eyecool

TCI301 MS

Binocular Iris Capture Module

Specification

Product Type: Iris Recognition

Company Profile

Focusing on deep learning technology, relying on big data and taking biometrics as the breakthrough point, Eyecool Technology is committed to solving human-computer interaction problems in the field of artificial intelligence and building a safe, convenient and beautiful future life. As one of the first enterprises into the biometric recognition in the field of artificial intelligence, Eyecool Technology always focuses on the R&D of the core technology with independent intellectual property rights, becomes the first biometric company in the world with its own algorithm of fingerprint, face, iris and finger vein recognition, and successfully builds the world's first multimodal biometric recognition platform, which implements the unified management of multiple scenarios, multiple applications, multiple products and multiple recognition technologies.

In the LFW international evaluation competition, the accurate of Eyecool face recognition algorithm is up to 99.71%. It has been applied in more than 30 banking institutions on a large-scale in China. Fingerprint identification algorithm and fingerprint enrollment equipment are on the recommended list of resident ID card application algorithms and equipment of the Ministry of Public Security. The fingerprint product is also Minex-III compatible. Iris recognition algorithm won the second place in the 2009 International Iris Recognition Algorithm Open Competition (NICE: II). The results of IREX10, an iris recognition algorithm test organized by the

National Institute of Standards and Technology (NIST) in the United States, announced that Eyecool ranked first place in China and third in the world.

With more than 300 invention patents, Eyecool has led the development of 30 national standards and industry standards. Eyecool is the only one Chinese company whose iris and fingerprint technology passed STQC in India. The core technology won the second prize of National Technological Invention Award in China.

Eyecool has completed the whole industry chain layout from bottom algorithm, to unified platform, application software, intelligent terminal products, and then to landing delivery. It has served more than 1000 customers around the world, ranging from education, finance, social insurance, public security, government, military, and enterprises etc. More than 60% of the national banking institutions and over100 universities are Eyecool clients. There are mature solutions and scenarios applied in smart campus, smart city, smart finance and other fields. As the only AI enterprise among the first batch of enterprises in Zhongguancun to settle in Xiong' an, Eyecool signed a strategic cooperation agreement with Xiong' an to drive Xiong' an development as a new smart city.

Product Specification

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Update Records			
Date	Version	Description	Editor
2022.3.7	3.0	Add description of specifications parameters.	Cheng Peng

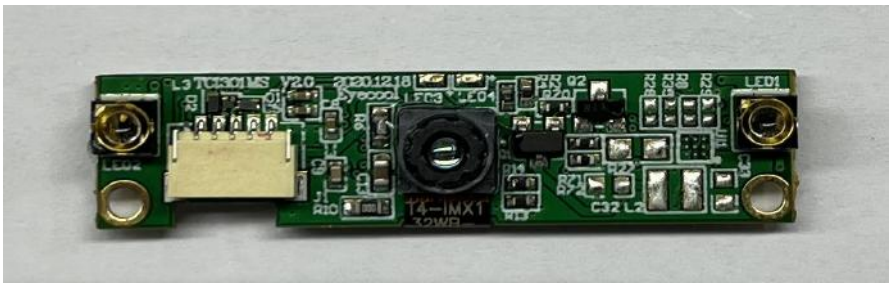
Approval of Customer		
Department	Approver	Date

Editor: _____ Approver: _____

Date: _____ Date: _____

Overview

TCI 301 MS is a Binocular Iris Capture Module with the function of iris image collection and processing. With compact size and simple structure, it is ergonomic, easy to use and suitable for all kinds of people. Compatible for USB and providing standard secondary development interfaces, it can meet the customized requirements of different users and is applicable for places with high identity security requirements.



Function

Iris collection/enrollment: capture iris and make the enrollment of users.

Iris match: with Eyecool iris matching algorithm to conduct iris matching on the embedded device to do user's identity verification and authentication in the more secure way based on the enrolled iris data.

Advantage

- Compact size and easy to integrate
- High resolution sensor.
- Infrared LED on board to ensure the validity and accuracy of iris recognition.
- Provide standard SDK for customized development calling
- Certification: ISO/IEC 62471.

