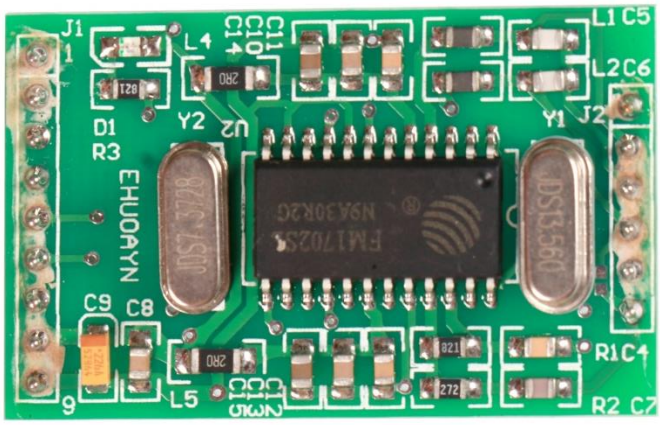
YHY502 RFID Reader Writer Module



Description:

This contactless 3V-5V RFID YHY502CG Reader Writer UART Interface module is designed for an easy reader adaptation to a host to use this device for test and application purpose. There is only one command to finish one action, such as read or write card data. It needs no request or selection. The module will do it for you automatically. What you need is just to send one command to the module. Then it will send back what you want. Anything is just so simple and so easy. Also, if there is any card going into the RF field, the red led on the module will light and the SIG pin will change from "1" to "0" to indicate the event.

This HY502 series of RFID reader/writer modules are based on non-contact card reader ASCI chip compatible with ISO14443 standard. It uses 600nm CMOS EEPROM technology, supports ISO14443 type A protocol, and supports the MIFARE standard encryption algorithm. The chipset integrates analogue modulation and demodulation circuits only require minimal peripheral circuits to function. The module supports UART interface. The digital circuits have dual working voltages mode, TTL and CMOS. The HY502 module is targeting water, electricity, gas meters, vending machines, access control, elevators, drinking fountains, telephone billing system or other identification card reader system applications.

Users can simply select the desired interfaces to harvest the full operation of the system and do not need to struggle with the complicated radio base station design. HY502 series supports Mifare One S50, S70, Ultra-Light & Mifare Pro, FM11RF08 and other compatible cards. It can be set to automatically find cards, by default, to automatically find cards. The HY502 series are low-power modules, wide-voltage 2.7 ~ 5.5V, uses an integrated module with an embedded antenna and can significantly reduce PCB size.

Features:

1. Complete Read/Write module with the built-in transceiver antenna.
2. Auto checks for the presence of a tag
3. Supports ISO14443A /MIFARE, MIFARE Classic 1k, MIFARE Classic 4k.
4. TTL RS232 Interface, baud rate19200bps
5. Fast data transfer ¬Contact-less communication up to 106KHz
6. Secure Encrypted contact-less communication
7. Ideal for e-money, secure access, and fast data collection applications
8. Watchdog timer
9. 1 LED indicator
10. Unique serial number on each device
11. Typical Operating Distance: 0-60nm
12. Operating voltage DC: 3.0-5.5V
13. Operating frequency: 13.56MHz

Electrical Characteristics:

- **Absolute Maximum Ratings:**

SYMBOL	PARAMETER	MIN	MAX	UNIT
Tamb,abs	Ambient or Storage Temperature Range	-40	+150	℃
VDD	DC Supply Voltages	-0.5	6	V
Vin,abs	Absolute voltage on any digital pin to GND	-0.5	VDD +0.5	V

- **Operating Condition Range:**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Tamb	Ambient Temperature	-	-25	+25	+85	℃
VDD	DC Supply Voltages	GND = 0V	3.0	3.3	3.6	V
			4.5	5.0	5.5	V
RD	Reading Distance	VDD=5.0V	0	50	60	mm
		VDD=3.3V	0	35	50	
WD	Writing Distance	VDD=5.0V	0	45	55	mm
		VDD=3.3V	0	30	45	

Pin Function:

Pin	Symbol	IO Type	Description
J1-1	RXD	I	Uart Receiver
J1-2	TXD	O	Uart Transmitter
J1-3	OUT1	O	Output 1
J1-4	OUT2	O	Output 2
J1-5	RST	I	Reset, active-low, floating for power-on reset by default
J1-6	BUZ	O	high level drive, connect to buzzer drive circuit
J1-7	SIG	O	Interrupt output, LOW level indicates card in the field
J1-8	VCC	Power	Power positive
J1-9	GND	GND	Power Negative

Outer Dimensions: