

PRODUCT CATALOGUE

Arduino Accessories

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Advantages of Arduino

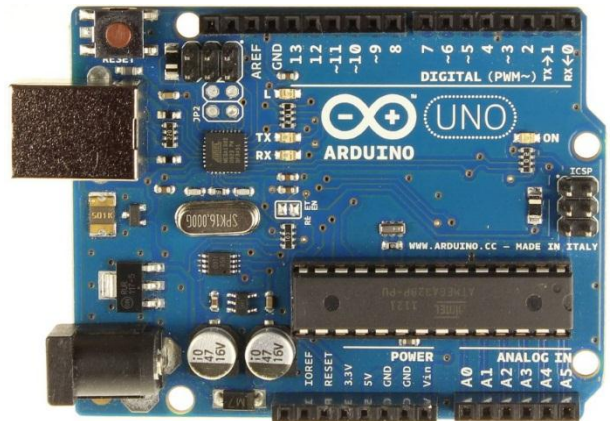
Arduino is a microcontroller on a circuit board which makes it easy to receive inputs and drive outputs. A microcontroller is an integrated computer on a chip. Some examples of inputs would be a temperature sensor, a motion sensor, a distance sensor, a switch and so forth. Some examples of outputs would be a light, a screen, a motor and so forth.

Programming Arduino

You'll need to download the Arduino Software package for your operating system from the [Arduino download page](http://arduino.cc/en/Main/Software) (<http://arduino.cc/en/Main/Software>). You also need USB cable to transfer the program from your computer to the board.

After opening the downloaded program select board type (Tools > Board). The code you write for your Arduino are known as sketches. They are written in C++. Every sketch needs two void type functions, setup() and loop(). A void type function doesn't return any value. The setup() method is ran once at the just after the Arduino is powered up and the loop() method is ran continuously afterwards. The setup() is where you want to do any initialisation steps, and in loop() you want to run the code you want to run over and over again.

For further details GOOGLE it... All the best !!!



Programmer

1. ATMEGA328P Pro Mini arduino Compatible Nano

Mini Pro is a microcontroller board. It has 14 digital input / output pins (of which 6 can be used as PWM outputs), Eight analog inputs, a 16MHz resonator, a reset button, mounting hole pin head.

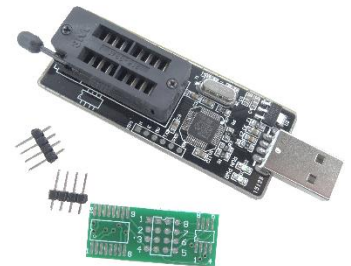
Technical Specification:

- 14 Digital input / output port: RX, TX, D2 – D13
- 8 analog inputs: A0 – A7
- 1 pairs of ports TTL level serial transceiver: RX / TX
- 6 PWM ports: D3, D5, D6, D9, D10, D11
- Using Atmel AtMega328P-AU MCU
- Support serial download
- Support for external 3.3V – 12V DC power supply
- Support 9V battery supply
- Clock frequency: 16MHz
- Size: 33.3 x 18.0 mm



2. XTW100 Programmer USB Motherboard

- 32 bit CONTEX ARM CPU, 72MHz core
- System integration of USB2.0 data transmission interface, ensure speed burning
- Support chip wide: including the most commonly used 25 SPI FLASH, 24 EEPROM, 26EEPROM,
- Improve the function of the host computer programming software, all Chinese humanized operation interface
- Support chip wipe, write, check the automatic Support chip wide: including the most commonly used 25 SPI FLASH, 24 EEPROM, 26EEPROM,
- Improve the function of the host computer programming software, all Chinese humanized operation interface, Support chip wipe, write, check the automatic burning. Removal of the protective function of the encryption chip. Automatic identification of burning chip (exclusive: 25 FLASH automatic identification model, 24EEPROM automatically identify type)
- (Big 25 SPI FLASH database, other chip could determine the chip type 24EEPROM, the powerful automatic recognition)
- Burning voltage automatic switching, support 3.3V 5V chip programming voltage
- Press the operation button automatically detect whether the chip card.
- Hardware and firmware. Perfect agreement, device algorithm is realized by software, it is convenient to upgrade.
- Support Windows 2000, XP, Vista, Win7 operating system



3. ST-Link V2

The ST-LINK/V2 is an in-circuit debugger and programmer for the STM8 and STM32 microcontroller families. The single wire interface module (SWIM) and JTAG/serial wire debugging (SWD) interfaces are used to communicate with any STM8 or STM32 microcontroller located on an application board. Internal motherboard, U disk shell using aluminum alloy installation, convenient to carry, safe and reliable! Interface definition on the shell directly tagging, be clear at a glance, convenient and practical!



5 V, 3.3 V available at the same time, convenient for you to link the 5 V and 3.3 V target board

Shell characters using laser laser, laser engraving, never fade off! Permanent clear!

Internal motherboard with 500 ma self-recovery fuse, completely protect your expensive computer motherboard!

The LED indicator light, convenient you always observes the working state of the ST cc-link V2!

Distribution 4 with dupont line, let you can easily cope with different target plate line order!

Use anti-static bag packaging, automatic sealing machine sealed packaging, safe and reliable, does not fear the electrostatic, not afraid of water!

Functions and features:

Support the whole series of STM32 SWD interface debugging, simple interface (including power supply), 4 line speed, stable work; Interface definition shell directly address! Don't need to read instructions!

Support all series STM8 SWIM download debugging (common development environment such as IAR, STVD etc.) are supported.

Support firmware upgrade automatically, to ensure that the ST company product support. When they leave the firmware has been upgraded to the latest V2. The J17. S4.

+ 5 v power supply output, output it can protect the I/O port, not afraid of error cause damage of ST – LINK V2!

Easy interface to use pure copper plating 2.54 spacing horn, with 20 cm dupont line, can deal with different target board line sequence, flexible connection; Use U disk aluminum alloy shell to protect the mainboard, convenient to carry, not afraid of static electricity, not afraid of tumbling.

Supported Software

ST cc-link Utility 2.0 and above

the STVD 2 and above

STVP 3.2.3 and above

IAR EWARM V6.20 and above

IAR EWSTM8 V1.30

KEIL RVMDK V4.21 and above.

Power Supply : (a) DC-DC Step Down Module

1. LM2596 DC to DC adjustable Step Down Module

DC to DC 3.2V - 40V DC to 1.25V - 35V DC adjustable Step Down Module (3A Output current)

Technical Specification:

Input voltage 3.2V to 40V

Output voltage 1.25V to 35V (adjustable)

Output current 3A (max)

Conversion efficiency 92% (the highest)

Output ripple <30mV

Switching frequency 65KHz

Voltage regulation: ± 2.5%

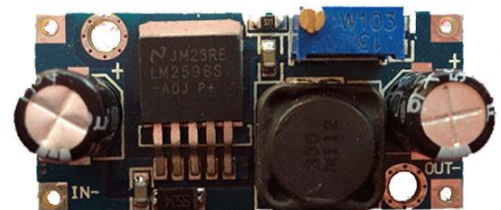
Operating Temperature -45 to +85

Size 43mm * 21mm * 14mm (L * W * H)

Connections

IN + input positive - IN-input negative!

The OUT + output the positive OUT - output negative



2. LM2596 DC-DC adjustable Step Down Module with LED Voltmeter

Adjustable DC-DC converter power supply module upgrades LM2596 voltage regulator module with voltage meter display.

DC to DC 3.2V - 40V DC to 1.25V - 35V DC adjustable Step Down Module with LED voltmeter Display (2A Output current)

Technical Specification:

Input voltage range: 4-40 v (40 v to limit the highest voltage).

Output voltage range:1.25V -37V (decompression mode, input output must be greater than 2 V above).

Output current: 2 A continuous output.

Output power: the maximum 15 w.

Ripple frequency: 150 KHZ.

Grain wave peak: 100 mv.

Voltmeter precision: $\pm 5\%$.

Tatic power: 20 ma (and input voltage output voltage and digital tube color is closely related to the actual current will exist deviation).

With voltage display function, the displayed accuracy is $\pm 0.05V$, range is 0 – 40V.(Note: in order to voltage display more accurate, please ensure that the input voltage is higher than 4V).

Button to switch measurement of the input or output voltage, and LED indicates the current measurement of the input or output voltage; The nixie tube can be turned off by another button. Mentioned in these states are able to be memorized, is not lost even if the power is disconnected.

Size:7cm*4cm/2.76"*3.15"

Connections:

IN + : input positive/IN - : input negative.

OUT + : output positive/OUT - : output negative.



