



Product Catalog



ThingM Family

The BlinkM family of smart LEDs are networkable and programmable full-color RGB LEDs with integrated drivers. They make creating arbitrary light colors and patterns very easy and can serve as drop-in replacements for regular LEDs in many situations. Each BlinkM has an embedded microcontroller running firmware that converts simple RGB color values to appropriate RGB LED color mixtures, and onboard memory for storing complex light patterns that play when power is applied.

- Stand-alone operation--no controller required to produce color effects
- 24-bit color
- Automatic smooth fading between colors
- I2C communication
- Built-in light scripts
- Works with Arduino I/O boards
- Open Source Sequencer programming software runs on most operating systems



BlinkM smart LED

BlinkM is a smart LED that creates sophisticated lighting effects without having to know any electronics engineering or programming. It can be an LED that fades from deep red to bright purple, flashes like a police light, "breathes" softly, or flickers like a candle.

BlinkM consists of an ultra bright wide-angle RGB LED attached to a microcontroller. Open Source sequencer software and libraries for C, Java and Processing makes it easy to create nearly any RGB color or pattern. Once programmed, the BlinkM works as a standalone light that can be reprogrammed thousands of times, or stay tethered and be controlled in real time.

- Full-color RGB LED w/ 24-bit color control
- Can plug directly into Arduino or LinkM, no wiring or other components needed!
- Specify colors using 24-bit RGB or HSB
- Fade between colors with variable timing and fade speeds
- Randomized color selection, with ranges and based on previous color
- 18 built-in light scripts (sequences)
- Create and save light scripts of up to 49 commands long
- Stand-alone operation: No microcontroller needed for light script playback
- Up to 127 BlinkM channels on a single two-wire network
- Low power consumption
- Java, C, and Processing libraries and programming examples



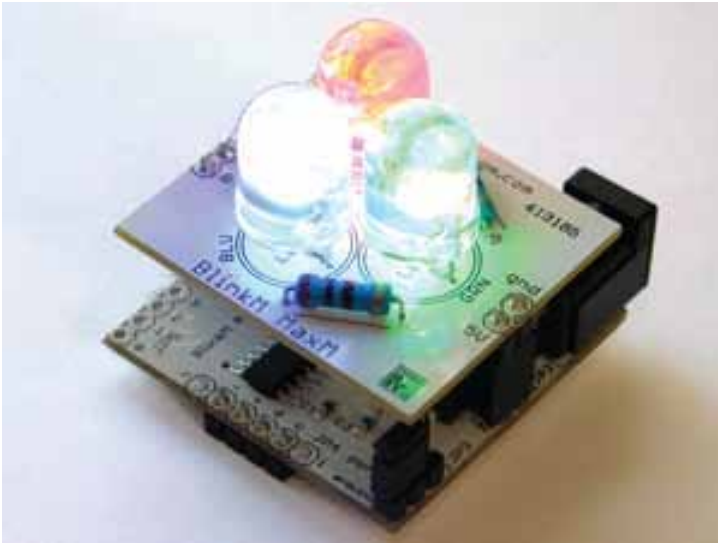
MinM tiny smart LED

MinM is a tiny smart LED that's designed for wearable technologies, UAVs and handheld devices. Like BlinkM, its larger sibling, it runs ThingM firmware that creates virtually any RGB color, fades smoothly between two colors, and blinks in virtually any pattern without having to know any electronics engineering or programming.

It's tiny and stealthy--0.5 cm on a side, and less than 0.25 cm high--and its open through-holes and no protruding components make it easy to sew onto garments or mount in unusual locations.

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- Low power consumption



MaxM ultra bright smart LED

BlinkM MaxM, is an intensely-bright smart LED that comes as a package of two components, a control module (MaxM Master) and a daughter board light engine with three ultrabright LEDs (MaxM Blaster). Existing BlinkM software runs on the MaxM without any changes.

MaxM Master runs ThingM firmware and creates virtually any RGB color, fades smoothly between two colors, and blinks in virtually any pattern. Its 3A MOSFET transistors can drive power-hungry ultrabright LEDs, or large numbers of LEDs simultaneously, such as found in LED strips.

Its 5-24v power supply allows it to be run from a wide variety of common power sources, making it perfect for prototyping automotive applications and low-voltage track lighting systems. It also includes four 8-bit analog input lines, allowing for adjustment and behavior change without a controller.

