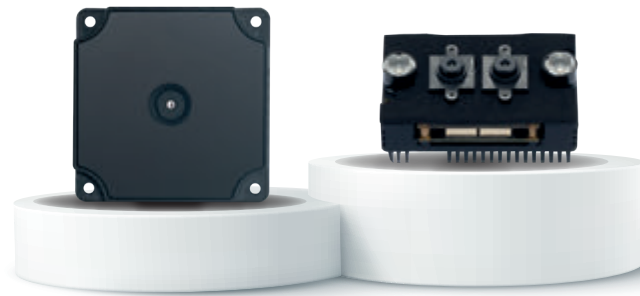


BIOMETRICS

Modules and readers



ZKT*ECO*

OVERVIEW

Today, the biometrics market is finally ready.

Consumer markets, government programs, and industrial applications require reliable technologies and cost-cutting solutions. In these applications, accuracy and security are paramount. Thus, biometric technology is being implemented for its user-friendliness and its ability to block illegal attempts at security systems.



SLK20 Series

SLK20 Series is a leading fingerprint scanner designed by ZKTeco USA laboratory with an advanced optical design. It has superior live fingerprint detection technology and can capture high-quality fingerprint images with a built-in 2MP camera.

SLK20R is a comfortable and affordable desktop enrollment and identification fingerprint scanner with USB communication.

SLK20M is the smallest embedded optical module in the world that combines a 2MP image sensor with an ARM9 processor for powerful performance. With the ultimate design, it can be flexibly integrated with various system applications without requiring any additional accessories.

SLK20R



SLK20M
SLK20M-S



	SLK20R USB Reader	SLK20M Integration module	SLK20M-S High capacity module
CPU	280MHz		
Flash	32 MB		
Operating conditions	Good performance even with water splash Good performance under sunlight (darkfield and automatic gain/exposure) Good performance even with dry, moist, or rough fingerprints Live Finger Detection		
Power Consumption	5V: 120-240mA scanning / 5V: 97mA idle (waiting for finger)	5V:200mA Scanning / 5V:60mA idle (waiting for finger)	
Comm. Interface	USB Type A	UART (115,200 bps / TTL3.3V) / USB 2.0	
Dimension (L*W*H)	49*44*20.1mm	36.2 * 44.2 * 15.85mm	
Image Resolution	500 dpi	500 ~ 1,000 dpi	
Image Size	300*400 pixel (FAP20)		
Template	ZKFinger V10.0; ISO19794-2; ANSI 379		
Template capacity	N/A	2,000	8,000
Operating Environment	-20 °C~ 50 °C; 90% r.h.		
Certifications	FCC, CE, RoHS, PIV		

ZK9500

ZK9500 is one of the latest optical fingerprint scanners developed by ZKTeco. It supports finger detection and quickly captures high-resolution fingerprint images. With a compact desktop design, it is easy to use for fingerprint registration. It can be connected to Android tablets or mobile phones with a USB connection. Also, we provide SDKs for customers to develop their own applications.



Features

- **CPU:** 280MHz
- **Flash:** 32 MB
- **Water Splash:** No damage, make sure it can work
- **Power Consumption:** 5V: 140-195mA scanning 5V: 63mA idle (waiting for finger)
- **Interface Type:** USB Type A
- **Dimension:** 124.5*102*34mm (L*W*H)
- **Sunlight Operation:** Yes, darkfield and automatic gain/exposure
- **Dry, Moist, or Rough Fingerprints:** Work well
- **Image Resolution:** 500 dpi
- **Image Size:** 300*400 pixels (FAP20)
- **Template:** ZKFinger V10.0
- **Certifications:** FCC, CE, RoHS
- **Operating Environment:** -20 °C ~ 50 °C; 90% r.h.

Hybrid Fingerprint & Finger Vein Readers

ZK6500

ZK6500 is an optical fingerprint scanner developed by ZKTeco. It is easy to use and features high speed and 2MP optical sensor, with low power consumption. We provide an SDK (Windows, Android, Linux) for developers and it can easily connect to Android mobile devices.



Features

- **Prism Material:** Optical glass
- **CPU:** 280MHz DSP
- **Flash:** 8MB
- **Image Resolution:** 500dpi
- **Encryption IC:** YES
- **Interface Type:** USB Type A
- **Dimension:** 76.00 * 84.48 * 68.97 mm (L*W*H)
- **Sunlight Operation:** YES, darkfield and automatic gain / exposure
- **Illumination LED:** Green
- **Collecting Area:** 16.5 * 23 mm
- **Image Size:** 256 * 360 pixel
- **Live Detection:** N / A
- **Template:** ZKFinger V10.0
- **ISO/ANSI Support:** N / A
- **Certifications:** FCC, CE, RoHS
- **Operating Environment:** -20 °C ~ +50 °C; 90% r.h.

PV10 Series

PV10 Series is a biometric palm scanner for capturing palm and vein features. It uses a near-infrared fill light, a wide dynamic image sensor, and an aspherical distortion-free camera optical system. It can capture palm and vein images under the palm skin, offering excellent anti-spoofing performance.