3. LM2596HV DC to DC adjustable Step Down Module

DC to DC 4.5V - 60V DC to 3V - 35V DC adjustable Step Down Module (3A Output current)

Technical Specification:

Input voltage: 4.5-60 V,

Output voltage: (3-35 V) continuous adjustable (Suggest no-load debugging)

Output current: rated current 2A;3A(MAX) (need to plug heat sink),

If the output power is higher than 15 W, advise to add the heat sink

Conversion efficiency:highest 92% (higher output voltage, higher efficiency)

Static power consumption:about 6mA

The most low-voltage difference: 1.5 V, because of it is buck module, to ensure stable output, please keep minimum 1.5 V differential pressure.

Working temperature: industrial (40 centigrade to + 85 centigrade)

Load regulation: $\pm 1\%$, Voltage regulation: $\pm 0.5\%$

Dynamic response speed:5% 200 uS

Short circuit protection: limit current,overheating protection but recovery automatically

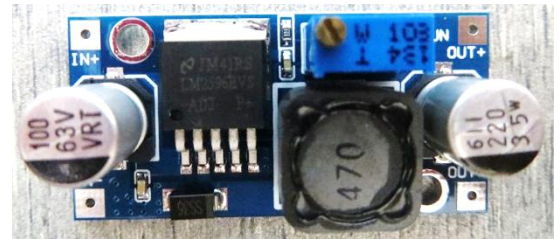
Output ripple: enter 12 V, output 5 V 3 A 15 mV (MAX)

Input 24 V, output 12 V 3 A 40 mV (MAX)

Input reverse connect protection: no, please add flow protector in the input.

Wiring way: welding, welding directly after add pin in PCB.

Size:43.6*(L)21.5(W)*135(H)(include potentiometer).



4. Ultra Small LM2596 DC to DC adjustable Step Down Module

Ultra-small size LM2596 (Size 22mm x 17mm x 4mm (L x W x H)

DC to DC 4.5V - 28V DC to 0.8V - 20V DC adjustable Step Down Module (3A Output current)

Technical Specification:

Model / Name Ultra-small DC-DC step-down module

Input voltage 4.5V ~ 28V

Output voltage 0.8V to 20V

Output current 3A (max)

Conversion efficiency 96% (the highest)

Output ripple <30mV

Switching frequency 1.5MHz (highest), typical 1MHz

Operating Temperature -45 to +85

Size 22mm * 17mm * 4mm (L * W * H)



5. AMS1117 DC to DC Step Down Module

The AMS1117 series of fixed voltage regulators are designed to provide 800mA output current and to operate down to 1V input-to-output differential.

DC to DC 4.5V - 7V DC to 3.3V - 6V DC adjustable Step Down Module (800mA Output current)

Technical Specification:

Input: DC 4.5V–7V (input voltage must be higher than the output voltage 1V or more)

Output: 3.3-6V, 800mA (load current should not exceed 800ma)

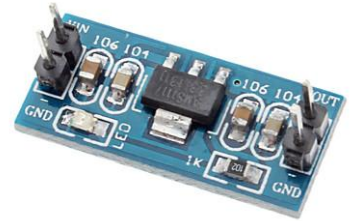
Double-sided plate design, layout, elegant;

Specially designed 2 pin mounting holes can be directly fastened to the holes on the plate scale experiments;

Input/output 2P single row needle, easy connection;

Size of the PCB Board: 2.5cm*1.1cm

Power indicator (red)



6. MB102 Breadboard Power Supply Module

A 3.3V and 5V Breadboard Power Supply Module with series diode, polarity reversal protection.

The module can take 6.5V to 12V input and can produce 3.3V to 5V.

Can also output 5V on USB connector and can also take input through USB connector.

Technical Specification:

Breadboard power supply module, with 5 V, 3.3 V output voltages

Apply to MB102 Standard breadboard

Input voltage: 6.5-12 V (DC) or 5V USB power supply

Output voltage: 3.3V and 5V can switch over

Maximum output current: <700 ma

Input voltage ON/OFF switch

Independent control of upper and Lower Bread Board Power Rails. Can switch over to 0 V, 3.3 V, 5 V using jumpers on any rail.

On-board two groups of 3.3V, 5V DC output plug pin, convenient external lead use.

Connectors:

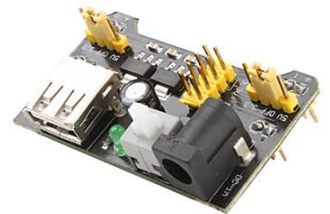
1x Barrel 5mm Connector (center +ve) for Input Power

1x USB connector for 5V input or 5V output

4x 2Pin Headers pointing downward for 3.3V or 5V output

1x 2x4 Header for 3.3V and 5V output

2x 1x4 selection jumper for 3.3V/OFF/5V



7. XL4005 DC-DC adjustable step-down power Supply module

DC to DC 5V - 32V DC to 0.8V - 24V DC adjustable Step Down Module (5A Output current)

The step-down module can easily reach 4 a, 50 w, add heat sink can reach 75 w

Technical Specification:

Input voltage: 5V-32V

Output voltage: 0.8V-24V

Output current: peak 5A (more than 3.5A work need to strengthen The cooling)

Conversion efficiency:90%

Size:43*21*14mm(L*W*H)



8. XL4005 DC-DC adjustable step-down power Supply module with LED Voltmeter

DC to DC 4V - 38V DC to 1.25V - 36V DC adjustable Step Down Module (5A Output current) with LED Voltmeter Display

Technical Specification:

5A High Power 75W DC-DC adjustable step-down module

Input voltage: DC 4.0 ~ 38V

Output voltage: DC 1.25V ~ 36V continuously adjustable (the input voltage must be higher than the output voltage 1.5V)

Output current: max 5A, recommended for use in the 4.5A.
 Output power: up to 75W, more than 50W, Please enhance heat dissipation
 Voltmeter error: $\pm 0.05V$
 Measure range: 0 ~ 40V (please ensure that the input voltage is 4.5V or more)
 Conversion efficiency: up to 96%
 Load regulation: $S(I) \leq 0.8\%$
 Voltage Regulation: $S(u) \leq 0.8\%$
 With overheat protection and short circuit protection
 Dimensions: 6.6 * 3.9 * 1.8cm

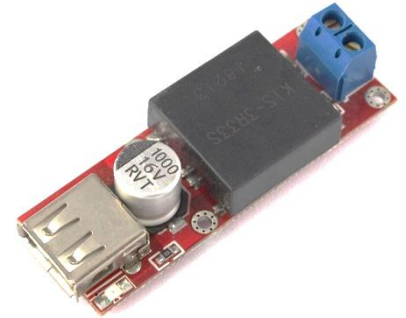


9. KIS3R33S DC to DC Step-Down Buck Module : 5V USB output

DC to DC 7V - 24V DC to 5V DC Step Down Module (3A Output current)

Technical Specification:

Input voltage: DC 7- 24V
 Output voltage: DC 5V
 Output current: 3A (max)
 Conversion efficiency: 96% (MAX)
 Switching frequency: 340KHz
 Output ripple: 30mV (max)
 Load regulation: $\pm 0.5\%$
 Voltage regulation: $\pm 2.5\%$
 Operating Temperature: $-40^{\circ}C$ to $+85^{\circ}C$ – With Overcurrent Protection
 Dimension: 60 x 21 x 14mm (L x W x H,approx)



10. TP4056 1A Li-ion lithium Battery Charging Module : Mini / Micro USB Output

4V - 8V DC (1A Output current)

Two different model with Mini / Micro USB output

In order to Charge your Li-ion battery,this device needs 5V mini USB power supply, and this will charge the battery directly. RED led Glows while charging, BLUE Led glows when Full.

Technical Specification:

Onboard the TP4056 lithium charge management chip
 The charging D1 indicator lights, charging is completed D2 indicator
 Onboard MINI USB head can directly link computer USB port charging
 The charging board can also be powered by pin (IN + and IN-)
 Reserved the TEMP pin header, and can be used as a lithium battery temperature detection
 PCB board size: 3.73 (cm) x1.5 (cm)/1.46"X0.59"
 Input voltage: 4V-8V maximum output charging current: 1000mA



Power Supply : (b) DC-DC Step UP Module

1. XL6009 DC-DC adjustable step up module

XL6009 is a 4 a switch current high-performance step-up (BOOST) module. The XL6009E1 module USES the second generation of high frequency switch technology as the core chip, LM2577 performance far beyond the first generation of technology. XL6009 booster module cost is lower, performance is more outstanding, LM2577 module will be eliminated.

