BIOMETRICS

Lumidigm® V-Series Fingerprint Sensors

The V-Series provides biometric authentication for over two billion banking transactions per year around the world.

INDUSTRY-LEADING BIOMETRIC AUTHENTICATION

- **Best Available Biometric Performance** — From wet to dry, dirty to bright, patented multispectral imaging technology is perfect for every-day deployment conditions.
- **Delivers Seamless User Experience** — Fast and intuitive, the V-Series provides reliable authentication for any user demographic.
- **Detects Fraudulent Verification Attempts** — Award-winning liveness detection rejects fakes and spoofs while ensuring access to authorized individuals.
- **Meets Application Requirements** — Superior biometric performance combined with excellent interoperability and easy integration makes the V-Series the first choice for demanding deployments.
- **Provides a Low Cost of Ownership** — Robust and field-proven, V-Series sensors require minimal maintenance, even in unattended and high-throughput applications.

Key Enhancements:

- Up to four times faster image capture (V302)
- Top-rated MINEX III certified algorithm
- FBI-certified WSQ compression
- New SDK tools

Use Cases:

- **Banking** — ATMs, teller stations, logical access
- **Healthcare** — E-prescribing (EPCS), medical dispensing, record access, benefit verification, patient tracking
- **Citizen ID** — Benefit distribution (pensions, healthcare, welfare), voter verification, national ID.

Lumidigm V-Series Sensors deliver an unmatched ability to acquire, excellent biometric interoperability, and best-in-class liveness detection in a robust device for a low total cost of ownership in a wide variety of fingerprint authentication applications.

The firmware supplied with embedded V-Series sensors (V302) now provides ***four times faster image capture***, a top-ranked MINEX III certified algorithm for better accuracy, and FBI-certified WSQ image compression for fast and accurate image transfers. Streaming V-Series sensors (V311) include the MINEX III algorithm and FBI-certified WSQ image compression features when running Lumidigm SDK 6.0 or higher on a USB host device.

The V-Series provides superior images for anyone, anytime, in any environment for superior biometric performance in the real world. Patented multispectral imaging technology simultaneously reads the surface and subsurface fingerprint to capture clear images every time — even when finger surface features are hard to distinguish due to age, dirt, finger pressure, and skin or environmental conditions.

With best-in-class liveness detection, the V-Series provides a quick and easy user experience while reducing the opportunity for fraud, ensuring that the individual is who they claim to be.

Designed to meet demanding identity verification applications seen around the world, from banking to healthcare to citizen ID, the V-Series conforms to biometric interoperability standards including ANSI and ISO fingerprint minutia template standards, a top-ranked MINEX III certified algorithm and FBI-certified WSQ finger image compression.

The configurable V-Series supports image, template and match score outputs in embedded or streaming operating modes.

Lumidigm® V-Series Sensor key features:

- Multispectral imaging with liveness detection
- Four times faster capture than earlier V30x versions
- MINEX III minutia algorithm supports ANSI/ISO standards
- IP65 water and dust protection for harsh environments

Available in two operating modes:

- Embedded sensors (V302) process biometric data on the device, including template extraction and matching, speeding time to market.
- Streaming sensors (V311) connect to a USB host to process biometric data using the Lumidigm SDK.

SPECIFICATIONS

	V302-40 (Embedded)	**V302-xx** (Embedded legacy)	**V311-00** (Streaming)
FINGERPRINT IMAGING SYSTEM			
Technology	Patented Lumidigm optical multispectral imaging		
Image resolution / bit depth	500 dpi / 8-bit, 256 grayscale		
Platen area	0.7" x 1.1" (18mm x 28mm) ellipse		
BIOMETRIC FUNCTION OUTPUTS			
Image output format	ANSI 381, ISO 19794-4, WSQ compression (FBI certified)	ANSI 381, WSQ compression	ANSI 381, ISO 19794-4, WSQ compression (FBI certified)
Template output format	1:1: ANSI 378, ISO 19794-2 1:N: ANSI 378+	ANSI 378	1:1: ANSI 378, ISO 19794-2 1:N: ANSI 378+ (SDK 6+); Proprietary (SDK 5)
Verify (1:1) template match score	ANSI 378 or ISO 19794-2	ANSI 378	ANSI 378 or ISO 19794-2 (SDK 6+)
Identify (1:N) score	Supported on USB host with SDK 6+	ANSI 378	ANSI 378+ (SDK 6+), ANSI 378 (SDK 5)
Latent and liveness detection	Yes. (Field-updatable algorithm)		
FINGERPRINT TEMPLATES			
Verify (1:1) template storage	Not supported on device	Up to 1,000	Limited by USB host memory
Identify (1:N) template storage	Not supported on device (can output 1:N template)	Up to 400 users (V302-30 only)	Up to 5,000 users (SDK 6+); Up to 1,000 users/group (SDK 5)
BIOMETRIC PROCESSING TIMES			
Finger touch to image capture	200 ms (typical)	800 ms (typical)	800 ms (typical)
Finger touch to image out	800 ms (typical)	1.3 sec (typical)	800 ms - 1 sec (typical)
Finger touch to 1:1 score/template	1.5 sec (typical)	2.0 sec (typical)	900 ms - 1.1 sec (typical)
Finger touch to 1:N score	Not supported on device	2.1 sec (typical, V302-30 only)	950 ms - 1.1 sec (typical)
Liveness detection (when enabled)	500 ms V30x-40 and V30x-30, 100 ms on prior versions (typical)		50 ms (typical)
ENVIRONMENTAL RANGE			
Ingress protection	IP65 dust and water protection		
Temperature (operating)	-10 to 60°C		
Humidity (operating)	0–100% RH condensing		
ESD immunity (operating)	IEC 61000-4-2 Level 4+/-15 kV Air		
INTERFACE			
Device Interface	USB 1.1 or 2.0 (480 Mbps)		USB 2.0 (480 Mbps)
Memory, platform requirement	n/a		64 MB RAM, Intel 32b/64b platform
Operating systems supported	Windows 10/8/7 (32b/64b), Windows XP, Linux, Android (V302)		
Encryption	n/a		Encrypted video for playback protection
FORM FACTOR			
Overall dimensions	3.25"W x 4.00"D x 2.35"H (83 mm x 102 mm x 60 mm)		
Housing	Painted magnesium alloy, IP65 rating		
POWER SUPPLY REQUIREMENTS			
Supply current — operational	+5 VDC 460 mA (peak)		+5 VDC 300 mA (peak)
Supply current — idle	+5 VDC 200 mA (typical)		+5 VDC 100 mA (typical)
STANDARDS COMPLIANCE			
Interoperability	ANSI 378, ISO 19794-2:2011, ANSI 381, ISO 19794-4:2011, MINEX III, NFIQ	ANSI 378, ISO 19794-2:2005, ANSI 381, ISO 19794-4:2005, MINEX 2004, NFIQ	ANSI 378, ISO 19794-2:2011, ANSI 381, ISO 19794-4:2011, MINEX III, NFIQ (SDK 6+)
Device certifications	CE, FCC Part 15 Class B, EN 60950, IEC 62471, RoHS, DEA EPCS, support for thin clients		CE, FCC Part 15 Class B, EN 60950, IEC 62471, RoHS, DEA EPCS, WHQL

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