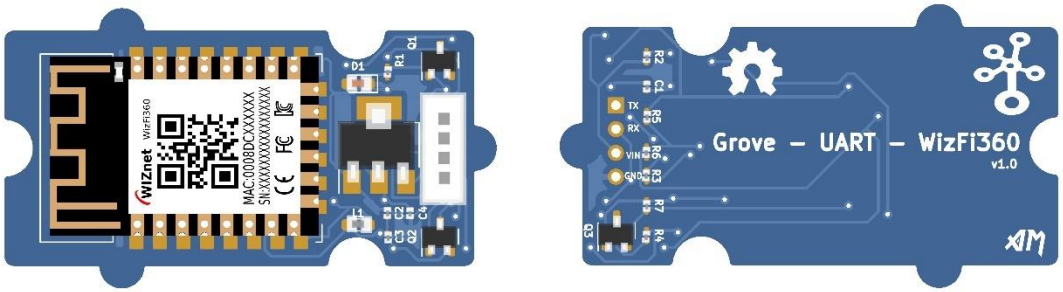
Grove – WizFi360



Grove - UART - WizFi360 is a serial transceiver module featuring the WizNet's WizFi360 Wi-Fi module. With integrated TCP/IP protocol stack, this module lets your micro-controller interact with Wi-Fi networks with only a few lines of code. Each WizFi360 module comes pre-programmed with an AT command set firmware, meaning you can send simple text commands to control the device.

Connectivity is provided via 2.4Ghz wireless connection, WizFi360 is compatible with IEEE802.11 b/g/n standards and supports SoftAP, Station and SoftAP+Station modes.

Version

Product Version	Changes	Released Date
Grove-UART-WizFi360 V1.0	Initial	Oct 2022

Features

- WiFi 2.4G, 802.11 b/g/n
- Support Station / SoftAP / SoftAP+Station operation modes
- Support “Data pass-through” and “AT command data transfer” mode
- Support serial AT command configuration
- Support TCP Server / TCP Client / UDP operating mode
- Support configuration of operating channel 0 ~ 13
- Support auto 20MHz / 40MHz bandwidth
- Support WPA_PSK / WPA2_PSK encryption
- Serial port baud rate up from 600bps to 2Mbps with 16 common values
- Support up to 5 TCP / UDP links
- Obtaining IP address automatically from the DHCP server (Station mode)
- DHCP service for Wireless LAN clients (AP mode)
- Support DNS for communication with servers by domain name
- Support “Keep-Alive” to monitor TCP connection
- Support “Ping” for monitoring network status
- Built-in SNTP client for receiving the network time
- Support built-in unique MAC address and user configurable
- Grove compatible interface

Tip

More details about Grove module please refer to Grove System

Specifications

Parameter	Range/Value
Input Voltage	5 V
Interface Type	Serial
BaudRate	115200
Protocol	802.11b/g/n