DC to DC 3V - 32V DC to 5V - 32V DC adjustable Step UP Module (4A Input current)

Technical Specification:

Low ultra wide input voltage 3 v ~ 32 v, the best is 5 ~ 32 v working voltage range;
 Low ultra wide output voltage 5 v ~ 35 v;
 Built-in 4 a efficient MOSFET switch tube, make efficiency up to 94%; (LM2577 current only 3 a)
 High switching frequency, 400 KHZ, can use the small capacity of the filter capacitor can achieve very good effect, ripple smaller and smaller
 Operating temperature: $-40^{\circ}C \sim +85^{\circ}C$



2. XL6009 DC-DC adjustable step up module with LED Voltmeter Display

DC to DC 4.2V - 32V DC to 5V - 52V DC adjustable Step UP Module (4A Input current) with LED Voltmeter

Technical Specification:

Input voltage:4.2-32V

Output voltage:5-52V

Maximum input current:4A

Transfer efficiency:94%

Output ripple:50mV

Operating temperature:-40°C~+85°C

Switching frequency:400KHz

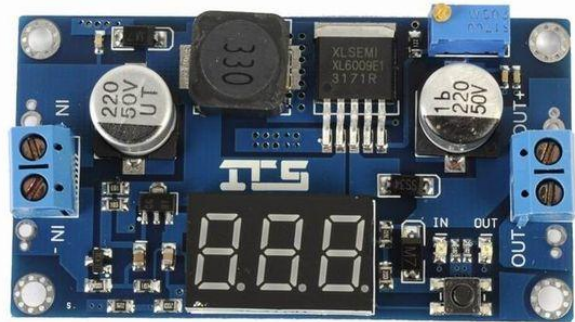
Output ripple:50mV

Load regulation:±0.5%

Voltage regulation:±0.5%

operating temperature:-40°C~+85°C

Size:6.98*3.80



3. DC 5V USB Output charger Step Up Power Module: 5V Output

DC to DC 1V - 5V DC to 5V DC Step UP Module (1-1.5A Input current)

Technical Specification:

Size:24x18mm

Output Current:Rated 1A-1.5A

Output Power:1 - 50W

Type:DC/DC Converters

Input Voltage:1-5V

Output Voltage:5.1-5.2V

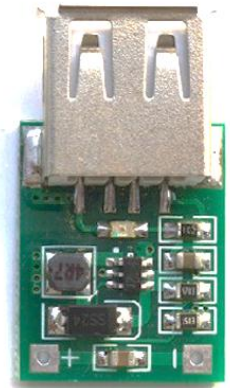
Efficiency::Up to 96%

Switching frequency::500KHz

Output ripple::30mV (MAX) 20M bandwidth

Voltage indication::LED lights with load

Operating Temperature::Industrial (-40°C to +85°C)



Converters

1. PL2303 USB To RS232

The USB to RS232 module based TTL provides the best and convenient way to connect your RS232 TTL Devices or demo board to your PC via the USB port. USB to TTL / USB-TTL /STC microcontroller programmer / PL2303 in nine upgrades plate with a transparent cover Compatible with ARDUINO, RASPBERRY PI, AVR, PIC, 8051, etc.

The USB to RS232 module based TTL provides the best and convenient way to connect your RS232 TTL Devices or demo board to your PC via the USB port.

Supports the following Windows OSes:

Windows 98SE

Windows ME

Windows 2000 SP4

Windows XP SP2 and above (32 & 64 bit)

Windows Server 2003 (32 & 64 bit)

Windows Server 2008 / 2008 R2 (32 & 64 bit)

Windows Vista (32 & 64 bit)

Windows 7 (32 & 64 bit) NOTE: For Windows 7, please use RC build 7100 or above.

[Download drivers](#) or [click here](#)



2. FT232RL USB TO TTL

FT232RL USB TO TTL 5V 3.3V Download Cable To Serial Adapter Module For Arduino

Technical Specification:

- 100% Brand new and high quality
- Material: PCB + Electronic Component
- Support 3.3V, 5V
- Main Color: Red
- Chipset: FT232RL
- USB power has over current protection, using 500MA self-restore fuse
- RXD/TXD transceiver communication indicator
- Pin definition: DTR,RXD,TX,VCC,CTS,GND
- Pitch:2.54mm
- Module Size: About 36mm(length)*17.5mm(width)
- Interface : Mini USB

[Download Drivers](#)

3. CP2102 USB TO TTL

Provides connection from USB on host computer to microcomputers or other TTL signal level accessories. The CP2102 Virtual COM Port (VCP) device drivers allow a CP2102-based device to appear to the PC's application software as a COM port. Application software running on the PC accesses the CP2102-based device as it would access a standard hardware COM port.

Technical Specification:

The main chip CP2102, generate virtual serial port after installing the driver, Taking power, USB and elicit interface includes 3.3 V (< 40 ma), 5 V, GND, TX and RX, signal feet is 3.3 V, is logical. Send and receive, onboard status indicator lights, lights, right after install the driver state will Chang Liang lights, transceiver indicator light will flash when communication, the lower the baud rate, the higher brightness

Support from 300 BPS baud rate between ~ 1 MBPS

Communication format support:

- 5,6,7,8 bits of data;
- support 1,1.5, 2 stop bits.
- odd, even, mark, space, none

support operating system: Windows vista/xp/server 2003/2000, Mac OS X/OS ,Linux

The USB head for head, can be directly connected to computer USB port

SMD components for SMT process, the quality stable

Implements full v2.0 USB protocol

Needs no external crystal

Internal EEPROM for device ID and Product Description strings

+3.3V 100ma output

5 volt tolerant inputs

USB Specification 2.0 compliant; full-speed (12 Mbps)

All handshaking and modem interface signals

Use this device to connect your PC to a serial (TTL level) device.

[Download Drivers](#) or [click here](#)

4. CH340G USB TO TTL

CH340 module turn USB upgrade little scrubber machine Board USB to TTL serial

Can support XP WIN7 Android Apple systems.

Support USB1.1 or USB2.0/USB3.0 communications

Simulation interface, you can upgrade external serial devices

Supports the common MODE of contact signal

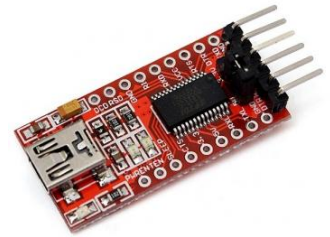
Supports the SIR IRDA infrared communication

Provide RS232, RS485, RS422 interface

The program does not affect the target program to runFT232RL USB TO TTL 5V 3.3V

Download Cable To Serial Adapter Module For Arduino

[Download Drivers](#) or [here](#)

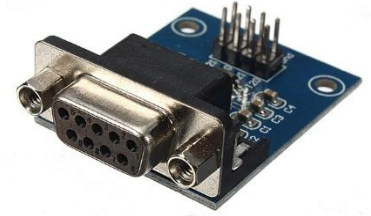


5. MAX3232 RS232 Serial Port To TTL

This module can be used to serial port of microcontroller module expand DVD, router, hard drive and other equipment to upgrade. MAX3232 RS232 Serial Port To TTL Converter Module DB9 Connector 5V RS232 to TTL + Female Serial TTL + serial modules / Brush board. It is used in radio modification, phone flash, XBOX360 flash, GPS, vehicle detection DVD flash, hard disk repair set-top box upgrade. It can be used to program STC MCU, NXP MCU, Renesas MCU, STM32 MCU, N+ -2EC MCU

Technical Specification:

- Communication chip: domestic MAX3232
- WorkingVoltage: 3.3V-5.5V
- Port: TX RX VCC GND
- Matched RS232 UART extension line
- Size: approx. 4.5 x 3cm (L*W)



6. CNT-005 USB 2.0 to RS485 Serial Converter

USB to RS485 Converter Adapter

- USB connector: to your PC
- RS485 connector: to your RS485 device
- No need external power, powered by USB port
- Fully compliant USB 2.0 standard , backward compatible with USB1.1

All kinds with RS485 port device parameter settings , data communication
 Short distance , such as parameter settings of the computer peripheral equipment , the use of common data lines can be .
 A and A port of the device when the wiring is connected , B and device B connected . Some devices D + A and D , - B .

Technical Specification:

- Dimension:6.0 x1.8x1.4cm
- Support System: Windows XP , Vista, Windows 7 , Linux , MacOS , and WinCE5.0 drive
- Supports baud rate range : 75bps – 115200bps , up to 6Mbps
- Supports Plug & Play and hot-swap (USB side) ;
- Better than using CH341D chip or similar chip to support the laptop USB port .
- Communication distance up to 1.2KM, with anti-jamming performance of industrial site ;
- Work temperature range: -40
- Communication distance :1200m(max)



7. MAX485 TTL to RS485 Module

PCF8591 is a single-supply, low-power 8 COMS-type A / D, D / A converter chip, it has a 4-channel analog input channels, all the way to the analog output channels and an I2C bus interface. The device I2C slave address lower three chips A0, A1 and A2, three address pins decision so without adding any hardware with an I2C bus can connect up to eight devices of the same type. The device has a multi-channel analog input, on-chip track-and-hold, 8 A / D conversion and eight D / A conversion functions. A / D and D / A conversion rate determined by a maximum transfer rate of the I2C bus.