PV10R supports standard USB communication, making it easy to implement palm vein recognition.

PV10M is a touchless module for capturing palm and vein features. Combined with the ZKPalm SDK, customers can easily develop tailored palm recognition systems.

PV10R



PV10M



		PV10R USB Reader	PV10M Embedded module	
Sensor	Grayscale	256 levels		
	Image size	480 * 640		
	Distortion rate	<1%		
Hardware	Connector	N/A	7-pin 1.25mm USB 2.0	
	Power consumption	---	0.5W (Standby) / 1.5W (Operating)	
	Interface	USB 2.0 (High speed)		
	Power requirements	USB 5V		
	Temperature	-10°C ~ 45°C / 14°F ~ 113°F		
	Humidity	0 ~ 90% RH		
	Lighting Environment	Enrollment <800Lux; Authentication <2000Lux		
	Dimensions	83mm * 34mm (±1mm) (Diameter * Depth)	52.4 * 52.4 * 16.8mm (±1 mm) (L*W*H)	
	Supported OS	Windows	Windows XP / Windows 7 / Windows10 (32/64bit)	
		Android	Android 4.1 or higher	
ZKPalm SDK	Recognition Angle	Roll ± 60°, Pitch ± 30°		
	Recognition Method	1:1, 1:N		
	Capacity	6,000 templates		
	Accuracy	FRR=0.68% when FAR=0.001%		
Certifications	Recognition Time	<300ms (Quad-core Cortex-A9 up to 1.6GHz)		
	Certifications	CE, FCC, RoHS		

PV50 Series

The PV50 Series are binocular cameras designed with high-performance heterogeneous processors. The binocular camera modules have built-in palm recognition algorithms which support palm detection, palm liveness detection, and user identification with palms.

PV50MC supports standard USB communication, making it easy to implement palm-vein recognition.

PV50M is an embedded module that, when combined with ZKPalm SDK, can allow customers to easily develop tailored palm recognition systems.

PV50MC



PV50M



		PV50MC USB Reader	PV50M Embedded module
General	Processor	Quad-core Cortex-A7@1.5GHz, 1.2 TOPS (INT8)	
	Image Sensor	Two 1/2.8" 2MP HDR CMOS	
	Camera	M8; 2MP; using Visible Light or Near-Infrared light	
	Comm. Interface	USB 2.0	
	Comm. Protocol	UVC & HID protocol	
	Power Supply	DC5V 1A (min.)	
	Operating Temperature	-10°C to 50°C	
	Operating Humidity	0 to 90% RH	
	Dimensions (L*W*H)	80 * 44.4 * 29.78 (mm)	62 * 38 * 25.3 (mm)
Optical & Image Parameters	Camera Type	Cam 1: Visible light / Cam 2: Near-infrared	
	Field of View	D=73°; H=65°; V=40°	
	Image Resolution & Frame Rate	720*1280@25fps 480*640@25fps	
	Wide Dynamic Range	105dB	
	Distortion	≤0.5%	
	Default Output Format	Cam 1: MJPEG / Cam 2: NV12	
	Luminance	0.01 lux to 50,000 lux	
Operating System	Windows	Windows XP/ Windows 7/ Windows10 (32-bit or 64-bit)	
	Android	Android 4.1 or above	
ZKPalm Algorithm	Angle Tolerance	Yaw ≤±30°, Pitch ≤±30°, Roll ≤30°, Bend ≤20%	
	Palm Capacity	6,000 for 1:1 and 1:N comparison	
	Recognition Accuracy	FAR=0.001% when FRR=0.68%	
Certifications	Certifications	CE, FCC, RoHS	

FA50 Series

FA50 Series are binocular cameras designed based on high-performance heterogeneous processors. The binocular camera module has built-in facial recognition algorithm that helps in face detection, alive body detection, mask detection, and can recognize the age, gender, emotional expressions, and identity of a user with his/her face.

FA50MC supports standard USB communication, making it easy to implement palm vein recognition.

FA50M is an embedded module that can be combined with software interfaces to efficiently integrate smart recognition functions into the platform according to the application's needs.

FA50MC



FA50M



		FA50MC USB Reader	FA50M Embedded module
General	Processor	Quad-core Cortex-A7@1.5GHz, 1.2 TOPS (INT8)	
	Image Sensor	Two 1/2.8" 2MP HDR CMOS	
	Camera	M8; 2MP; using Visible Light or Near-Infrared light	
	Comm. Interface	USB 2.0	
	Comm. Protocol	UVC & HID protocol	
	Power Supply	DC5V 1A (min.)	
	Operating Temperature	-10°C to 50°C	
	Operating Humidity	0 to 90% RH	
	Dimensions (L*W*H)	80 * 44.4 * 29.78 (mm)	62 * 38 * 25.3 (mm)
Optical & Image Parameters	Camera Type	Cam 1: Visible light / Cam 2: Near-infrared	
	Field of View	D=73°; H=65°; V=40°	
	Image Resolution & Frame Rate	720*1280@25fps 480*640@25fps	
	Wide Dynamic Range	105dB	
	Distortion	≤0.5%	
	Default Output Format	Cam 1: MJPEG / Cam 2: NV12	
	Luminance	0.01 lux to 50,000 lux	
Operating System	Windows	Windows XP/ Windows 7/ Windows10 (32-bit or 64-bit)	
	Android	Android 4.1 or above	
ZKLiveFace Algorithm	Angle Tolerance	Yaw ≤±30°, Pitch ≤±30°, Roll ≤±30°	
	Face Capacity	50,000 for 1:1 and 1:N comparison	
	Features Accuracy	Age (±5 y/o) > 85% Gender > 96% Emotional expression > 88%	
Certifications	Recognition Accuracy	FAR = 0.01% when FRR = 1%, FAR = 0.0001% when FRR = 5%	
	Certifications	CE, FCC, RoHS	

