



WIFI for LEGO® MINDSTORMS®

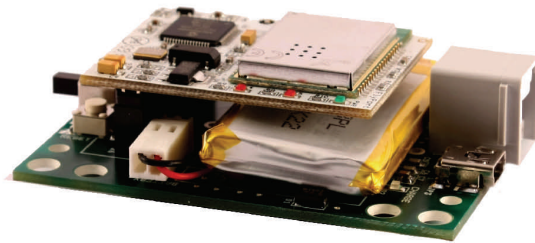
Introduction

NXT2WIFI is a miniature **web server module** featuring a fully integrated 802.11 b/g/n Wi-Fi interface, giving your LEGO® MINDSTORMS® creations access to any Wi-Fi network.

You can use the NXT2WIFI adapter to control everything on your robot from your **iOS device** (iPhone, iPad, iPod Touch), or **Android** device! You can make **swarm of mobile robots** sharing data in a wireless network. You can give your robot **social** abilities, by enabling it to post on **Twitter**, or sharing data on **ThingSpeak**.

NXT2WIFI provides your NXT robot with a powerful *Internet engine* to a browser-based interface over a LAN, Internet or GPRS network, in a small footprint, at low power and low cost. Real time data can be both displayed and/or updated from a standard web browser, on computers, netbooks, Android-powered smartphones and tablets, Apple iOS devices, because the module supports **dynamic web pages**.

NXT2WIFI is powered by



Facts

Processor	PIC24FJ256,256K Flash,16K Ram,16Mips@32Mhz
Memory	1MB Flash onboard
Transceiver	802.11 b/g/n Wi-Fi certified MRF24WB0MB
Power Supply	3,7V 1000mAh LiPo onboard battery
Integrated RTC	32,768 Khz quartz onboard
Communication	2 UART (RS485 to NXT and PC)
Dimensions	56 x 72 x 18 mm, 50 grams
Attachments	8 LEGO-compatible mounting holes

Benefits

- Easy to setup
- Easy to manage and use
- Low power
- Zero Time for development
- Onboard battery
- Flash memory

Applications

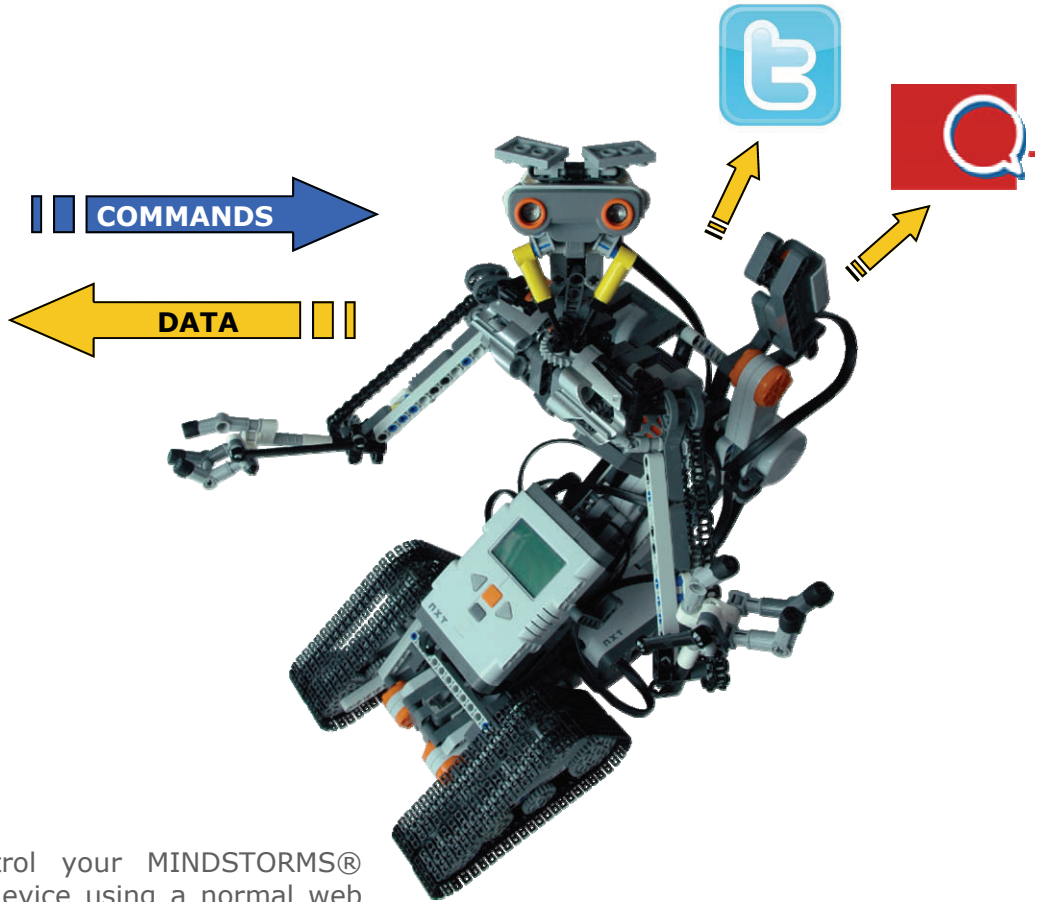
- Robot remote control
- Control from Apple iOS devices
- Big networks of robots
- Rich webserver applications
- Social robots
- University research