Technical Specification:

- On-board MAX485 chip, is a tool for RS-485 communications, low-power, Slew-Rate Transceiver onboard then 5.08 (mm) pitch 2P terminal for easy wiring RS-485 communication
- the chip has drawn all of the pins can be controlled by the microcontroller operation
- Working voltage: 5V
- board size: 44 (mm) x14 (mm)USB connector: to your PC



8. PCF8591 Analog To Digital / Digital To Analog Conversion (AD/DA converter)

PCF8591 is a single-supply, low-power 8 COMS-type A / D, D / A converter chip, it has a 4-channel analog input channels, all the way to the analog output channels and an I2C bus interface. The device I2C slave address lower three chips A0, A1 and A2, three address pins decision so without adding any hardware with an I2C bus can connect up to eight devices of the same type. The device has a multi-channel analog input, on-chip track-and-hold, 8 A / D conversion and eight D / A conversion functions. A / D and D / A conversion rate determined by a maximum transfer rate of the I2C bus.

Technical Specification:

- Single power supply;

The normal operating supply voltage range of 2.5V ~ 6V;
 Completed through the I2C bus data input / output;
 Device address is determined by three address pins;
 The sampling frequency is decided by the I2C bus transfer rate;
 The 4 Road analog inputs programmable as single-ended or differential inputs;
 Can be configured to convert the channel number is automatically increased functionality;
 The analog voltage range of VSS ~ VDD;
 On-chip track-and-hold function;
 8-bit successive approximation A / D conversion;
 Multiplication with one analog output D / A converter.

Module Description:

Module chip with PCF8591T, SMD package
 Support 4 channel analog voltage the acquisition signal input (voltage input range of 0 – 5V)
 Module with power indicator 1 (D1)
 A module with DA output indicator (D2), when the DA output voltage reaches a certain value, the indicator light, the higher the voltage value, the brighter lights
 The module integrates a Road 0 – 5V voltage input acquisition (through the blue and white potentiometer to adjust the input voltage)
 The module Integrated Road the photoresistor (Model: 5537), ambient light intensity by AD collection
 Module integrated way thermistor (Model: MF58) ambient temperature by AD collection
 PCB size: 48mm * 25mm * 1.6mm
 Quality panel corners arc design will not scratch your hand. With a positioning hole aperture 3.1mm, easy to use 3mm Tongzhu fixed



Wiring instructions:

Left 4 pin:

SDA IIC data interface connected microcontroller IO ports (P2.0)
 SCL IIC clock interface connected microcontroller IO port (P2.1)
 The cathode interface external VCC power 3.3/5V positive power supply
 GND Negative interface external 3.3/5V negative supply

Right 8 pin

AOUT module DA output port
 AIN3 analog input signal interface
 AIN2 analog input signal interface
 AIN1 analog input signal interface
 AIN0 analog input signal interface 0

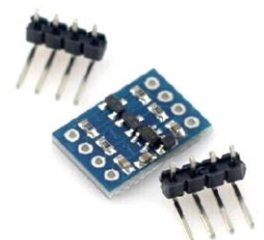
The INPUT3 analog input signal interface 3
 INPUT2 thermistor signal input port is connected to
 The INPUT1 has photoresistor signal input port connected to the
 INPUT0 is connected to the signal input port of the potentiometer

Jumper cap Description:

Select potentiometer 0 – 5V the adjustable voltage access circuit connecting the jumper cap AIN0 with INPUT0
 AIN1 and the the INPUT1 connection jumpers cap, select the the photoresistor access circuit
 AIN2 INPUT2 connect the jumper cap, thermistor access circuit
 External analog signal input is needed, disconnect the jumper cap, the analog signal access AIN0 — AIN3

9. IIC I2C Logic Level Converter (3.3 V to 5.0 V)

If you've ever tried to connect a 3.3V device to a 5V system, you know what a challenge it can be. bi-directional logic level converter is a small device that safely steps down 5V signals to 3.3V AND steps up 3.3V to 5V at the same time. This level converter also works with 2.8V and 1.8V devices. What really separates this Logic level converter from our previous versions is that you can successfully set your high and low voltages and step up and down between them safely on the same channel. Each level converter



has the capability of converting 4 pins on the high side to 4 pins on the low side with two inputs and two outputs provided for each side. The level converter is very easy to use. The board needs to be powered from the two voltages sources (high voltage and low voltage) that your system is using. High voltage (5V for example) to the 'HV' pin, low voltage (3.3V for example) to 'LV', and ground from the system to the 'GND' pin.

Dimensions: 0.63 x 0.52" (16.05 x 13.33mm)

Net Weight: 2g

Relays

1. 1 / 2 / 4 / 8 / 16 Channel Relay

the module is compliant with international safety standards, control and load areas isolation trenches; power supply and relay instructions, lit, disconnect is off; input signal, signal, common Terminal and start conducting; can be used as a single chip modules can be used for appliance control; DC or AC signal, control, you can control the 220V AC load;

Technical Specification:

One normally closed contact and one normally open contact

Triode drive, increasing relay coil

High impedance controller pin

Pull-down circuit for avoidance of malfunction

Power supply indicator lamp

Control indicator lamp

Technical Specification:

Relay Voltage: 5V

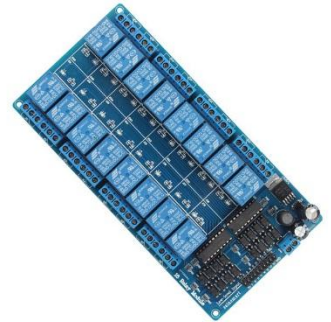
Relay output: DC 30V/10A Exchange 250V/10A

Ring instructions:

VCC: System power cathode

GND: System power cathode

IN1-IN2: relay control port



RTC's : Real Time Clock

RTC maintains seconds, minutes, hours, day, date, month, and year information. Less than 31 days of the month, the end date will be automatically adjusted, including corrections for leap year. Clock operates in either the 24 hours or band / AM / PM indication of the 12-hour format. Provides two configurable alarm clock and a calendar can be set to a square wave output.

Address and data are transferred serially through an I2C bidirectional bus.

A precision temperature-compensated voltage reference and comparator circuit monitors the status of VCC to detect power failures, provide a reset output, and if necessary, automatically switch to the backup power supply.

RST pin is monitored as generating μP reset manually.

1. DS3231 IIC Precision Real Time Clock Memory Module

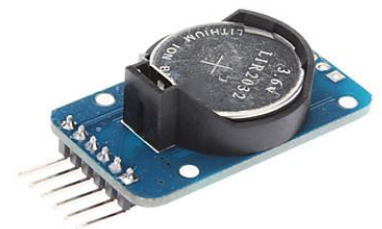
DS3231 is a low-cost, extremely accurate I2C real-time clock (RTC), with an integrated temperature-compensated crystal oscillator (TCXO) and crystal. The device incorporates a battery input, disconnect the main power supply and maintains accurate timekeeping. Integrated oscillator improve long-term accuracy of the device and reduces the number of components of the production line.

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Integrated oscillator improve long-term accuracy of the device and reduces the number of components of the production line.

DS3231 available in commercial and industrial temperature ranges, using a 16-pin 300mil SO package.

Save time and high precision addition, DS3231 also has some other features that extend the system host of additional features and a range of options. The device integrates a very precise digital temperature sensor, through the I2C * interface to access it (as the same time). Temperature sensor accuracy is $\pm 3^\circ C$. On-chip power supply control circuit can automatically detect and manage the main and standby power (i.e., low-voltage battery) to switch between the power supply.



If the main power failure, the device can continue to provide accurate timing and temperature, performance is not affected. When the main power re-power or voltage value returns to within the allowable range, the on-chip reset function can be used to restart the system microprocessor.

