



# Sherlock

A FBI Appendix F Certified FAP 45  
Two-Finger Roll Scanner



# Warranty Information

All products have a 12-month warranty starting from the date of delivery. Additional years warranties available. Inquire with your salesperson.

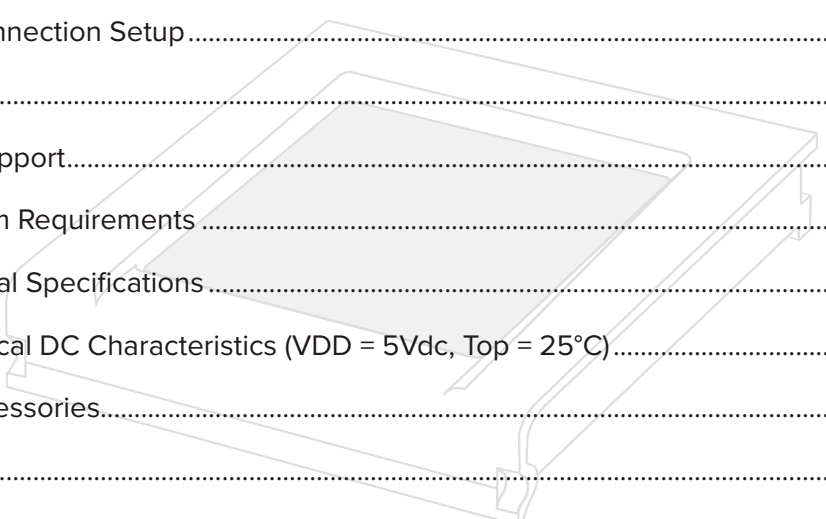
[View the warranty here:](#)

# Revision History

Revision No.	Issue Date	Comments
2.2	2022.4	Adjust Electrical DC Characteristics
2.1	2021.10	Hazardous material added
2.0	2020.8	TFT camera was improved
1.3	2020.2	Removed a specific company name, added the female Molex spec, applied new IB logo
1.2	2019.3	Removed part number
1.1	2018.6	Reformatted, added accessory usage
1.0	2018.1	1.0 version preliminary

# Contents

1.	Introduction .....	3	>
2.	Product Details .....	4	>
2.1	Evaluation Kit Assembly.....	4	>
3.	Hardware Connection Setup.....	5	>
4.	Specifications.....	7	>
4.1	OS Support.....	7	>
4.2	System Requirements .....	7	>
4.3	General Specifications .....	7	>
4.4	Electrical DC Characteristics (VDD = 5Vdc, Top = 25°C).....	8	>
5.	Available Accessories.....	9	>
6.	Support .....	10	>
6.1	Cleaning and Sanitization .....	10	>



# 1 SHERLOCK

Sherlock uses Integrated Biometrics' patented light-emitting sensor (LES) technology to deliver fixed and mobile FBI Certified fingerprint imaging in an exceptionally durable, lightweight scanner.

Other benefits include:

## Faster

- Rapid dry finger capture
- No need to clean latent prints in high-volume situations
- Easy integration via single SDK for all Integrated Biometrics FBI-certified products

## Better

- Unaffected by extreme temperatures, direct sunlight, or bright artificial lights
- Compact, lightweight, and rugged
- Emits no bright lights during scans
- Meets or exceeds US military durability specifications

## Smarter

- Extremely low power consumption
- Eliminates consumables (silicone membranes or cleaning tape)
- Lower maintenance costs