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- Randomized color selection, with ranges and based on previous color
- 18 built-in light scripts (sequences)
- Create and save light scripts of up to 49 commands long
- Up to 127 BlinkM channels on a single two-wire network



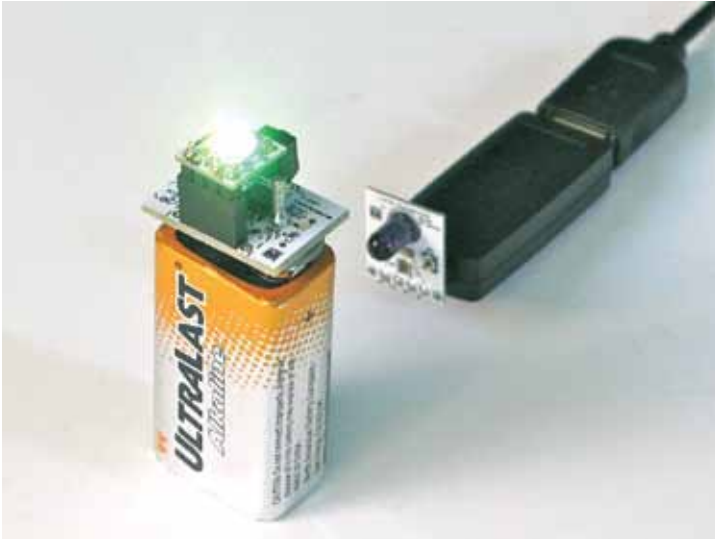
LinkM USB smart LED controller

LinkM is a USB I2C adapter. Plug it in, plug in a BlinkM, fire up the ThingM Multitrack Sequencer, and start programming color patterns. It requires no drivers, additional software or hardware and BlinkMs, BlinkM MinMs and BlinkM MaxMs can be plugged directly into it.

It's a compact, inexpensive interface for situations that do not require a general-purpose prototyping board or where an enclosed device with no exposed wiring is needed.

For example, a real-time energy display designed for long-term installation could use a LinkM attached to a small networked computer (say a Linux-based router) to display the results of fluctuating electricity prices with an array of BlinkM MaxMs.

- Driverless. Identifies itself as a USB Human Interface (HID) class device, which nearly every operating system supports without requiring additional drivers.
- Has no exposed components. Its hard plastic case makes it appropriate for long-term installation.
- Synchronizes groups of BlinkMs with a metronome signal so that their patterns do not drift in time (this even works when the LinkM is only connected to a power supply, such as an iPod USB charger).
- Can directly power 8 BlinkMs or BlinkM MinMs or one BlinkM MaxM.



FreeM IR receiver & power supply

FreeM is a wireless BlinkM controller and power supply for completely standalone deployment, programming and control of BlinkM smart LEDs. It's like an invisible wire linking a LinkM or Arduino to BlinkMs.

When used with the CtrlM transmitter it creates an invisible, low-power method to control BlinkMs (or any I2C device) up to 45 feet (14m) away (and can be easily modified for much greater range). It's designed to work transparently with the rest of the BlinkM product line. Plug a CtrlM into a LinkM, point it at a FreeM, fire up the BlinkM Multitrack sequencer, and start programming it from afar.

It's perfect for wearables, architectural lighting, stage sets, RC car lights, or anywhere else that's difficult to get to. Plus, as a bonus, it works with any TV remote that supports the SICS (Sony remote control) protocol, which includes nearly every universal remote made. Using basic TV remote keys it'll turn BlinkMs off and on, change their brightness and hue, and run user-definable scripts.

- Wireless I2C controller for all BlinkM products up to 45 feet (14m) away.
- Every FreeM can control an arbitrary number of BlinkM devices.
- One CtrlM can control any number of FreeMs.
- Built in power supply with 9V battery connector
- Firmware upgradable.
- Supports 12-bit SICS (Sony) TV remote protocol with built-in behaviors including moodlight, beacon, hue select, flashlight, script play.



CtrlM Smart IR transmitter

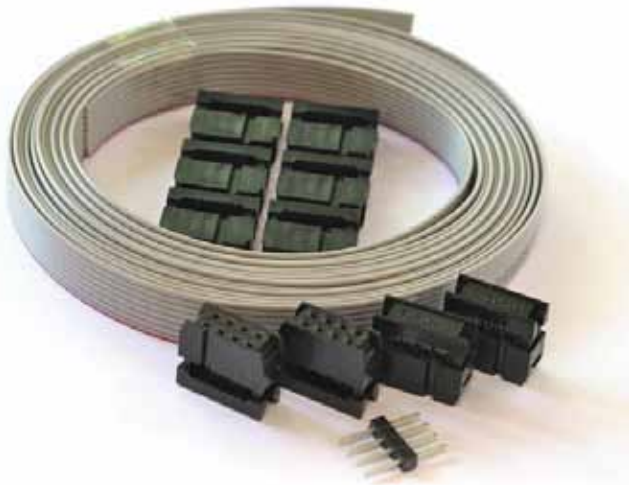
CtrlM is an infrared transmitter for wirelessly controlling BlinkMs from long distances. It converts BlinkM commands sent over I2C through a LinkM or Arduino into infrared commands that are converted back to the original commands by FreeMs, eliminating the need for conductive cabling.