Application

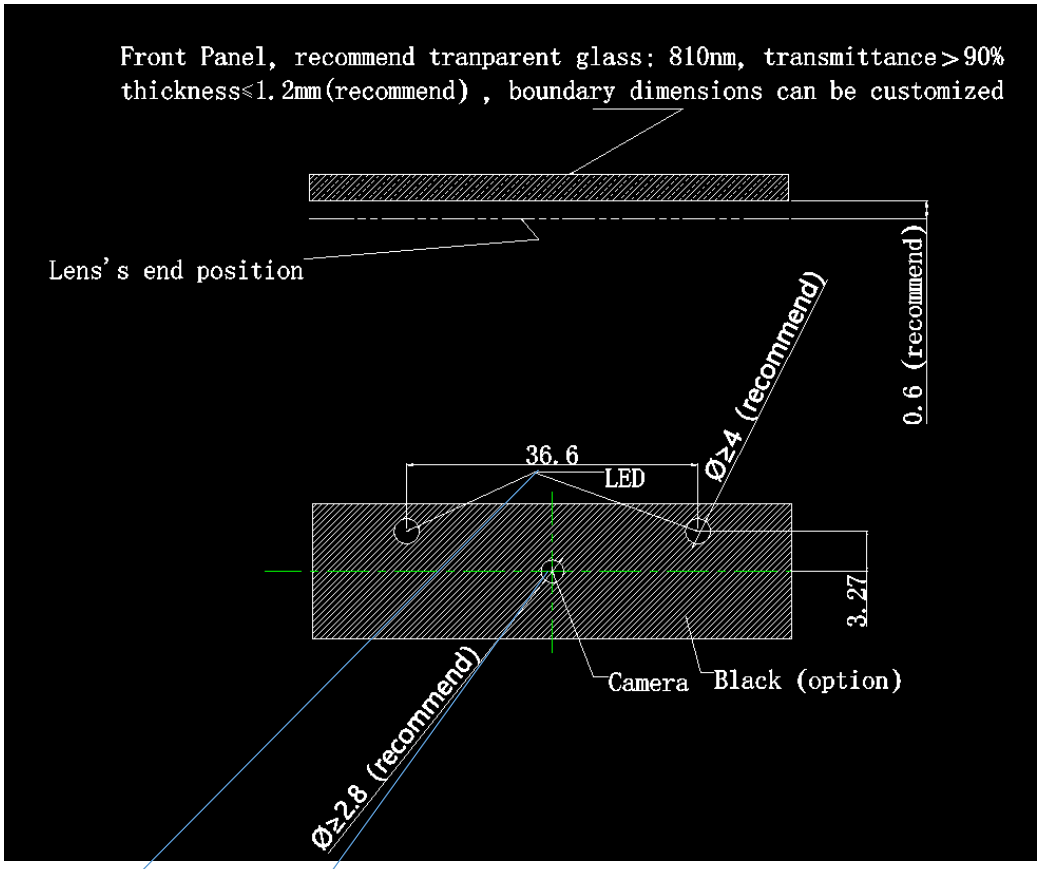
It can be widely embedded in third-party devices for a variety of identity authentication application such as login, authorization and payment. For example, it can be used in access control, safe, time attendance system, encryption equipment, self-service of iris collection and comparison equipment, as well as industry customized terminals (e.g., banks, military, prison, public security, etc.) and other high security level terminal equipment.

Technical Parameters

CMOS	1/7 sensor
Resolution	1920(H) x 1080(V) (16:9 mode)
Pixel Size	1.12um x 1.12um
Image Transport Rate	1920*600/30fps
FOV	H：29.1°, V：9.4°, D:30.4°
Aperture	F2.2
Distortion	TV Distortion<1.0%
CRA	<29.8°
Lens Temperature Range	-20°/+80°
Lens Structure	2P+Near IR
Depth of Field	17~23CM
Image Format	MJPG/YUY
Operating Wave	810nm
Dynamic Range	60dB
Power Supply	5V±10% Ripple is required to be below 100MV

Operating Current	340MA±5%
Operating Temperature	-10˚C~+55˚C (Humidity: 10%RH~95%RH)
Storage Temperature	-20˚C~+70˚C (Humidity: 10%RH ~95%RH)
Dimensions	40.17x10.17x6.6MM
Os Supported	Windows2003/2008/Xp/7/8/8.1/10, Android 4.1 or above with UVC Linux 2.6.32 or above with UVC.

Front Panel Diagram



Fill-in light: Infrared light, 810nm, transmittance 85% or transparent;

Camera lens location, transparent.

The thickness of Shape and outline depends on client itself.

