, as well as temperature, humidity, and gas sensors.

## Book Information

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## Customer Reviews

A Hands-On Primer to Real World Sensing With Arduino and Raspberry Pi

Tero Karvinen teaches Linux and embedded systems in Haaga-Helia University of Applied Sciences, where his work has also included curriculum development and research in wireless networking. He previously worked as a CEO of a small advertisement agency. Tero's education includes a Masters of Science in Economics. Kimmo Karvinen works as a CEO in a leading company specialized in AV automation in Finland. Before that, he worked as CTO for a hardware manufacturer that specializes in smart building technology, as a marketing communications project leader, and as a creative director and partner in advertisement agency. Kimmo's education includes

a Masters of Art and he's currently working toward his D.Sc. at Helsinki University of Technology. Ville Valtokari works as the head programmer for automation hardware manufacturer. Before that he designed and programmed cutting edge AV systems. Countless personal projects include game design and programming, building robots, and discovering how things work.

This primer bridges both worlds of Arduino and Raspberry Pi with excellent attention to details for the uninitiated. If you need proven solutions AND willing to fork some \$\$\$ for the sensors you will achieve a sense of satisfaction in quickly reproducing the abundant examples in the book. The more I use the book to evaluate the exercises, the more I am impressed by the attention to detail by the authors. Of course, there will always be opportunities to explain things in more detail for diverse audiences but I have to confess that most of the discrepancies I am capturing below may be due to "operator error!" :) I will append editorial oversights below as I dutifully step through each chapter [be warned: this is not my day job :)]. Figure 1-7 does not match Table 1-1. Example 3-5 assumes that the on-board LED (pin #13) is used in Figure 3-10. Example 3-4 invokes "botbook\_gpio.py" which failed compilation in my IDLE 3 environment (I corrected the print statements) at line 25, column 20 for the "wa" dual attribute. Apparently one attribute is allowed in my configuration. Not knowing enough about the low level details, I changed the setting to a single attribute but ran into "timeout" problems with the pulseInHigh(echoPin) method. Perhaps an example of the "operator error" I alluded to earlier.

This is a very useful book, covering the fundamentals. I've read the whole thing, it got me going on a much more elaborate project than covered in the book, but almost all the necessary information (save a few bells-and-whistles) was there. My son likes it too, and he's getting his feet wet now. It was a real good purchase.

I'm a fan of Arduino, and interested in robots, so what's not to like about this book? If you haven't heard of Arduino, it's an open source hardware/software embedded platform, basically. Since the hardware isn't patented, and the software is free, anyone can afford to play with it. I've been an embedded programmer for most of my career, and this is the first time I could afford to play with an embedded system at home. So, with Arduino you can buy a \$50 embedded system, get the software free, and use this book to see how to take advantage of them to do some really neat things.

Covers many common sensors and provides easy to follow demonstrations for both arduino and raspberry pi. Provides wiring and source code with explanations.

Time for an update. The book is well laid out, covering both arduino and pi, but the information on gpio is outdated and some of the sensors don't seem to be available or at least not readily available as when the book was first published.

Great teaching tool for introducing DIY with Arduino or Raspberry Pi. It gives you a good intro to building these systems to interact with the physical world around us. If you like hands-on you will use this book.

This is a good book which every Arduino owner should have and work through. The sensors are primarily KEYES sensors and can be found in the 37 sensor collection which I bought.

Great book. Excellent customer service and prompt shipping. Thanks!

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