Technical Specification:

Size: 38mm (length) * 22mm (W) * 14mm (height)

Operating voltage :3.3 – 5.5 V

clock chip: high-precision clock chip DS3231

Clock Accuracy :0-40 Degree range, the accuracy 2ppm, the error was about 1 minute

Calendar alarm clock with two

Programmable square-wave output

Real time clock generator seconds, minutes, hours, day, date, month and year timing and provide valid until the year 2100 leap year compensation

Chip temperature sensor comes with an accuracy of ± 3 Degree

Memory chips: AT24C32 (storage capacity 32K)

IIC bus interface, the maximum transmission speed of 400KHz (working voltage of 5V)

Can be cascaded with other IIC device, 24C32 addresses can be shorted A0/A1/A2 modify default address is 0x57

Wiring instructions (with Arduino uno r3 for example):

SCL → A5

SDA → A4

VCC → 5V

GND → GND

2. DS1302 Real Time Clock Memory Module

The DS1302 trickle-charge timekeeping chip contains a real-time clock/calendar and 31 bytes of static RAM. It communicates with a microprocessor via its interface. The real-time clock/calendar provides seconds, minutes, hours, day, date, month, and year information.

Technical Specification:

31 x 8 RAM for scratchpad data storage

Serial I/O interface for minimum pin count

Wide Working Voltage: 2.0 ~ 5.5V

Single-byte and multi-byte transmission for clock or RAM data read / write

TTL-compatible (Vcc=5V)

Working Temperature: 0 to +70 Deg C

32.768KHz crystal oscillator

Equipped with a 260mAh CR2032 button battery, not rechargeable

Overall Size: Approx. 44 x 23 x 11mm



3. DS1307 AT24C32 Real Time Clock Module

This is a great battery-backed real time clock (RTC) that allows your microcontroller project to keep track of time even if it is reprogrammed, or if the power is lost. Perfect for datalogging, clock-building, time stamping, timers and alarms, etc. The DS1307 is the most popular RTC, and works best with 5V-based chips such as the Arduino.

Technical Specification:

The module comes fully assembled and pre-programmed.

The DS1307 is accessed via the I2C protocol.

Two wire I2C interface.

Hour:Minutes : Seconds AM/PM.

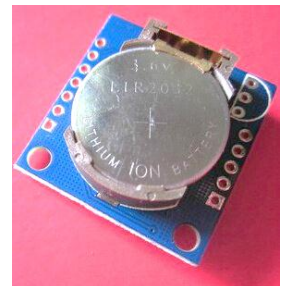
Day Month, Date – Year.

DS1307 based RTC with LIR2032 battery (Battery include).

1Hz output pin.

56 Bytes of Non-volatile memory available to user.

Item size: 28*26*8mm



Audio-Visual-Storage Modules

1. Audio: TEA5767 FM Stereo Radio Module – Programmable & Low-power (70~108MHz)

TEA5767 is a built-in digital signal processor with basic frequency up to 75MHZ, achieves 384KBPS/48KHZ MD-level high-quality MP3 Music file playback, and with any common MP3 player achieves the difficult to match Hi-fi playback line (signal to noise ratio up to 95DB, THD (Total harmonic distortion) <0.05%>) all at the same time, saving power.

In this FM radio module, the core is Philips (NXP) TEA5767. This is a relatively better performing FM radio chip, and a lot of MP3 players use this Model to achieve FM radio functionalities.

Technical Specification:

Built-in Philips TEA5767 FM IC.

High sensitivity with integrated low-noise RF input amplifier.

Frequency range: 70Mhz-108Mhz.

Built in 32.768khz clock crystal.

PLL automatic searching tuning system.

Fully digital processing, including audio output

IIC protocol, request minimum control IOs

Low power, Min. size and low cost

Integrated LDO regulator

Dimension: 11.2mm x 11mm.

Suitable for handheld applications.



2. Audio: ISD1820 Sound/Voice Board Recording Recorder Playback Module With Mic Sound Audio Loudspeaker

This module is base on ISD1820, which a multiple-message record/playback device. It can offers true single-chip voice recording, no-volatile storage, and playback capability for 8 to 20 seconds. The sample is 3.2k and the total 20s for the Recorder.

This module use is very easy which you could direct control by push button on board or by Microcontroller such as Arduino, STM32, ChipKit etc. Frome these, you can easy control record , playback and repeat and so on.

Technical Specification:

Push-button interface, playback can be edge or level activated

Automatic power-dwon mode

On-chip 8 Ω speaker driver

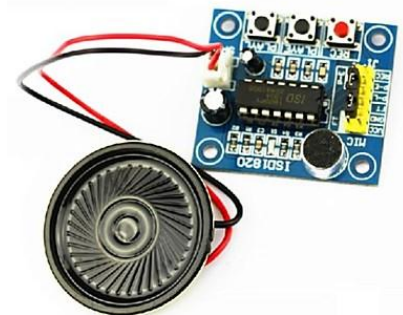
Signal 3V Power Supply

Can be controlled both manually or by MCU

Sample rate and duration changable by replacing a single resistor

Record up to 10 seconds of audio

Dimensions: 37 x 54 mm Tilt variety of products, dumping trigger an alarm, dumping off the sensor, tilt sensor. Tire Pressure Monitoring System (TPMS), bicycle lights, digital photo frame rotation, screen rotation, flip video camera, anti-theft system



3. Audio Amplifier: PAM8403 3W Digital power Audio Amplifier Board

Miniature digital power amplifier board 2 * 3 w class D power amplifier board high 2.5 ~ 5 v can be USB power supply.

Technical Specification:

Good noise suppression

Input audio should be via sheilded wire

Dual channel stereo output 3 w + 3 w power

Works with 5v power supply

can directly drive 4 Ω / 8 Ω small speakers

big output power, sound quality is good.

Unique without LC filter class D digital power board

can use computer USB power supply directly

Double panel wiring, super mini design, can easily fit in a variety of digital products

high amplification efficiency

made with solid plate welding machine

Super size: 1.85 x 2.11 cm

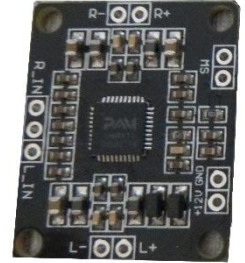


4. Audio Amplifier: PAM8610 10W Digital power Audio Amplifier Board

This amplifier plate adopts the official standard circuit design, chip selection USES is the United States imported original Long Ding micro class D power amplifier chip. This chip is strong not strong you can go to check its information. Good product chip share and the vast number of music lovers, this is our consistent principle! The power amplifier has a high efficiency, large power, in the case of the 12 v power supply can output 10 w + 10 w power, chip without heat sink, also have overheated, over-current protection function, such as function is very powerful, so to speak. This board with functions of switch, the SW nipple, will shut down power amplifier.

Technical Specification:

- Onboard PAM8610 audio amplifier chip, 10W * 2 filterless Class D stereo audio amplifier
- the chip has led major pin for easy control of external devices
- Working mode: Class D (PWM modulation type)
- Chip type: PAM8610
- Power Range: DC 6V-15V (self-protection)
- Recommended voltage: DC 12V(2A)
- Output Power: 10W x 2(8Ω) 15Wx2(4Ω)
- Frequency Response: 20HZ-15KHZ
- Static Current:20MA (DC12V)
- SNR:90% Recommended
- Speakers:10-100W
- Input impedance: 15K
- Output impedance: 4-8 Ω
- Harmonic distortion: <0.1%
- Size:28x22x2.5mm



5. Audio Amplifier: TDA7297 15W Digital power Audio Amplifier Board

This amplifier board core TDA7297 two-channel power amplifier chip for imported famous SGS-THOMSON ST Microelectronics company produced. DC power supply, power supply design available 12V battery direct power supply voltage. Range: 9-15V, the recommended voltage 12V, output power up to 15W +15 W, peak power up to 30W +30 W, the volume is very small voice was super shock, applicable to any occasions.

TDA7297 amplifier board, with the terminal, 2.0 dual-channel 15W +15 W, 4-8 European 10-50W speaker can be connected, a large volume of small stature, a wide range of applications.

Technical Specification:

- Volume: 50x50x42mm (L x W x H without potentiometer handle), ultra-small size for any space.
- Over voltage: DC 9-15V, Recommended DC voltage of 12V, current 2A
- Power: 15W +15 W
- Output impedance: 4-8 ohm



6. Audio Amplifier: LM386 (200 Times Audio Amplifier Module)

Based on the popular LM386-1 audio amplifier, this tiny PCB module can provide up to 300mW of audio power. Easily configured for either 20 (26dB) or 200 (46dB) gain.

Technical Specification:

- GND is negative, OUN is level
- onboard the LM386 chip
- 200 times gain circuit design
- Onboard speaker terminal block
- Onboard 10K adjustable resistance, you can adjust the zoom level
- Onboard power led Main PIN
- Chip has raises, you can directly input audio signal
- Working voltage: 5~12V
- Board size 41 (mm) x 13 (mm)



7. Visual Display: MAX7219 LED Module 8-Digit 7 Segment Digital LED Display

MAX7219 is a kind of integrated serial input/output common cathode display driver, it connects microprocessor and 8 digit 7 period of digital LED display, also can be connected to the bar graph display or 64 independent LED. It includes a piece of type B BCD coder, multiple scanning circuit, period of word drive, but also an 8 * 8 static RAM used to store every data. Only an external register used to set each LED segment current.