## Software-Based Autodetect

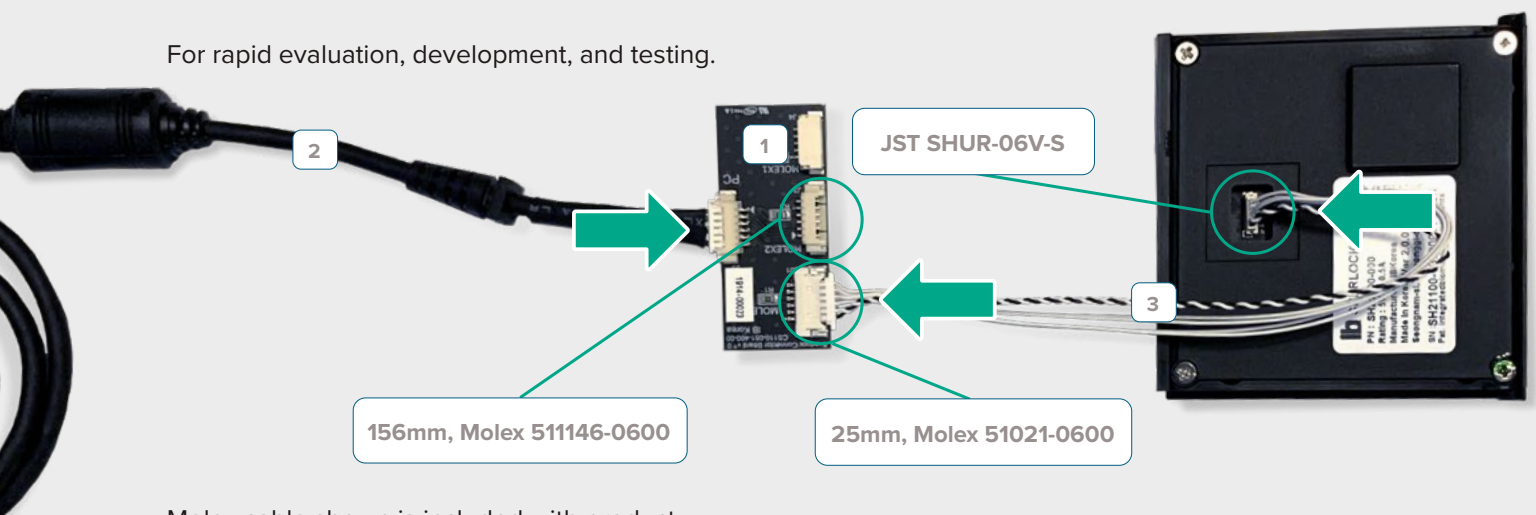
- Scanner automatically detects the finger capture that generates the highest quality image without user intervention.
- Application developers enable this feature through the Integrated Biometrics software development kit (SDK)



- 01 LES: Light Emitting Sensor, Sensing Area**  
The patented LES film is a multilayer, polymer composite containing particles that luminesce (give off light) in the presence of an electrical field.
- 02 Conductive Bezel**  
The stainless bezel creates a low-level electric circuit which causes the particles in the film to luminesce or emit light.
- 03 6 pins J1 (female, BM06B-SURS-TF) for USB communication**
- 04 Adhesive material to prevent release of the product**  
Do not remove this material or you risk voiding the [warranty](#).

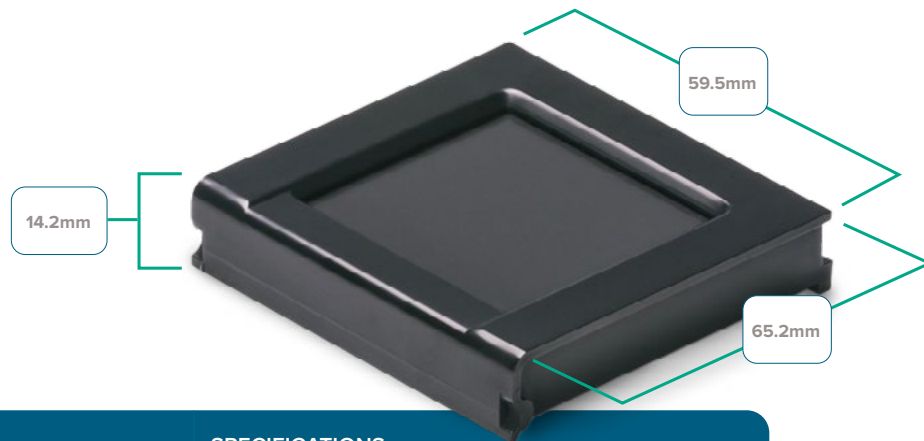
## EVALUATION KIT ASSEMBLY

For rapid evaluation, development, and testing.



