



# IriShield™ Series

Powerful and cost-effective iris solution

[www.irittech.com](http://www.irittech.com)

**Iritech, Inc.**  
Technology with the Iris

## IriShield™ Series

ULTRA-COMPACT, AUTO-CAPTURE IRIS SCANNER, COMPLETE WITH ON-BOARD IRIS RECOGNITION AND A PKI-BASED SECURITY INFRASTRUCTURE THAT ENSURES END-TO-END DATA SECURITY.

The IriShield™ Series features IriTech's superior iris matching and iris image quality assessment algorithms to provide good quality images and avoid false positives while maximizing true positive identification rates. The embedded algorithms can complete a matching query against 1,000 stored templates in 0.5 second.

### ► FEATURES

- **Secure on-board processing:** All key functions like iris capture, iris recognition, encryption and digital signature are done on-board in a secure environment.
- **Secure data & communication:** Each IriShield device has its own 2048 bit RSA key securely generated on-board for encryption and digital signature.
- **NIST-proven extremely accurate iris matching algorithm**
- **STQC certified**
- **Tamper-proof**
- **Internal gallery:** 1,000 iris templates (500 IDs)
- **Supported interface connections:** USB, UART
- **Supported OS's:** Android/ Windows/ WinCE/ Linux/ eLinux/ Mac/proprietary OS/ Non-OS

### ► ADVANTAGES

- Cost-effective
- Ultra-compact, light weight
- Supporting power management functions

### ► PRODUCT PACKAGES

- **OEM Module:** Ready to be integrated seamlessly into existing product lines
- **Encased device:** Portable and ready-to-use, ideal for biometric service providers or value-added resellers to develop application systems

### ► PRODUCT HIGHLIGHTS



The first camera to receive STQC certification for authentication device for UIDAI project (2014)



Trusted and deployed in many large-scale government projects (2005-2015)



Well-known projects: India UIDAI, China Public Safety, Kenya Ministry of Education Science and Technology (Monocular IriShield)



Well-known projects: India UIDAI, Northrop Grumman, Colombia Police Department, China Coal & Mining (Binocular IriShield)