FA51 Series

FA51 Series are binocular cameras with high-performance heterogeneous processors. The binocular camera module has built-in facial and palm recognition algorithms. Facial recognition algorithms help in face detection, liveness detection, and mask detection. This module series can also recognize the age, gender, emotional expressions, and identity of a user with his/her face. On the other hand, the palm recognition algorithms support palm detection, liveness detection, and user identification with palms.

FA51MC



FA51M



		FA50MC USB Reader	FA50M Embedded module
General	Processor	Quad-core Cortex-A7@1.5GHz, 1.2 TOPS (INT8)	
	Image Sensor	Two 1/2.8" 2MP HDR CMOS	
	Camera	M8; 2MP; using Visible Light or Near-Infrared light	
	Comm. Interface	USB 2.0	
	Comm. Protocol	UVC & HID protocol	
	Power Supply	DC5V 1A (min.)	
	Operating Temperature	-10°C to 50°C	
	Operating Humidity	0 to 90% RH	
	Dimensions (L*W*H)	80 * 44.4 * 29.78 (mm)	62 * 38 * 25.3 (mm)
Optical & Image Parameters	Camera Type	Cam 1: Visible light / Cam 2: Near-infrared	
	Field of View	D=73°; H=65°; V=40°	
	Image Resolution & Frame Rate	720*1280@25fps 480*640@25fps	
	Wide Dynamic Range	105dB	
	Distortion	≤0.5%	
	Default Output Format	Cam 1: MJPEG / Cam 2: NV12	
	Luminance	0.01 lux to 50,000 lux	
Operating System	Windows	Windows XP/ Windows 7/ Windows10 (32-bit or 64-bit)	
	Android	Android 4.1 or above	
ZKPalm Algorithm	Angle Tolerance	Yaw ≤±30°, Pitch ≤±30°, Roll ≤30°, Bend ≤20%	
	Palm Capacity	6,000 for 1:1 and 1:N comparison	
	Recognition Accuracy	FAR=0.001% when FRR=0.68%	
ZKLiveFace Algorithm	Angle Tolerance	Yaw ≤±30°, Pitch ≤±30°, Roll ≤±30°	
	Face Capacity	50,000 for 1:1 and 1:N comparison	
	Features Accuracy	Age (±5 y/o) > 85% Gender > 96% Emotional expression > 88%	
	Recognition Accuracy	FAR = 0.01% when FRR = 1%, FAR = 0.0001% when FRR = 5%	
Certifications	Certifications	CE, FCC, RoHS	

QRM10 Series

The QRM10 Series are high-performance QR code readers developed by ZKTeco. This QR code reader series are compact-in-size and can easily read code data from mobiles and printed materials. They can read all available codes thanks to a built-in LED for auxiliary lighting, which has an automatic induction function to read during the day or night without significant impact.

QRM10X is a plug-and-play USB reader with a high speed of transmission.

QRM10 is an embedded module that not only has all the functions of the reader, it can also flexibly integrate applications with various products without any accessories.

QRM10X



QRM10



		QRM10X USB Reader	QRM10 Embedded module
General	Dimensions (L*W*H)	49 * 44 * 20.1 (mm)	44 * 36 * 16 (mm)
	Scanning area	15.24 * 20.32 (mm)	
Hardware	Working Voltage	USB 5V or 3.3V	
	Working Current	200mA	
	Quiescent Current	100mA	
	Indicator Light	White Light	
	Warning Type	Buzzer	
	Camera	Single-lens camera	
	ESD	Level 2	
	EMI	Grade B	
	Protection Level	IP55	
Environment	Working Temperature	10°C to 50°C	
	Working Humidity	20% to 90%	
	Storage Temperature	-40°C to 80°C	
	Working Pressure	86kPa to 106kPa	
Other	Supporting Codes	All codes, Partially open PDF417, Datamatrix, QR Code, Code49, Code 16K, MicroPDF417, Aztec and etc.	
Compliance	Certifications	CE, FCC, RoHS	

ZKTeco



ZKTeco Europe

Carretera de Fuencarral 44. Edificio 1 Planta 2

28108 Alcobendas. Madrid. SPAIN

www.zkteco.eu