Molex cable shown is included with product.

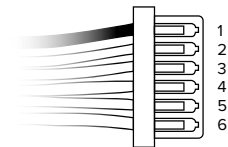
- 1. Connector board: SHEVALU-002
- 2. USB Molex to A Cable: CLCA1MA-150
- 3. Molex Cable Options: SHCA1MM-003 or SHCA1MM-015



ITEM	SPECIFICATIONS
Scanner Physical Size	65.2 +0.1mm / -0.3mm (W) x 59.5±0.2mm (L1) x 61.7±0.2mm (L2) x 14.2mm (H) + 0.1mm / -0.3mm
Total Weight	<55 grams

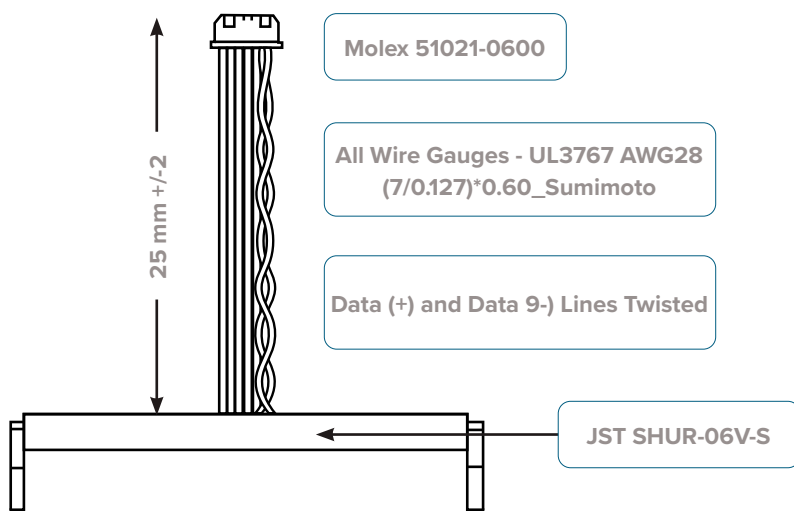
### 25mm Embedded Cable With Sherlock

PIN NUMBER	TYPE	DESCRIPTION
1	USB	Data (-)
2	USB	Data (+)
3	G	Ground
4	V_BUS	+5 VDC
5	G	Shield Ground
6	I/O	N/A



1.25mm Pitch, PicoBlade Receptacle Crimp Housing, Single Row, Friction Lock, 6 Circuits, Natural

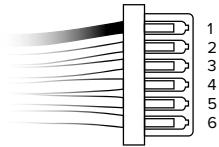
More information can be found at the following link: [https://www.molex.com/molex/products/part-detail/crimp\\_housings/0510210600](https://www.molex.com/molex/products/part-detail/crimp_housings/0510210600)