- 802.11 b/g/n WIFI
- Pcb Antenna or uFL
- Powerful Webserver
TCP Sockets
UDP Sockets
SMTP (e-mail)
SNTP (time server client)
FTP
- 1MB Flash memory
- 3,7V 1000mAh LiPo battery onboard
- Real Time Clock
- NXT high speed serial link (on port 4)
- Mini USB port for firmware update, battery charging, debugging
- 2 serial ports (NXT RS485 and PC miniUSB)
- 56*72*18mm (50g)
- Ready-to-use software libraries for the most diffused programming languages for NXT
- Use existing infrastructure networks, or create an adhoc network for others to join.

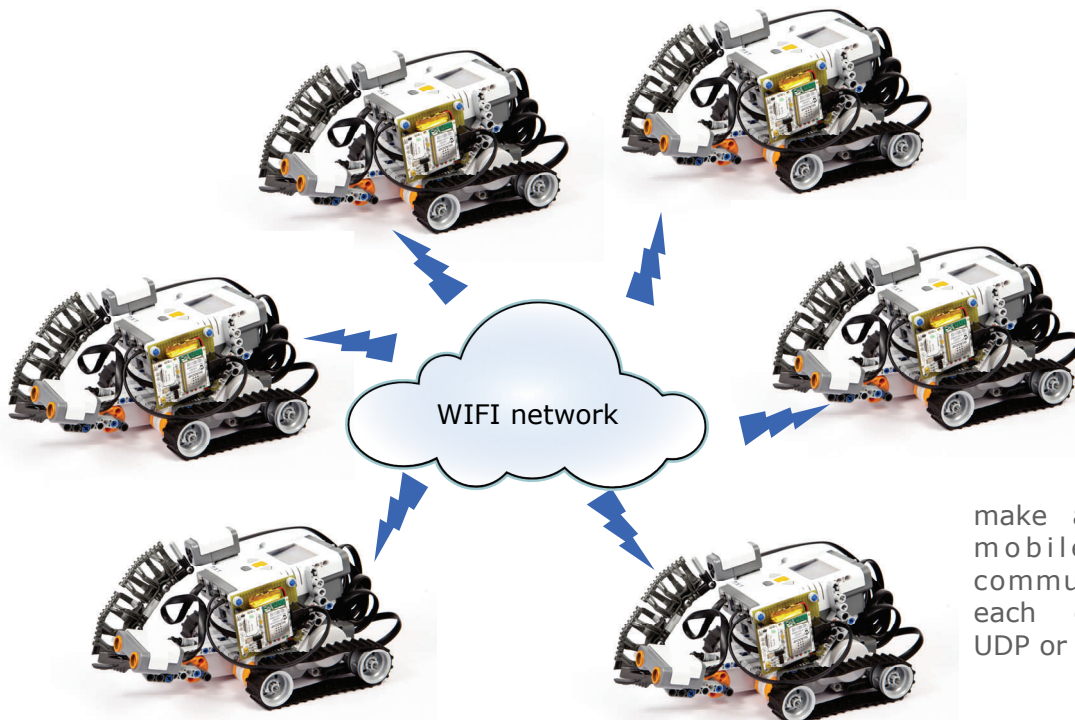


WIFI for LEGO® MINDSTORMS®

Applications



NXT2WIFI lets you control your MINDSTORMS® robot from any portable device using a normal web browser, being in the same room or on the other side of the planet! Also, your robot can share data on Twitter and ThingSpeak!



You can make a swarm of mobile robots communicate to each other using UDP or TCP sockets.

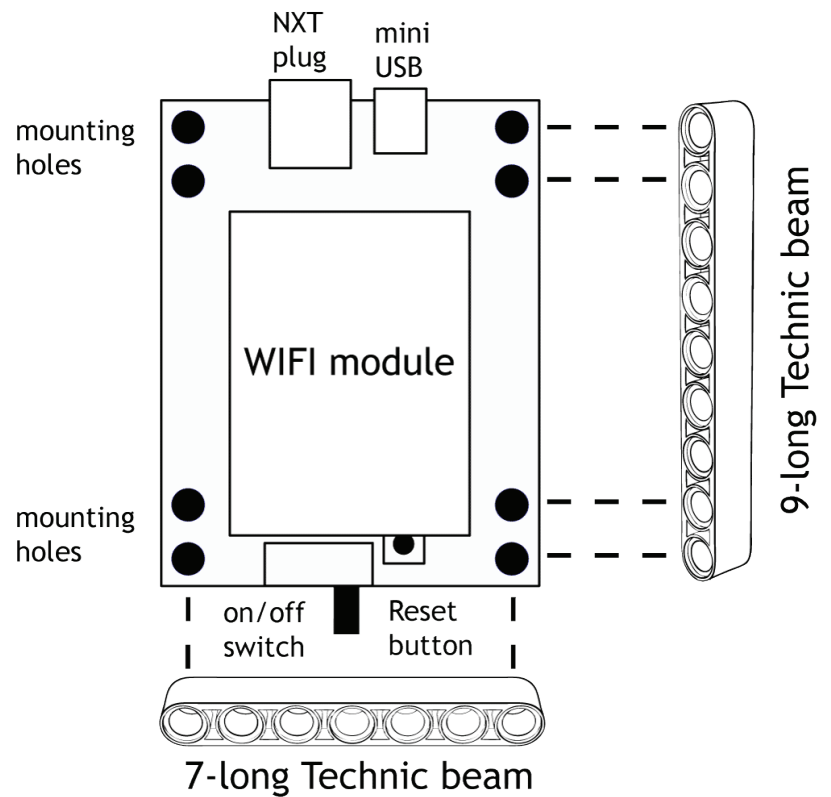


WIFI for LEGO® MINDSTORMS®

Mechanical info

NXT2WIFI has 8 LEGO® Technic compatible holes to let you mount the device on your robots using Technic beams and Technic pins.

The board has a size of 56 x 72 mm, that corresponds to 7 x 9 FLU (Fundamental LEGO® Units)



More info

Please visit openPICUS project website www.openpicus.com to learn more about the WIFI module.

In particular, visit <http://www.openpicus.com/site/downloads/downloads> and look for FlyPort Wi-Fi Datasheet.

Stay tuned on <http://robotics.benedettelli.com> for updates.

Check out video demonstrations on <http://v.robotics.benedettelli.com>