A convenient four wire serial interface can connection all general microprocessor. Each data can be addressed in the update don't need rewriting all the display. MAX7219 also allows the user to each data selection coding or not to code.



The whole equipment includes A 150 μ A low power consumption closed mode, analog and digital brightness control, A scanning limit register allows users to display 1-8 bits of data, and A let all LED luminous detection model. Only need three IO mouth can drive eight digital tube! Digital tube display when flicker free! Support cascade.

8. Visual Display: MAX7219 - IC 8-Digit 7 Segment Digital LED Display Driver (IC Only)

The MAX7219 IC is a serially interfaced 8 digit LED display driver. So it's the ideal chip to drive an 8x8 led matrix. The MAX7219 are compact, serial input/output common-cathode display drivers that interface microprocessors (μ Ps) to 7-segment numeric LED displays of up to 8 digits, bar-graph displays, or 64 individual LEDs. Included on-chip are a BCD code-B decoder, multiplex scan circuitry, segment and digit drivers, and an 8x8 static RAM that stores each digit. Only one external resistor is required to set the segment current for all LEDs. The MAX7221 is compatible with SPI™, QSPI™, and MICROWIRE™, and has slewrate-limited segment drivers to reduce EMI.

Technical Specification:

10MHz Serial Interface
 Individual LED Segment Control
 Decode/No-Decode Digit Selection
 150 μ A Low-Power Shutdown (Data Retained)
 Digital and Analog Brightness Control
 Display Blanked on Power-Up
 Drive Common-Cathode LED Display
 Slew-Rate Limited Segment Drivers for Lower EMI (MAX7221)
 SPI, QSPI, MICROWIRE Serial Interface (MAX7221)
 24-Pin DIP and SO Packages



9. Visual Camera: OV7670 CMOS Camera (640X480)

OV7670 image sensor, small volume, low operating voltage, providing all functions of a single chip of VGA camera and image processor. Through SCCB bus control, the sensor can output the whole frame, sampling, and various resolution 8 bits of data. Users can completely control the image quality, data format and transmission mode. All the process of image processing functions can be through the SCCB programming interface, including gamma curve, white balance, saturation and chroma. Image sensor has been in application of unique sensor technology, by reducing or eliminating the optical or electronic defect such as fixed pattern noise, tail, floating away, etc., to improve the quality of the image, and get the clear and stable color images.

Technical Specification:

Photosensitive array: 640X480
 IO Voltage: 2.5V to 3.0V (internal LDO for nuclear power 1.8V)
 Power operation: 60mW/15fpsVGAUYUV
 Sleep: <20 μ A
 Temperature Operating: -30 °C to 70 °C
 Stable: 0 °C to 50 °C
 Output Formats (8): YUV/YCbCr4: 2:2 RGB565/555/444 GRB4: 2:2 Raw RGB Data
 Optical size: 1/6 "
 FOV: 25 °
 Maximum Zhen rate: 30fps VGA
 Sensitivity: 1.3V / (Lux-sec)
 SNR: 46 dB
 Dynamic range: 52 dB
 View Mode: Progressive
 Electronic Exposure: 1 line to 510 line
 Pixel Size: 3.6 μ m x 3.6 μ m
 Dark current: 12 mV / s at 60 °C

Features:

High sensitivity suitable for illumination applications
 Low voltage suitable for embedded applications
 Standard SCCB interface compatible with I2C interface
 RawRGB, RGB (GRB4: 2:2, RGB565/555/444), YUV (4:2:2) and YCbCr (4:2:2) output format
 Supports VGA, CIF, and from a variety of sizes CIF to 40x30
 VarioPixel sub-sampling mode
 ISP has a compensation function to eliminate noise and dead pixels
 Support for image scaling
 Compensation for loss of optical lens



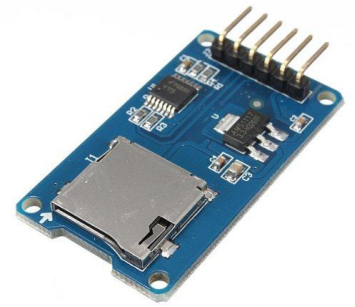
50/60Hz automatic detection
 Saturation automatically adjust (UV adjustment)
 Automatically adjust edge enhancement
 Automatically adjust the noise reduction
 Automatically affect the control functions include: automatic exposure control, automatic gain control, automatic white balance, automatic elimination of light stripes, automatic black level calibration image quality control including color saturation, hue, gamma, sharpness

10. Storage: Micro SD Card Reader/Writer Module

The module (MicroSD Card Adapter) is a Micro SD card reader module, and the SPI interface via the file system driver, microcontroller system to complete the Micro SD card read and write files. Users can directly use the Arduino IDE comes with an SD card to complete the library card initialization and read-write.

Technical Specification:

Support Micro SD Card, Micro SDHC card (high-speed card)
 The level conversion circuit board that can interface level is 5V or 3.3V
 Power supply is 4.5V ~ 5.5V, 3.3V voltage regulator circuit board
 Communication interface is a standard SPI interface
 4 M2 screw positioning holes for easy installation
 Control Interface: A total of six pins (GND, VCC, MISO, MOSI, SCK, CS), GND to ground, VCC is the power supply, MISO, MOSI, SCK is the SPI bus, CS is the chip select signal pin;
 3.3V regulator circuit: LDO regulator output 3.3V as level converter chip, Micro SD card supply
 Level conversion circuit: Micro SD card into the direction of signals into 3.3V, MicroSD card toward the direction of the control interface MISO signal is also converted to 3.3V, general AVR microcontroller system can read the signal
 Micro SD card connector: yes since the bomb deck for easy card insertion and removal
 Control Interface : A total of six pins (GND, VCC, MISO, MOSI, SCK, CS), GND to ground , VCC is the power supply , MISO, MOSI, SCK is SPI bus , CS is the chip select signal pin
 3.3V voltage regulator circuit : LDO regulator output is 3.3V level converter chip , Micro SD card supply
 Level conversion circuit : Micro SD card into the direction of the signal is converted to 3.3V, MicroSD card interfaces to control the direction of the MISO signal is also converted into 3.3V, general AVR microcontroller system can read the signal ;
 Micro SD card connector : a self- bomb deck , easy card insertion .
 Positioning holes : 4 M2 screws positioning hole diameter is 2.2mm, the positioning of the module is easy to install , to achieve inter-module combination.



11. Storage: SD Card Reader / Writer Module

This SD Card Reader/Writer is ideal for many Micro-controller projects (Arduino, Pic, Versalino, etc...). Including (but not limited to) projects involving sensor and other data logging activities. Audio playing and/or recording. Video, Image, and other multimedia storage and retrieval for advanced embedded applications. Processing large quantities of data with a robot, or storing/retrieving items larger than the limited memory available on your microprocessor. This can be used for a broad range of applications from scientific data collection for biological/geological and other statistical studies in the field, to storing map data for your robots surroundings in and outside the home.

Technical Specification:

Arduino, STM32, MSP430 or 8051 microcontroller connected SD card reader
 Easy to wire to any Microcontroller that has SPI support
 Easy to use examples, and instant compatability with the built in Arduino library
 Working Voltage : 3.3 & 5V(DC Both required)
 Requires SPI Capable Microprocessor
 Size limitations are library dependent, but most microprocessors have libraries pre-coded that will support sizes upward of 1GB
 Connections: 7 wires required (including power and ground)
 GND – Ground
 +3.3v – 3.3V Power
 +5v – 5V Power
 CS – Chip Select
 MOSI – Serial data in
 SCK – Serial Clock
 MISO – Serial data Out
 GND – Ground



Motor Drivers

1. L298N DC Driver Controller Stepper Motor

The L298N driver module, using ST's L298N chip can directly drive two 3-30V DC motor, and provides a 5V output interface can 5V single-chip circuitry to supply, support 3.3V MCU control, you can easily control the DC motor speed and direction, you can also control the 2-phase stepper motor, smart car essential. Using L298N made by ST company as the control chip, the module has such characteristics as strong driving ability, low calorific value and strong anti-interference ability.