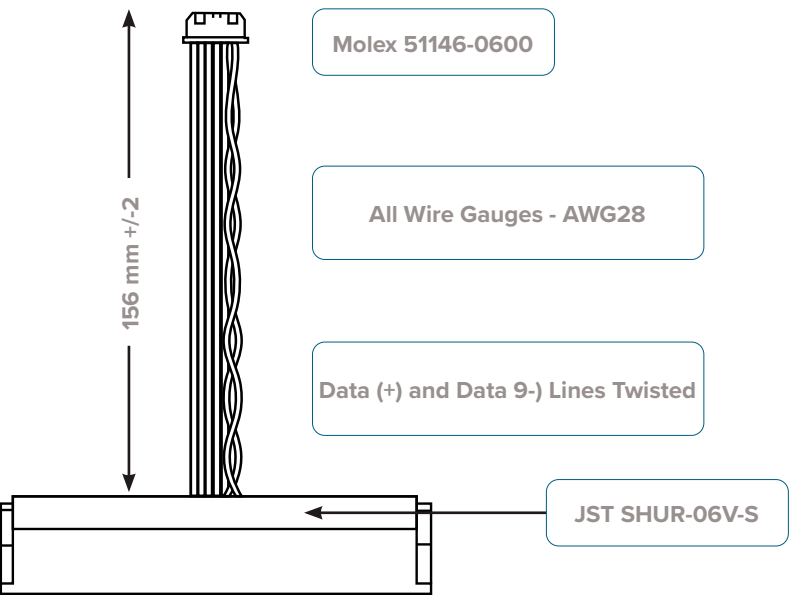
156mm Embedded Cable With Sherlock

PIN NUMBER	TYPE	DESCRIPTION
1	USB	Data (-)
2	USB	Data (+)
3	G	Ground
4	V_BUS	+5 VDC
5	G	Shield Ground
6	I/O	N/A



1.25mm Pitch, PicoBlade Receptacle Crimp Housing, Single Row, Friction Lock, 6 Circuits, Natural

More information can be found at the following link: [https://www.molex.com/molex/products/part-detail/crimp\\_housings/0510210600](https://www.molex.com/molex/products/part-detail/crimp_housings/0510210600)



Wire Specifications: Sumimoto Electronics Type UL3767 AWG28 (7/0.127)\*0.60

CONDUCTOR		INSULATION		MAX CONDUCTOR RESISTANCE (20°C)(Ω/KM)	
Size AWG	No./mm	NOM.DIA. (mm)	NOM. THICK. (mm)	NOM. DIA. (mm)	
28	7/0.127	0.38	0.11	0.6	224



## OS Support

SECTION	SPEC.
Windows	Windows 7 or later (32-bit and 64-bit)
Linux	Kernel 2.6 or later (32-bit, 64-bit, ARMv7-A, and ARMv8-A)
Android	Android 4.0 or later (32-bit, 64-bit, ARMv7-A, and ARMv8-A)

## System Requirements

SECTION	SPEC.
CPU	x86 and x64   2.0GHz or higher ARM   1.0 GHz or higher
Memory	512MB or higher

## General Specifications

SECTION	SPEC.
Sensor Type	Light-emitting Polymer Film
Camera	TFT (Thin Film Transistor)
Resolution	500PPI
Platen Size	1.65" x 1.53" / 42mm x 39mm
Sensing Area	1.6" x 1.5" / 40mm x 38mm
Grayscale	256 grayscale dynamic range
Image Size	800 x 750 pixels
Supported Image Formats	RAW, JPEG2000, BMP, PNG, WSQ
FBI Certification/Image Certifications	Mobile ID IQS FAP45, PIV, GSA FIPS 201, FBI Appendix F Certified
Interface	USB 2.0
API Interface	Capture single finger direct/rolls, Multi-device/multi-thread support
USB Certification Spec	USB-IF USB.org
USB Level	4.75V ~ 5.25V
FCC/CE Conformance	FCC Part15 (per ANSI C62.4:2003) Class A, CSA ICES-003 Class A, CE Emissions:EN55022:2006 Class A, CE Immunity EN 55024:1998/A1:2001/A2:2003, IEC61000-4-2
Speed	Min frame rate > 10FPS
Equipment Safety	IEC 62368-1
Product Weight	< 55 grams



## General Specifications continued...

SECTION	SPEC.
Power Source	USB Host
Air Discharge / Contact Discharge	In compliance with IEC 61000-4-2
Operating Temperature	-10°C ~ +55°C
Storage Temperature	-40°C ~ +80°C
Humidity	30 ~ 85 %RH < 40°C (Non-condensing)
Hazardous Material	RoHS Directive 2002/95/EC TSCA* Proposition 65* Canada Prohibition*
Ingress Protection / Water/Dust	IP65 Sealed bezel to scanning surface
Surface Durability	MIL/C-675c4.5010, MIL-STD-810F
Vibration Test	Per Mil-STD-810F (Method 514.5), Category 24, Flg.514.5C-17

