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# IriShield™ Series

Powerful and cost-effective iris solution

## 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/ Linux/ Mac/proprietary OS/ Non-OS

### ► ADVANTAGES

- Cost-effective
- Ultra-compact, light weight
- Supporting power management functions
- FREE Software Development Kit (SDK)

### ► 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)



Monocular camera's well-known projects: India UIDAI, China Public Safety, Kenya Ministry of Education Science and Technology





Binocular camera's well-known projects: India UIDAI, FBI/SO-COM, Colombia Police Department, China Coal & Mining, UNHCR



Scan QR Code with your Smart Phone to get demo IriShield Software

## ► SPECIFICATIONS

|                   | MK 2120UL<br>MK 2120U<br>MO 2120   | MO 2121  | BK 2121U<br>BO 2121  | UART Version  |
|-------------------|--|--|--|---|
|                   |   |   |    |    |
| Capture Mode      | Auto   | Auto   | Auto   | Auto  |
| Capture Distance  | <p>MK 2120UL: 14.0 cm - 15.0 cm (5.5 inches - 5.9 inches) from the camera front (Focal Depth: 1.0 cm (0.4 inch), Optimal distance = 14.5 cm (5.7 inches) from camera front, Field of View = 3.3 cm x 2.4 cm at 14.5 cm (1.3 inches x 0.9 inches at 5.7 inches)</p> <p>MK 2120U, MO 2120: 4.7 cm - 5.3 cm (1.8 inches - 2.1 inches) from the image sensor (Optimal distance = 5.0 cm (2 inches), Focal depth = 6 mm (0.2 inch))</p> | <p>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)</p> | <p>BK 2121U: 13.5 cm - 14.5 cm (5.3 inches - 5.7 inches) from the front of camera Lens (Optimal distance = 14.0 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)</p> <p>BO 2121: 14.0 cm - 15.0 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)</p> | <p>MO 2120: 4.7 cm - 5.3 cm (1.8 inches - 2.1 inches) from the image sensor (Optimal distance = 5.0 cm (2 inches), Focal depth = 6 mm (0.2 inch))</p> <p>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)</p> |
| 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        | <p>MK 2120U, MK 2120UL IriShield-USB board<br/>51.2 mm x 92.6 mm x 15.1 mm (2 inches x 3.6 inches x 0.59 inch)</p> <p>MO 2120 IriShield-USB board<br/>36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch)<br/>Camera Module<br/>30 mm x 15.4 mm x 7.1 mm (1.2 inches x 0.6 inch x 0.3 inch)</p>  | <p>MO 2121 IriShield-USB board<br/>36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch)<br/>Camera module<br/>48 mm x 17.5 mm x 7.9 mm (1.9 inches x 0.7 inch x 0.3 inch)</p>   | <p>BK 2121U IriShield-USB board<br/>124 mm x 63.2 mm x 42.5 mm (4.9 inches x 2.49 inches x 1.68 inches)<br/>Goggle<br/>200 mm x 145 mm x 72 mm (7.9 inches x 5.7 inches x 2.8 inches)</p> <p>BO 2121 IriShield-USB board<br/>47 mm x 40 mm x 6.9 mm (1.8 inches x 1.6 inches x 0.3 inch)<br/>Camera Module<br/>31 mm x 27 mm x 23.3 mm (1.2 inches x 1.1 inches x 0.9 inch)</p>  | <p>MO 2120 IriShield-UART board<br/>36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch)<br/>Camera Module<br/>30 mm x 15.4 mm x 7.1 mm (1.9 inches x 0.7 inch x 0.3 inch)</p> <p>MO 2121 IriShield-UART board<br/>36 mm x 40 mm x 6.9 mm (1.4 inches x 1.6 inches x 0.3 inch)<br/>Camera module<br/>48 mm x 17.5 mm x 7.9 mm (1.9 inches x 0.7 inch x 0.3 inch)</p>                         |
| 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      | Near 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 B*, 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.

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