Its ultra bright, narrow beam infrared LED allows FreeMs to be controlled 45 feet (14 m) away, but can be easily modified to accommodate an external power supply for much greater range, while minimizing interference with other infrared devices.

- Wireless I2C controller for all BlinkM products up to 45 feet (14m) away.
- Supports all BlinkM I2C commands.
- When used with FreeM, CtrlM acts as one end of "virtual wire" connecting a LinkM USB adapter or Arduino to BlinkMs mounted in locations where data cabling is impossible or undesirable.
- 20-degree broadcast angle
- 16ft (5m) diameter projection at 45ft (14m).
- One CtrlM can control any number of FreeMs, which can each control an arbitrary number of BlinkM devices.
- Can be reprogrammed to communicate arbitrary infrared protocols.
- Runs TVBGone firmware [LINK] without modification.
- Firmware upgradable to act as any IR code emitter



ThingM Product Sheet



WireM BlinkM Connector Kit

WireM is a connector kit for the BlinkM family of Smart LED products that makes creating multi-BlinkM installations fast and easy. It contains all parts needed to make BlinkM strands controlled by LinkM or Arduino with up to 10 BlinkM devices. It works with any combination of BlinkMs, MaxMs, MinMs, FreeMs and CtrlMs, making prototyping fast and easy. No soldering is required. Put connectors wherever you want on the ribbon cable, plug into your BlinkMs, plug in a controller--or just a 5v power supply if you want an easy way to make a power bus--and go! Buy multiple kits if you want more than 10 BlinkMs on a single bus.



ThingM Product Sheet

BlinkM

MinM

MaxM

Quick Start requirements

- ThingM Sequencer software for Arduino or LinkM
- No programming experience!
- No electronics experience!
- LinkM USB Programmer or Arduino I/O board

Software requirements

- OSX 10.3.9, Windows XP/7, Linux
- Java 1.5 or later (included with Windows installation)

Features

- Full-color RGB LED w/ 24-bit color control
- Can plug directly into Arduino or LinkM, no wiring or other components needed!

- Specify colors using 24-bit RGB or HSB
- Fade between colors with variable timing and fade speeds
- Randomized color selection, with ranges and based on previous color
- 18 built-in light scripts (sequences)
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BlinkM Specifications

MinM Specifications

MaxM Specifications

light intensity	8000 mcd	6,000 mcd	445,000 mcd
viewing angle	140-degrees	120-degrees	30-degrees
operating voltage	3.6-5v, 60mA max	3.6-5v, 60mA max	5v-24v, 3A max
weight	1g	0.5g	17g (Master and Blaster together), 8g (Master only)
Fade duration	1/30 second to 8.5 seconds	1/30 second to 91 hours	1/30 second to 91 hours
connector	4-pin 0.1" spacing BlinkM I2C	4-pin 0.1" spacing BlinkM I2C	4-pin 0.1" spacing BlinkM I2C
inputs	5-volt standard TTL	5-volt standard TTL	5-volt standard TTL
control	Two-wire (aka "I2C")	Two-wire (aka "I2C")	Two-wire (aka "I2C")



ThingM Product Sheet

LinkM

LinkM Specifications

- Works as a generic USB->I2C device, making it compatible with hundreds of standard I2C devices.
- Contains an I2C buffer chip for driving longer I2C bus cables.
- Open Source firmware, available from Google Code
- Open Source libraries for C, Java and Processing that work on Mac OS X, Windows XP/7 and Ubuntu Linux, also available from Google Code.
- Acts as an I2C master with built-in BlinkM metronome for synchronizing groups of BlinkMs so that their patterns do not drift with time
- Additional I/O pins on the board. AVR hackers can crack open the case to get access to digital I/O pins and use LinkM as a standalone microcontroller platform.

FreeM

FreeM Specifications

- Same area as 9V battery: 0.69" x 1.0"
- Standard BlinkM 4-pin connector
- IR protocols: 38kHz Sony-style TV remote and CtrlM I2C data protocol
- 45 ft reception range
- 5v @ 100mA max power supply
- Standard 9V battery snap connector
- Accepts any 7.5V-12V DC input
- Reprogrammable with any AVR ISP programmer

CtrlM

CtrlM Specifications

- Standard 4-pin BlinkM pinout
- IR protocols: 38kHz Sony-style TV remote and CtrlM I2C data protocol
- 45 ft transmission range, 20° emission angle
- Uses 5v @ 80mA (40mA when powered by Arduino)
- Reprogrammable with any AVR ISP programmer



RoHS Compliant



Distributors

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Little Bird Electronics
www.littlebirdelectronics.com

Australian Robotics
www.AustralianRobotics.com.au

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Oomlout
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Droids / Robot Italy
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Lextronic
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Wish Your Gift
<http://www.wishyourgift.com/thingm>

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Terra Electronic
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UK

Cool Components
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Hot Solder Electronics
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