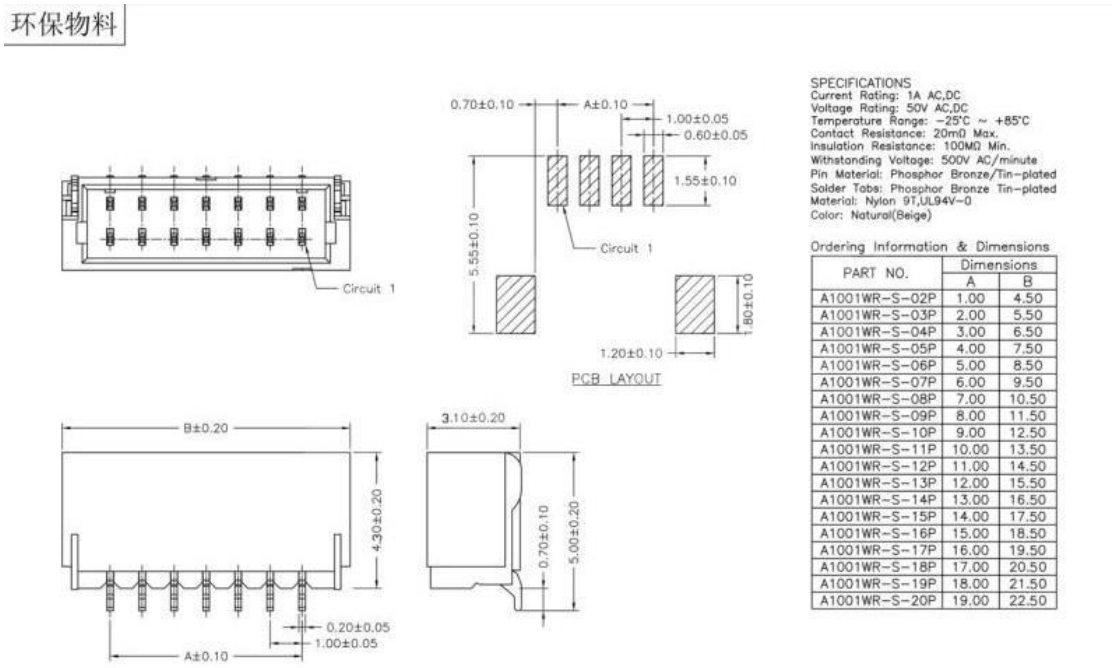
Installment

Here, take PC connection as an example. Plug and play, no driver needed.

Step1：Connect to power

TCI301MS is a plug-and-play device and no extra driver needed. Connect to PC or other terminals with USB cable to the right port.

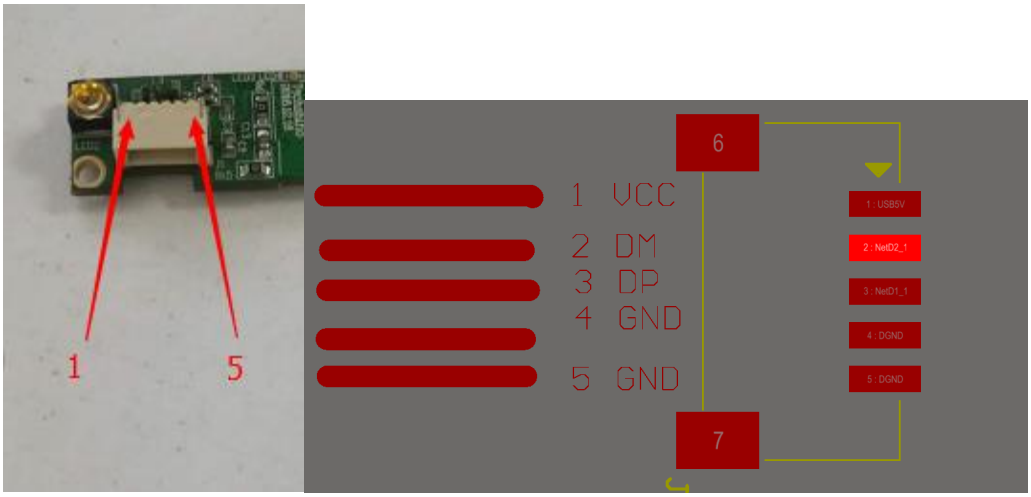
USB connection pin definition as below:



SPECIFICATIONS
Current Rating: 1A AC,DC
Voltage Rating: 50V AC,DC
Temperature Range: −25°C ~ +85°C
Contact Resistance: 20mΩ Max.
Insulation Resistance: 100MΩ Min.
Withstanding Voltage: 500V AC/minute
Pin Material: Phosphor Bronze/Tin-plated
Solder Tabs: Phosphor Bronze Tin-plated
Material: Nylon 9T,UL94V-0
Color: Natural(Beige)

Ordering Information & Dimensions

PART NO.	Dimensions	
	A	B
A1001WR-S-02P	1.00	4.50
A1001WR-S-03P	2.00	5.50
A1001WR-S-04P	3.00	6.50
A1001WR-S-05P	4.00	7.50
A1001WR-S-06P	5.00	8.50
A1001WR-S-07P	6.00	9.50
A1001WR-S-08P	7.00	10.50
A1001WR-S-09P	8.00	11.50
A1001WR-S-10P	9.00	12.50
A1001WR-S-11P	10.00	13.50
A1001WR-S-12P	11.00	14.50
A1001WR-S-13P	12.00	15.50
A1001WR-S-14P	13.00	16.50
A1001WR-S-15P	14.00	17.50
A1001WR-S-16P	15.00	18.50
A1001WR-S-17P	16.00	19.50
A1001WR-S-18P	17.00	20.50
A1001WR-S-19P	18.00	21.50
A1001WR-S-20P	19.00	22.50



Tips

- Iris device is a precision device, do not use sharp objects scratch or wipe module lens;
- When module lens has dust, stains, etc., you can use soft dry cloth to wipe and can dip a little water to wipe if necessary. Do not use water to clean directly, in case of damage to module lens;
- Due to compact size of this module, it is necessary to add extra heat dissipation design in the integrated terminal to ensure the stable work of the whole module under working condition.