

ID1016R fingerprint module



The ultimate safe and enjoyable experience

Basic introduction

ID World's independent research and development of ID1016R is a small area embedded fingerprint module, with a dedicated high-performance ID809/811 processor as the core, using semiconductor capacitive sensor and chip integrated design, running the new IDFinger v6.0 fingerprint algorithm widely praised in the industry, in-depth optimization, comprehensive speed-up, and unimaginable experience.

ID1016R uses standard UART communication and SDK development kit to meet the needs of customer fingerprint input, image processing, template generation and fingerprint ratio equal fingerprint recognition.

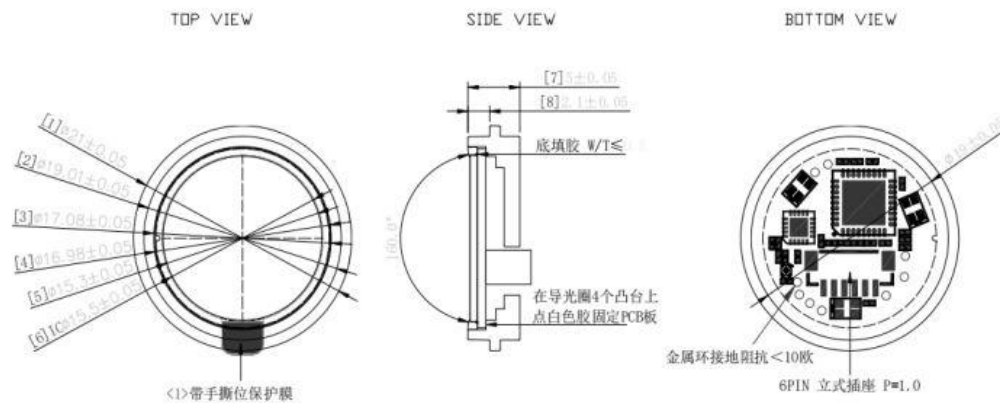
It has the characteristics of small size, low power consumption, fast acquisition, strong adaptability of dry and wet fingers, high security and so on, and can be flexibly embedded in all kinds of terminal devices.

technical parameter

project	description
Model	IDWD1016R
CPU	ID809/811
Fingerprint sensor	Capacitive fingerprint sensor 508dpi pixel: 160*160
Fingerprint capacity	80/200/500 pieces
FAR	<0.001% (Security Level is 3)
FRR	<0.1% (Security Level is 3)
Comparison method	1:N and 1:1 comparison
Fingerprint template size	1008 bytes Byte
Security level setting Level	1 to Level 5 can be set, factory setting value: Level 3
Processing speed	Fingerprint feature extraction time <1 seconds
	1:N comparison time (when 80 pieces are fully registered) <0.5 seconds
Communication interface	UART, 3.3V-TTL level
Baud rate	The baud rate is 9600, 19200, 38400, 57600, 115200 (bps)
	Factory setting: 115200bps
Operating Voltage	Win voltage: DC3.3V \pm 10%
Working current	<40ma
working environment	Working temperature: -20°C -80°C
	Relative humidity: 20%-80%

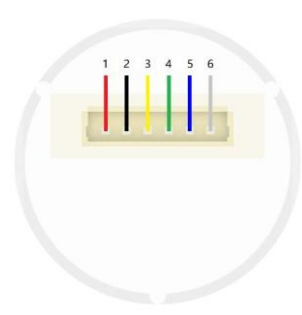
Outline dimension

PCB diameter 21mm, installation diameter 19mm, high 5mm



Interface definition

The product communicates with the host through a connector with 6PIN/1.0mm spacing. The pins for 6PIN connectors are defined as follows:

Num	Label	Description	Interface
1	GND	Ground	
2	RX	UART receive	
3	TX	UART transmit	
4	VIN	Power supply (3.3V): connect to work, disconnect to enter sleep	
5	IRQ	Finger sensing output: active high	
6	3.3V	Power Supply	

Communication mode

The product communicates with the host through a connector with 7PIN/1.25mm spacing.

The pins for 7PIN connectors are defined as follows:

The product supports UART communication.

For an introduction to the mode of communication, please refer to the "fingerprint Module Communication Protocol" UART communication:

The data format is 8-bit data bit, 1-bit stop bit, no check, no flow control, the default baud rate of communication is 115200, the baud rate can be changed dynamically in the process of communication, and the baud rate can be selected as 9600, 19200, 38400, 57600, 115200.

When the fingerprint module communicates with the system MCU, the circuit is connected as follows: when there is a finger pressing the fingerprint module, the WAKEUP outputs a high level, and the WAKEUP signal is a notification signal. After receiving the WAKEUP signal, the system MCU starts the system, outputs the fingerprint module power on signal, provides 3.3V power to the VIN, and then carries on the UART communication, so that the dormant current of the fingerprint module can be controlled below the 10uA.

It is also possible to power both VCC and VIN, so that the dormant current of the fingerprint module can be controlled below 15uA.