Platforms Supported

Arduino

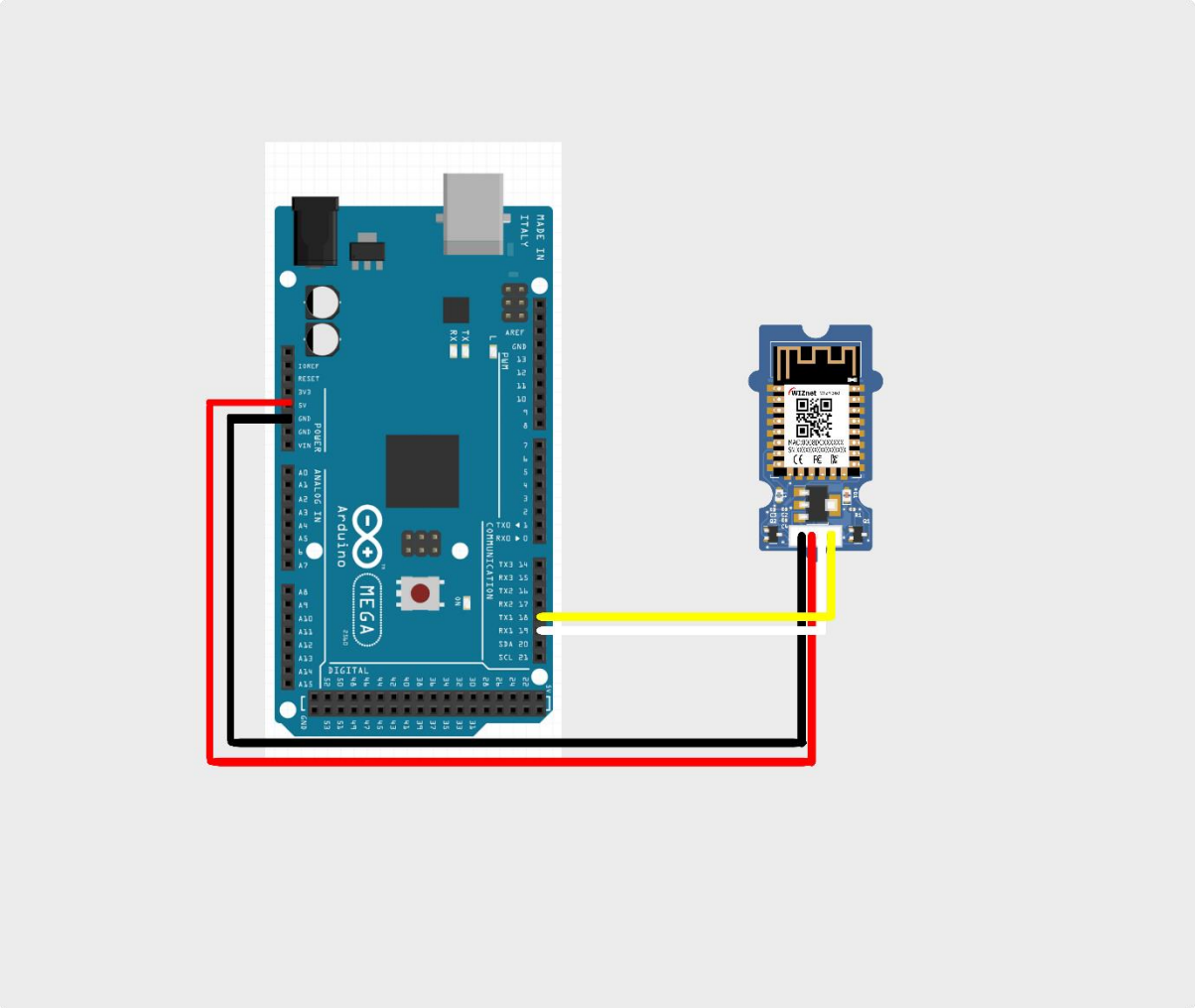
Getting Started

Note: If this the first time you work with Arduino, we firmly recommend you to see Getting started with Arduino before the start.

Play With Arduino

This sample gets the time from a Network Time Protocol (NTP) time server and prints on serial monitor.

Hardware



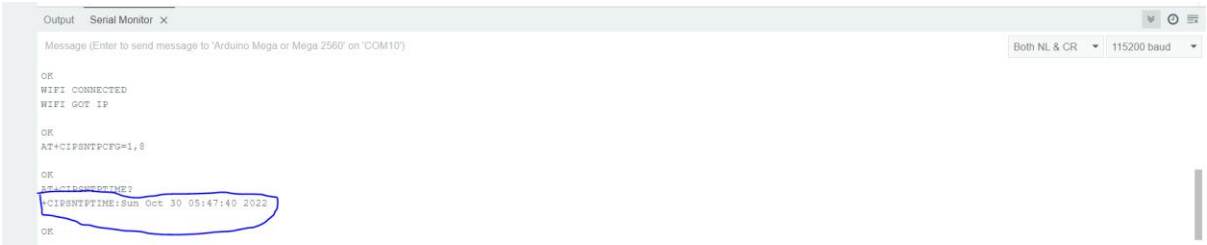
Grove_WizFi360	**Arduino Mega**
TX(White)	18th pin
RX(Yellow)	19th pin
VIN(Red)	5V
GND(Black)	GND

- Connect Arduino Mega to PC via a USB cable.
- Copy the code into Arduino IDE and upload. If you do not know how to upload the code, please check how to upload code.

```
/*
 Grove_WizFi360 example: NTP_Client

  Get the time from a Network Time Protocol (NTP) time server

  • Grove_WizFi360-TX: 18th pin of Arduino Mega
  • Grove_WizFi360-RX: 19th pin of Arduino Mega
  • Grove_WizFi360-GND: GND pin of Arduino Mega
  • Grove_WizFi360-VIN: 5V pin of Arduino Mega

   This code is in the public domain.

*/


/* Baudrate */
#define SERIAL_BAUDRATE   115200
#define SERIAL1_BAUDRATE  115200

#define DEBUG true


// Send AT Commands and  print response
String sendData(String command, const int timeout, boolean debug)
{
    String response = "";
    Serial1.print(command);
    long int time = millis();
    while( (time+timeout) > millis())
    {
      while(Serial1.available())
      {
        char c = Serial1.read();
        response+=c;
      }
    }
    if(debug)
    {
      Serial.print(response);
    }
    return response;
}

void setup() {
  Serial.begin(SERIAL_BAUDRATE);
  Serial1.begin(SERIAL1_BAUDRATE);

  sendData("AT+RST\r\n", 2000, DEBUG);
  sendData("AT\r\n", 1000, DEBUG);
```

```
  sendData("AT+CWMODE_CUR=1\r\n", 1000, DEBUG);
  sendData("AT+CWDHCP_CUR=1,1\r\n", 1000, DEBUG);

  sendData("AT+CWJAP=\"PUT YOUR SSID\",\"PUT YOUR PASSWORD\"\r\n", 5000,
DEBUG);        //connect to the WiFi network.
  //sendData("AT+CWJAP=\"SSID\",\"12345678\"\r\n", 5000, DEBUG);
  sendData("AT+CIPSTA_CUR?\r\n", 3000, DEBUG);
  sendData("AT+CIPSNTPCFG=1,8\r\n", 2000, DEBUG);
  sendData("AT+CIPSNTPTIME?\r\n", 2000, DEBUG);  // Time in China

}

void loop() {

}
```

- Open the serial monitor, you can see as show below:



Resources

- [PDF] Grove_WizFi360_kicad_sch.pdf
- [KiCad] Grove_WizFi360 KiCad Files
- [Arduino Library] From Wiznet
- AT Instruction Set

Projects

- **https://www.hackster.io/amalmathewtech/grove-wizfi360-sntp-gpio-control-b644f8**