Technical Specification:

Driver: L298N Dual H Bridge DC Motor Driver IC

Driven part of the terminal supply area V_s : +5 V ~ +35 V; such as the need to take power within the board, the supply area V_s : +7 V ~ +35 V

Driven part of the peak current I_o : 2A

The logical part of the terminal supply area V_{ss} : +5 V ~ +7 V (can take power within the board +5 V)

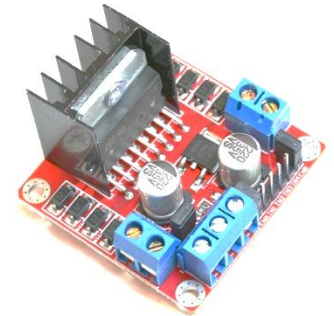
The logical part of the operating current range: 0 ~ 36mA

Storage temperature: -25 Deg C ~ +130 Deg C

Other Extensions: control of direction indicators, the logic part of the plate to take power interface.

Driver Board Size: 55mm * 60mm * 30mm

Drive plate Weight: 33g



2. A3967 EasyDriver Stepper Motor Driver V44

Step into motor usually defines has step from corner or step number parameter, General of motor a go are is divided into 200 step, is step from corner for 1.8 degrees, EasyDriver has step from subdivision features, this paragraph drive Board of fine is divided into 8 subdivision, is will motor of each step again fine is divided into 8 step, such can can get more precise of control, that is EasyDriver needs 1600 step to completed a full of 360 degrees rotating.

Its operating voltage up to 30v, current up to 750ma, one a3967slb driving a two phase stepping motor enables 8 subdivision driving. Chip internal PWM current control circuit can be set through PFD voltage for slow and fast, mixing three current decay modes, if the PFD-side voltage is higher than 0.6v_{dd}, slow decay mode is selected. Below the 0.21v_{dd}, fast decay mode is selected. Mixed decay modes between the two. In addition, a3967slb provides perfect protection measures, including the transient voltage, overheat protection, preventing current passthrough, under-voltage lock function.

A3967slb and does not require additional interface circuitry between the microprocessor, the chip-production easystepper Interface, 8 control lines was reduced 2 (step size and direction), you simply enter the control pulses for stepper motor, embedded converters for stepping motor control can be achieved.

A3967slb need a few resistors and capacitors to adjust its parameters throughout the driving circuit is very simple.

Technical Specification:

Ms1 and MS2 is a stepping motor subdivision resolution selection logic input port;

Dir is the choosing of motor operation;

Reset to reset the chip initializer and block all external output;

Step pulse input ports;

Out1a, out1b, out2a, and out2b into two h bridge on the output port;

Enable to enable;

Sleep sleep mode;

Sense1, sense2 for h-bridge current detecting resistors;

REF is the reference voltage;

GND for logic and power;

RC1, RC2 for the h-bridge is a fixed deadline for analog inputs.

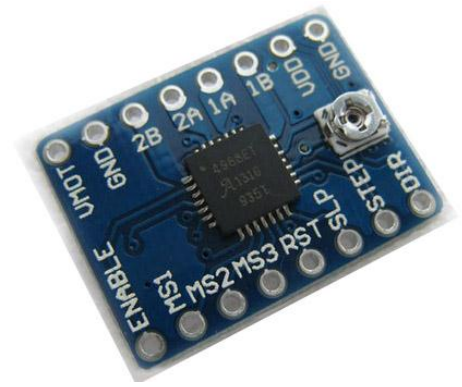


3. GY-4988 A4988 3D Printer Driver Stepper Motor Drive Module FZ0556

A4988 is a complete microstepping motor driver with built-in translator for easy operation. This product is available in full, half, 1/4, 1/8 and 1/16 step modes operate bipolar stepper motors, output drive capacity of up to 35 V and ± 2 A. A4988 includes a fixed off-time current regulator, the regulator in slow or mixed decay modes. A4988 converter is the key to the easy implementation. As long as the "step" input inputting one pulse drives the motor one microstep. There are no phase sequence tables, high frequency control lines, or complex interfaces to program. A4988 interface is very suitable for complex microprocessor is unavailable or is overburdened. In the micro-step operation, A4988 chopping control inside automatically selects the current decay mode (Slow or Mixed). In mixed decay mode, the device is initially set to a fixed downtime in some fast decay, then the rest of the slow decay downtime. Mixed decay current control scheme results in reduced audible motor noise, increased step accuracy, and reduced power consumption. Internal synchronous rectification control circuitry is provided to improve the pulse-width modulation (PWM) operation power consumption. Internal circuit protection includes: thermal shutdown with hysteresis, undervoltage lockout (UVLO), and crossover-current protection. Special power sequencing.

Technical Specification:

- Low RDS (ON) output
- Automatic current decay mode detection / selection
- Mixed with slow current decay modes
- Synchronous rectification for low power dissipation
- Internal UVLO
- Crossover-current protection
- 3.3 and 5 V compatible logic supply
- Thermal shutdown circuitry
- Ground fault protection
- Load short-circuit protection
- Step five selectable modes: full, 1/2, 1/4, 1/8 and 1/16



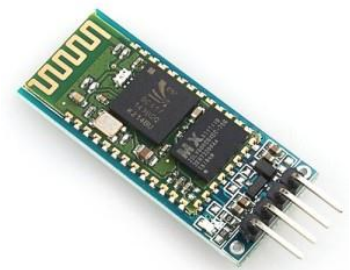
Data Transceiver

1. HC-05 RF Wireless Bluetooth Transceiver

Serial port bluetooth, Drop-in replacement for wired serial connections, transparent usage. You can use it simply for a serial port replacement to establish connection between MCU and GPS, PC to your embedded project and etc. HC-06 has be designed Master or Slave when the factory, user couldn't change the role.In HC-05 you can set it as Master or as Slave as per your requirement.

Technical Specification:

- Bluetooth protocol: Bluetooth Specification v2.0+EDR
- Frequency: 2.4GHz ISM band
- Modulation: GFSK(Gaussian Frequency Shift Keying)
- Emission power: ≤4dBm, Class 2
- Sensitivity: ≤-84dBm at 0.1% BER
- Speed: Asynchronous: 2.1Mbps(Max) / 160 kbps, Synchronous: 1Mbps/1Mbps
- Security: Authentication and encryption
- Profiles: Bluetooth serial port
- Power supply: +3.3VDC 50mA
- Working temperature: -20 ~ +75 Centigrade
- Dimension: 26.9mm x 13mm x 2.2 mm

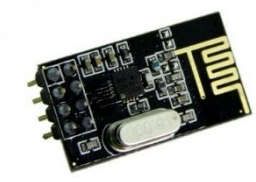


2. NRF24L01+ wireless data transmission module 2.4G

This wireless Transceiver module is an easy and suitable module if you want to setup your wireless communication system with low cost!! This module can achieve a good balance between wireless transition performance and cost! You can easily add it with your own MCU/ARM/PIC/AVR/STM32 system!

Technical Specification:

- 2Mbit/s, 1Mbit/s, 250Kbit/s, three selectable transmission rate.
- MultiCeiver hardware and six receiver functions.
- 2 Mbit/s make high-quality VoIP is possible.
- +/- 60 ppm crystal.
- Only require an external inductor in the antenna matching
- There is no need multi-layer PCB.
- 5V tolerance level inputs.
- Improved ShockBurst and the serial interface can be easy to connect with a variety of low-cost MCU.
- There si no need SPI interface with the MCU.
- Received in the rate of 2Mbit/s, the peak current is 12.5mA.
- When the rate of 2Mbit/s @ 0dBm output,the peak current is 11mA.
- Power-down mode, power consumption is 400nA.
- Standby mode, power consumption is 32uA.
- 130us fast switching and wake time.
- With voltage regulator:Oltage regulators on board.
- Built-in 2.4GHz antenna,support up to six channels of data reception.
- Low operating voltage: 1.9-3.6V
- Small size:15*29mm



3. ENC28J60 Mini Ethernet Module 3.3V

This ethernet board is a simple way to give your Arduino or other electronics project a network connection. Works with all Arduino boards, including UNO, MEGA, and Nano. RJ45 Ethernet Lan module with SPI communication, the module has all that is needed to work with Arduino or Bascom (and many more) a Lan connection build with a MCU. Own Webserver, mini weather station and much more. can be implemented with this module.

Technical Specification:

ENC28J60 Ethernet chips, SOP28 package – Chip ENC28J60-I/SO.
 SPI Interface
 1×10 connector, can be easily mounted with the MCU
 Single Supply: +3.3 V
 Dimensions LxWxH : approx 50.7 x 20.7 x 15.3 mm
 25MHZ quartz.



