BN 2268247

Communication Module 2.4 G NRF24L01 for Arduino™

GB Operating instructions

Latest operating instructions

Download the latest operating instructions at www.conrad.com/downloads or scan the QR code shown. Follow the instructions on the website.

Delivery contents

- Communication Module 2.4 G NRF24L01 for Arduino™

Description

The 2.4 GHz low-power NRF24L01 wireless module equips your Arduino™ with a wireless interface.

This makes it possible to communicate with other Arduino™ boards and, for example, to transmit telemetric data.

The wireless module operates on the license-free 2.4 GHz ISM band. The data throughput is 2 Mbps.

Product features

- 2.4 GHz Low-power Nordic NRF24L01 wireless chip
- License-free ISM band
- Error-free transmission thanks to 8/16 byte checksum
- 2 Mbps data throughput
- 125 channels or frequency hopping
- Integrated circular polarized antenna
- Up to 30 metre range
- Arduino™ compatible
- Can also be used for other microcontrollers
- Easy to control thanks to Arduino™ library

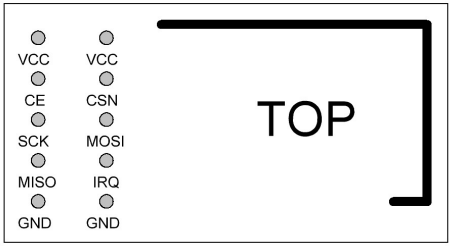
Requirements

The following components are required to use the board:

- 2 Arduino™ UNO or similar
- 2 NRF24L01 communication module
- 14 jumpers (jump wires) pin to socket (max. 20 cm)

Hardware

The NRF24L01 module features pin contacts that are used to establish the connection to the Arduino™.



The following overview shows the functions of the contacts.

VCC	Power supply (1.9 - 3.6 V/DC)
GND	Ground connection for power supply
CE	Chip enable
CSN	Chip select
SCK	SPI clock
MOSI	SPI-Master Out Slave Input
MISO	SPI-Master Input Slave Output
IRQ	Interrupt

Operation

Connect the wireless module to an Arduino™ UNO as follows:

NRF24L01	**Arduino™**
VCC	Power supply (1.9 - 3.6 V/DC)
GND	Ground connection for power supply
CE	D9
CSN	D10
SCK	D13
MOSI	D11
MISO	D12
IRQ	-

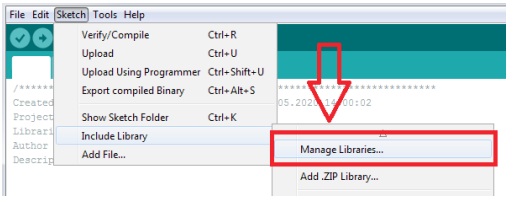
Test program

The libraries are required to operate the NRF24L01 module.

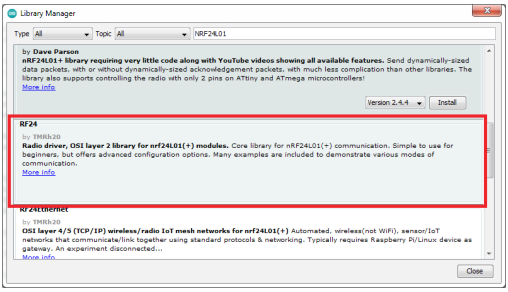
You also need to use Arduino™ IDE version 1.8.7 or later.

Download the libraries from the Arduino™ IDE.

To do this, open the "**Manage Libraries...**" menu, which you will find in the Arduino™ IDE under "**Sketch**" - "**Include Library**".



In the search field, type **"NRF24L01"** and install the **"RF24"** library (from TMRh20).

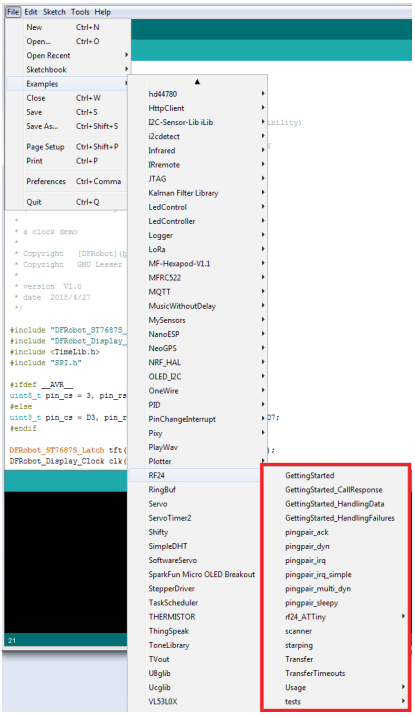


After installation, go to **"Examples"** to view various examples that you can try out with this module.

If necessary, change the pin assignment in the examples to your wiring configuration!

A detailed description of the library can be found at the following link:

» https://github.com/nRF24/RF24



Note:

There are now several libraries on the Internet for the NRF24L01 that you can use with this module. In the examples, you only need to adjust the connection pins.

Disposal

Electronic devices are recyclable waste and must not be placed in household waste. At the end of its service life, dispose of the product in accordance with the applicable regulatory guidelines.

You thus fulfil your statutory obligations and contribute to protection of the environment.

Declaration of Conformity (DOC)

Conrad Electronic SE, Klaus-Conrad-Straße 1, D-92240 Hirschau, hereby declares that this product conforms to Directive 2014/53/EU.

Click on the following link to read the full text of the EU declaration of conformity:

» www.conrad.com/downloads

Select a language by clicking on the corresponding flag symbol, and then enter the product order number in the search box. The EU Declaration of Conformity is available for download in PDF format.

Specifications

Power supply	1.9 - 3.6 V/DC
Current consumption (standby)	1 µ A
Transfer frequency	2.4 GHz
Frequency range	2400 - 2483.5 MHz
Transmission power	max. 10 dbm
Wireless module	NRF24L01
Supported codecs	GFSK
Interface	SPI
Pin spacing of pin strip (width)	2.54 mm
Dimensions (W x H x D)	23 x 14 x 12 mm
Weight	2 g