\*Compliant on SH21100-000

## Electrical DC Characteristics (VDD = 5Vdc, Top = 25°C)

SECTION	MIN.	TYP.	MAX.	UNIT
Power Supply Voltage (VBUS)	4.75		5.25	V
Full Scanning	—	—	200	mA
USB only (Driver connection)			70	mA
D+ and D-	USB			





### Sherlock Connector Board (Additional purchase required)

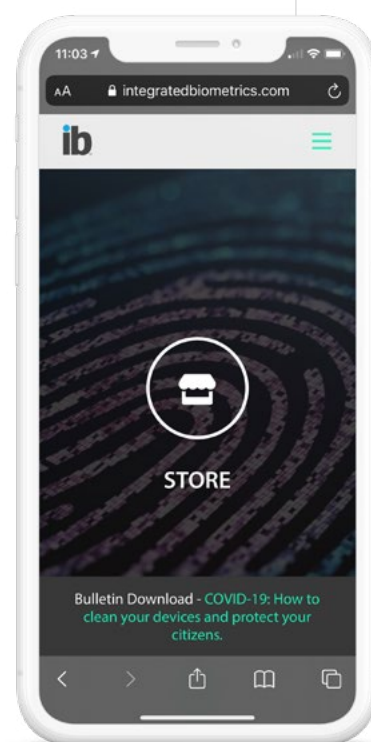
25mm, Molex 51146-0600  
(Sherlock Side)

156mm, Molex 51021-0660  
(Sherlock Side)

For other scanner



Molex 51021-0600  
(PC Side)



All accessories are available for purchase.

**Contact Sales to inquire.**



### North American Office

**For Package Delivery**

121 Broadcast Drive  
Spartanburg, SC 29303

**For Mailing & Correspondence**

PO Box 170938  
Spartanburg, SC 29301

**Phone: US & Canada**

(864) 990-3711  
Toll-free (888) 840-8034

**Sales & Pricing Inquiries**

- [sales@integratedbiometrics.com](mailto:sales@integratedbiometrics.com)

**Technical Support**

- [technical@integratedbiometrics.com](mailto:technical@integratedbiometrics.com)

### South Korean Office

**Physical & Mailing Address**

#910 SunTech City Building #1,  
Dunchon-daero Jungwon-gu,  
Seongnam-si Gyeonggi-do,  
13229, Republic of Korea

Phone

+82-31-777-2200

**Sales Administration**

- [info.kr@integratedbiometrics.com](mailto:info.kr@integratedbiometrics.com)



## CLEANING AND SANITIZATION

For proper cleaning and disinfection of IB products, visit:

<https://integratedbiometrics.com/cleaning>



## ABOUT INTEGRATED BIOMETRICS

Integrated Biometrics (IB) designs and manufactures FBI-certified fingerprint sensors for law enforcement, military operations, homeland security, national identity, election validation, social services, and a wide range of commercial applications. The company's patented Light Emitting Sensor (LES) Film results in lightweight scanners that outperform traditional prism-based devices in size, power consumption, speed, portability, spoof-detection and reliability. Identity management solution providers, government agencies, and corporations around the world rely on IB sensors for fast and accurate enrollment, verification and identification, even in remote locations and hostile environmental conditions.

Far more effective in mobile applications environments than silicon or other traditional prism-based sensors, Integrated Biometrics' FBI-certified fingerprint sensors work in any natural or artificial light, on dry or moist fingers and in dusty conditions. LES film resists abrasion and does not require the frequent cleaning cycles of other technologies.

[integratedbiometrics.com](http://integratedbiometrics.com)