4. 2262/2272 Four Ways Wireless Remote Control Kit

2262/2272 Four Ways Wireless Remote Control Kit, M4 the lock Receiver with 4 Keys Wireless Remote Control
 Working: M4 (Jog: Press and hold let go on the output, let go to stop the output), L4 (interlock: four at the same time there can be only one output), T4 (self-locking: four independent outputs are not mutually the impact of click output and then click stop output)
 The super-regenerative receiver module using the LC oscillator circuit containing amplifier shaping, the output data signal is decoded high signal, extremely easy to use and inexpensive, so widely used. With four decoder output (can be changed to six-way jog or interlock output), easy to use; frequency debugging easy, short lead times; consistency of product quality, cost-effective.

Receiver module has a wide receiver bandwidth, typically ± 10MHz, factory general tone in the 315MHz or 433.92MHz (if there are special requirements for adjustable frequency, the frequency adjustment range is 266MHz to 433MHz.) The receiver module is generally DC5V power supply, and any special requirements to adjust the voltage range.

With decoding receiver board : The operating voltage of DC5V receiver sensitivity is -98db . 7 a pin, are VT , D3 , D2 , D1 , D0 , +5 V and GND . VT is a valid signal high output pin Upon receiving a valid signal, the pin output high, may also drive the relay.

The remote control has four buttons, respectively, corresponding to the four data bits to the receiving board output pin D0 , D1 , D2 , D3 . Press the buttons transmit signals, the corresponding data bit is output high.

Pin and instructions for use:

Prior to use to connect the 50 ohm 1/4 wavelength antenna, and antenna should be straight in order to achieve the best reception, wavelength = speed of light / frequency.

Technical Specification:

Operating voltage (V): DC5V
 Quiescent Current (mA): 4.5MA
 Modulation: AM (OOK)
 Operating Temperature: -10 ° C to +70 ° C
 Receiver sensitivity (dBm):-105DB
 Operating frequency (MHz): 315,433.92 MHz (266-433MHZ frequency segment can be optional)
 Encoding: the pad code (fixed code)
 Dimensions (LWH): 41 * 23 * 7mm



Others

1. TEC1-12706 12V DC, 50~92W Semiconductor Thermoelectric Peltier Cooler Heater Module

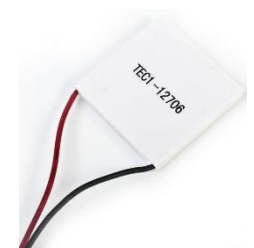
A thermoelectric cooling (TEC) module is a semiconductor-based electronic component that functions as a small heat pump. By applying DC power source to a TEC, heat will be transferred from one side of the module to the other. It creates a cold and hot side. They are widely used in industrial areas, for example, computer CPU, CCDs, portable refrigerators, medical instruments, and so on.

Get ice cold in minutes or heat to boiling by simply reversing the polarity, used for numerous applications from CPU coolers to alternate power sources, or even for your own custom car drink warmer/cooler. These devices must be used in conjunction with a heat sink to avoid burned. One side is cooling (Printed model number) and another side is heating (Printed no word) when working.

Please radiating the heating side, avoid using under no-radiating condition over 2s Coated with thermal grease when install the device

Technical Specification:

Color: White
 Material: Plastic + ceramics
 Rated voltage: 12V
 Rated power: 50~72W
 Cable length: 30cm
 Dimensions: 1.57 in x 1.57 in x 0.12 in (4.0 cm x 4.0 cm x 0.3 cm)



2. Mini ELM327 V2.1 Bluetooth / Wifi OBD2 Car Auto Diagnostic Scanner

The newly developed wireless scan tool.

It supports all OBD-II protocols.

It is the latest version 2.1

Bluetooth connection, no Batteries, Cables, or Switches.

Wireless (Bluetooth) 5~ 10 meters

Retrieve Fault Codes (DTCs) and clear Check Engine lights.

Can also be used with a PC with a Bluetooth Card.

Technical Specification:

Read diagnostic trouble codes, both generic and manufacturer-specific, and display their meaning (over 3000 generic code definitions in the database).

Clear trouble codes and turn off the MIL ("Check Engine" light)

Set the maximum number of responses to obtain

Remove spaces from ECU responses (to speed data transmission)

Store a unique identifier in EEPROM

Set the CAN mask and filter with one command

Easily switch between variable and fixed CAN message lengths

Send CAN remote frames (RTRs)

Display current sensor data, including:

Engine RPM

Calculated Load Value

Coolant Temperature

Fuel System Status

Vehicle Speed

Short Term Fuel Trim

Long Term Fuel Trim

Intake Manifold Pressure

Timing Advance

Intake Air Temperature

Air Flow Rate

Absolute Throttle Position

Oxygen sensor voltages/associated short term fuel trims

Fuel System status

Fuel Pressure

Many others...

1.Read diagnostic trouble codes, both generic and manufacturer-specific, and display their meaning (over 3000 generic code definitions in the database).

2.Clear trouble codes and turn off the MIL ("Check Engine" light)

3.Display current sensor data, including:

4.Engine RPM

5.Calculated Load Value

6.Coolant Temperature

7.Fuel System Status

8.Vehicle Speed

9.Short Term Fuel Trim

10.Long Term Fuel Trim

11.Intake Manifold Pressure

12.Timing Advance

13.Intake Air Temperature

14.Air Flow Rate

15.Absolute Throttle Position

16.Oxygen sensor voltages/associated short term fuel trims

17.Fuel System status

18.Fuel Pressure

19.Many others...

For your information:

For your vehicle to be OBD II compliant it must have a 16-pin DLC (Data Link Connector) under the dash and the Vehicle Emission Control Information Label must state that the vehicle is OBD II compliant.

V2.1 Latest Version
Support all OBDII protocols



Multi-Protocol Support:

1. SAE J1850 PWM (41.6Kbaud)
 2. SAE J1850 VPW (10.4Kbaud)
 3. ISO9141-2(5 baud init, 10.4Kbaud)
 4. ISO14230-4 KWP (5 baud init, 10.4 Kbaud)
 5. ISO14230-4 KWP (fast init, 10.4 Kbaud)
 6. ISO15765-4 CAN (11 bit ID, 500 Kbaud)
 7. ISO15765-4 CAN (29bit ID, 500 Kbaud)
 8. ISO15765-4 CAN (11 bit ID, 250 Kbaud)
 9. ISO15765-4 CAN (29bit ID, 250 Kbaud)
 - A.SAE J1939 CAN (29bit ID, 250*Kbaud)
 - B.USER1 CAN (11*bit ID, 125*Kbaud)
 - C.USER2 CAN (11*bit ID, 50*kbaud)
- *default settings (user adjustable)



Vehicle Coverage:

Works on all OBD2 Vehicles (1996 onwards in USA) and EOBD vehicles (Petrol cars from 2001 and diesel cars from 2003/2004 in Europe)

Alfa Romeo/ Ad/ Bentley/ BW/ Cadillac/ Chevrolet/ Chrysl/ Citroen/ Daewoo/ Fiat/ Ford/ GM/ Hod/ Hyundai/ Isuzu/ Jaguar/ Jeep/ Kia/ Land Rover/ Lexus/ Mazda/ Mercury/ Mini/ Nissan/ Mitsubishi/ Opel/ Peugeot/ Posch/ Renault/ Rover/ Saab/ Seat/ Skoda/ Toyt/ Vauxhall/ Volvo/ VW

For your information:

For your vehicle to be OBD II compliant it must have a 16-pin DLC (Data Link Connector) under the dash and the Vehicle Emission Control Information Label must state that the vehicle is OBD II compliant.

Confused whether your car is OBD1 or OBD 2 then Refer Below link

<http://www.totalcardiagnostics.com/support/Knowledgebase/Article/View/3/0/is-my-car-obd-2-compatible-and-supported-by-obd-software#india>

India:

If your car (any brand) is made/imported AFTER 1 Jan, 2010 — then it's 100% OBD-2 compliant. It will work.

If your car is made/imported BEFORE 1 Jan, 2010 — then it's OBD-1.

Supported Software Included:

- Scantool_net113win (Full Version)
- EasyOBDII V2.2 (Free Version)
- OBD2Spy (Demo Version)
- Scan Master-ELM (Demo Version)
- wOBDCRAZY (Demo Version)

This hardware can match much other software still! But most of them are not free!

Works for Windows98/ME/2000/XP/Vista & 7!

Bluetooth pair code: 1234

Main Control Chip: PIC18F2480

Highly Recommended for hatchback cars and cars with OBD Port placed above pedals which can obstruct leg movement while driving!

Size is Only 3cms tall, i.e more than 70% smaller than other ELM327 readers!!

SuperMini supports more protocols and has very stable performance compared to other ELM327 Bluetooth Readers! Its most selling and zero customer issues!



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Absolute Native Electronics
C-465, Ground Floor, Sector: Beta-1,
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