Lumidigm®

The Lumidigm® J-Series
Multispectral Fingerprint Sensors

Eliminate the poor-quality fingerprint images that siphon away reliability, accuracy and user satisfaction in your identification applications.

Lumidigm's J-Series fingerprint sensors incorporate our patented multispectral imaging technology to look at and beneath the surface of the skin to image the fingerprint. Multiple wavelengths of light are coupled with unique polarization techniques to look at the internal fingerprint pattern as well the surface.

With every use, the J-Series sensor provides incredibly clear, clean and complete 500 dpi fingerprint images—in a fraction of a second. Consistent, high-quality images translate into accurate results by fingerprint matchers. J-Series sensors will enhance the throughput and accuracy of any application.

The J-Series easily images the 2–5% of the population that conventional fingerprint sensors cannot enroll. It eliminates security exceptions and system "workarounds", greatly reducing management hassles along with end-user frustration.

The J110 has the industry's best protection against spoof fingerprints attacks. Because the J110 compares surface and subsurface data, it can prevent all known spoof attacks. In addition, Lumidigm's adaptive multispectral image analysis stops spoofs and fakes by interrogating the dermal response, thereby ensuring liveness and finger authenticity.

All of this real world capability is packaged in a sensor able to withstand the real world elements. Its rugged design handles hot, dry, humid, and cold conditions as well as rain and even direct sunlight. The J-Series sensors consistently return superior images in any environment.
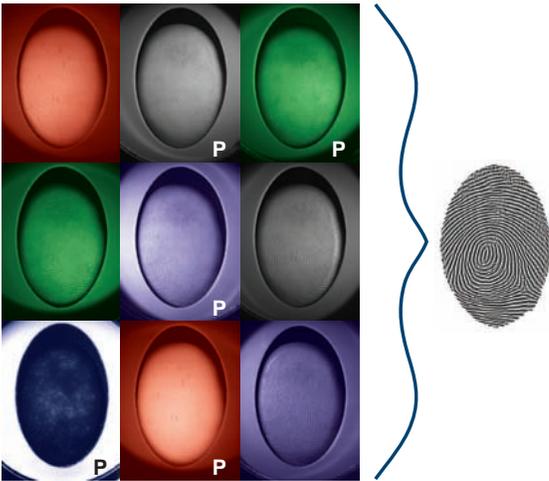
Benefits

✓ The industry's best fingerprint images

✓ Works in any environment

✓ Protects against fakes and spoof fingerprints

✓ Eliminates failure to enroll (FTE) and failure to acquire (FTA) headaches

✓ Enables high throughput

✓ Requires minimum maintenance and easy integration

✓ Yields high return on investment for integrators and end-users

Features

✓ State-of-the-art spoof prevention via adaptive multispectral image analysis (J110)

✓ Patented multispectral imaging technique looks at and beneath the skin surface, simultaneously

✓ Ruggedized design

✓ Expansive operating range

  • -20–70° C
  • Wet or dry
  • Direct sunlight (J100)

✓ 500 dpi

Multispectral Imaging

Lumidigm's J-Series fingerprint sensors are powered by multispectral imaging. This enables the capture of nine different fingerprint images in a fraction of a second. Each image uses a unique illumination and polarization. This allows the capture of data from both the surface and beneath the surface of the skin. The resulting images are combined using a patented process that yields fingerprints of unparalleled image quality.

Spoof Detection

Lumidigm makes fingerprinting safe from spoof attacks. By capturing detailed surface and deep tissue data from the fingertip, Lumidigm reliably detects fakes and spoof fingers. To date, Lumidigm has tested and detected over 20,000 spoof samples. Utilizing over 100 measured features, Lumidigm continually enhances its detection capability to eliminate future spoof threats. With the biometric industry's best spoof detection capability, Lumidigm is committed to providing the most secure sensors available.

Environmental

With sensors designed to work in direct sunlight, rain, heat, and extremely dry conditions, the J-Series provides the broadest operating range of any commercial fingerprint sensor. Lumidigm worked with a development partner for eighteen months to build a robust fingerprinting platform that works in extreme environmental conditions. The result is the rugged J-Series. Built with a stainless steel ergonomic, a cast aluminum body, all-weather communication and power connectors and cables, pressure and humidity relief valves, and an on-board heater, the J-Series sensors still weigh under four pounds.

The Lumidigm Advantage

	Wet	Dry	Dirty
Lumidigm J-Series Image			
Competition Image			No image

J-Series Fingerprint Sensor Specifications

Image
Resolution	500 dpi

Platen size — 1.125" x 0.8"

Environmental
Temp. (operating)	-20 to 70 C (-4 to 158 F)
Humidity (operating)	5–99% RH
ESD	15 KV

Power
Supply voltage/current	+24 VDC/1.5A (max)

Finger detection — Dedicated hardware

Image capture time
J100	<0.2 seconds
J110	<0.4 seconds

Camera
Format	1/3" 640(H) x 480(V) VGA(500 dpi)
Image transfer rate	32 FPS (max), 8 FPS via Ethernet
ADC	10-bit grayscale, saved as 8-bit

Interfaces — RS-232 or Ethernet 100mb)

Physical
Overall dimensions	5.25" (133 mm) diameter 4.75" (121 mm) height
Housing material	Cast aluminum
Weight	< 4 lbs (1.81 kg)

About Lumidigm

With commercial partners, venture funding, and government sponsors, Lumidigm provides identity management for civil identification, point-of-sale, physical and logical access, and portable electronic device applications. For more information, visit www.lumidigm.com or call +1 (505) 272-7084.

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