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## ► SPECIFICATIONS

	MK 2120U MO 2120	MK 2121U MO 2121	BK 2121U BO 2121	UART Version
				
Capture Mode	Auto	Auto	Auto	Auto
Capture Distance	4.7 cm - 5.3 cm (1.8 inches - 2.1 inches) from the image sensor (Optimal distance = 5 cm (2 inches), Focal depth = 6 mm (0.2 inch))	13.0 cm - 14.0 cm (5.1 inches - 5.5 inches) from the image sensor (Optimal distance = 13.5 cm (5.3 inches), Focal depth = 1.0 cm (0.4 inch), Field of View = 3.3 cm x 2.4 cm at 13.5 cm (1.3 inches x 0.9 inch at 5.3 inches))	BK 2121U: 13.5 cm - 14.5 cm (5.3 inches - 5.7 inches) from the front of camera Lens (Optimal distance = 14 cm (5.5 inches), Focal depth = 1.0 cm (0.4 inch), Field of View = 3.3 cm x 2.4 cm at 15 cm (1.3 inches x 0.9 inch at 5.9 inches))  BO 2121: 14 cm - 15 cm (5.5 inches - 5.9 inches) from the front of camera Lens (Optimal distance = 14.5 cm (5.7 inches), Focal depth = 1.0 cm (0.4 inch), Field of View = 3.3 cm x 2.4 cm at 15 cm (1.3 inches x 0.9 inch at 5.9 inches))	MO 2120: 4.7 cm - 5.3 cm (1.8 inches - 2.1 inches) from the image sensor (Optimal distance = 5 cm (2 inches), Focal depth = 6 mm (0.2 inch))  MO 2121: 13.0 cm - 14.0 cm (5.1 inches - 5.5 inches) from the image sensor (Optimal distance = 13.5 cm (5.3 inches), Focal depth = 1.0 cm (0.4 inch), Field of View = 3.3 cm x 2.4 cm at 13.5 cm (1.3 inches x 0.9 inch at 5.3 inches))
Image Format	ISO Standard 19794-6 (2005 & 2011), (640 x 480 Pixels, 8 bit Grayscale), full support of K1, K2, K3, K7			
Sensor Resolution	VGA			
Dimensions	MK 2120U 51.2 mm x 92.6 mm x 15.1 mm (2 inches x 3.6 inches x 0.59 inch)	MK 2121U 56.4 mm x 110.7 mm x 16.7 mm (2.2 inches x 4.4 inches x 0.66 inch)	BK 2121U IriShield-USB 124 mm x 63.2 mm x 42.5 mm (4.9 inches x 2.49 inches x 1.68 inches) Goggle 200 mm x 145 mm x 72 mm (7.9 inches x 5.7 inches x 2.8 inches)	MO 2120 IriShield-UART Board 36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch) Camera Module 30 mm x 15.4 mm x 7.1 mm (1.9 inches x 0.7 inch x 0.3 inch)
	MO 2120 IriShield-USB Board 36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch) Camera Module 30 mm x 15.4 mm x 7.1 mm (1.2 inches x 0.6 inch x 0.3 inch)	MO 2121 IriShield-USB board 36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch) Camera module 48 mm x 17.5 mm x 7.9 mm (1.9 inches x 0.7 inch x 0.3 inch)	BK 2121U IriShield-USB 124 mm x 63.2 mm x 42.5 mm (4.9 inches x 2.49 inches x 1.68 inches) Goggle 200 mm x 145 mm x 72 mm (7.9 inches x 5.7 inches x 2.8 inches)	MO 2121 IriShield-UART board 36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch) Camera module 48 mm x 17.5 mm x 7.9 mm (1.9 inches x 0.7 inch x 0.3 inch)
Power	Single USB Bus Powered (DC +5V±5%) (Max power consumption=250mA)	Single USB Bus Powered (DC +5V±5%) (Max power consumption: MK 2121U = 350mA, and MO 2121 = 280mA)	Single USB Bus Powered (DC +5V±5%) (Max power consumption=430mA)	External powered (DC +5V±5%) (Max power consumption: MO 2120 = 220mA, and MO 2121 = 260mA)
Illumination	Infrared LED			

## ► SPECIFICATIONS

Environmental	-20°C to +60°C (Storage); 0°C to +50°C (Operating); 10% to 90% Humidity (Non-Condensing)*
Usage	Indoor; Outdoor (avoid direct sunlight and bright reflections)
Compliance & Certificates	Eye safety standard (IEC 62471:2006-07), RoHS, FCC-Class A*, IP54*
Resolution	Spatial : ≥ 60% @ 4.0 Lp/mm, Pixel : ≥ 16 Pixels/mm
Connectivity	USB 2.0 (IriShield™-USB Series), UART/ RS-232 ( IriShield™ -UART Series)
Security	RSA (2048-bit) and AES (256-bit); X509 Certificate, PFX/PKCS#12 Certificate, RSA key pair generated on-board
Matching Speed	2000 matches per second (exclusive of communication time between the camera and the host)
Ancillary SW	Drivers, SDK (C/C++, .NET, C#/VB, Java), Demo Application with Sample codes
Host OS	Windows Family, Linux Family, WinCE, Embedded Linux, Android, Mac, proprietary OS or Non-OS

\* Encased model only

## ► CERTIFICATIONS



## ► ABOUT IRITECH

Since its establishment in 2000, IriTech has continued its efforts to develop the most advanced iris recognition technology. IriTech's algorithm was top ranked by the U.S. government's NIST IREX test and IriTech's product has been trusted and deployed in many government projects around the globe. Being chosen by United Nations to supply iris scanner for identifying refugees around the world and being selected to provide iris recognition software to Department of Homeland Security after three years of pilot testing - are a few of many testimonies to the level of excellence IriTech has achieved.

### CONTACT US

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#### R&D CENTERS

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