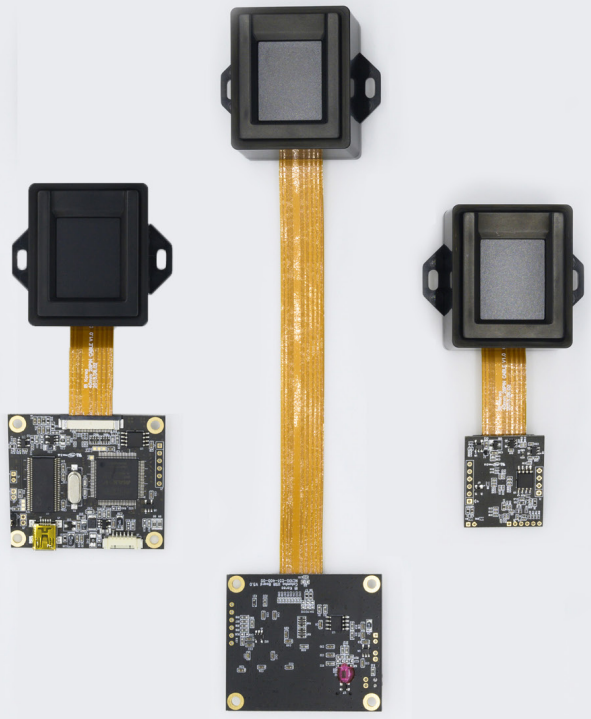
INTEGRATED
BIOMETRICS

COLUMBO OEM

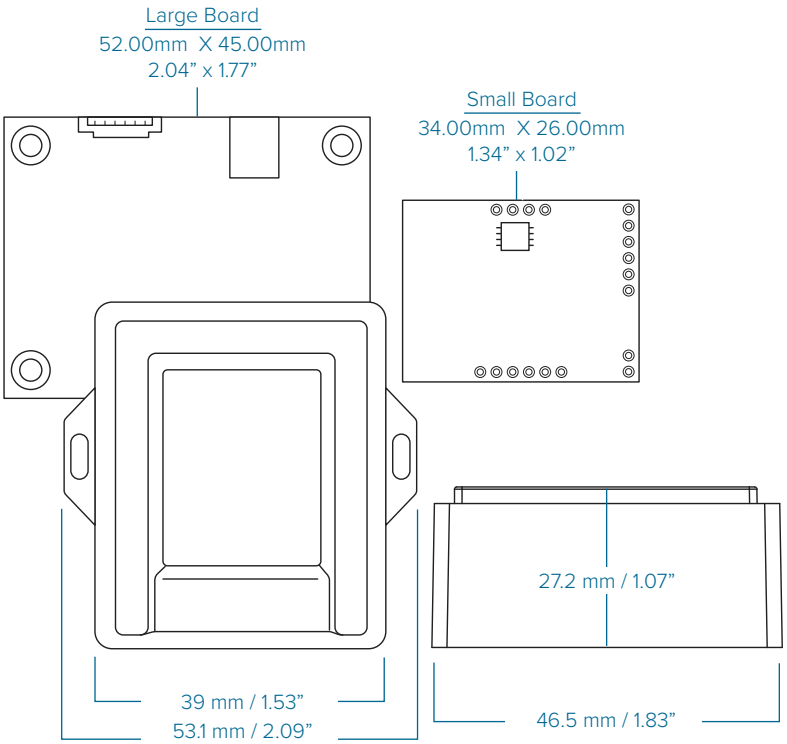
Compact, Durable FBI Certified
PIV 071006 FAP 30 Single-Print Scanner

- Automatic Spoof Rejection
- Software-Based Autodetect

256 AES ENCRYPTION



COLUMBO OEM



COLUMBO OEM SCANNERS

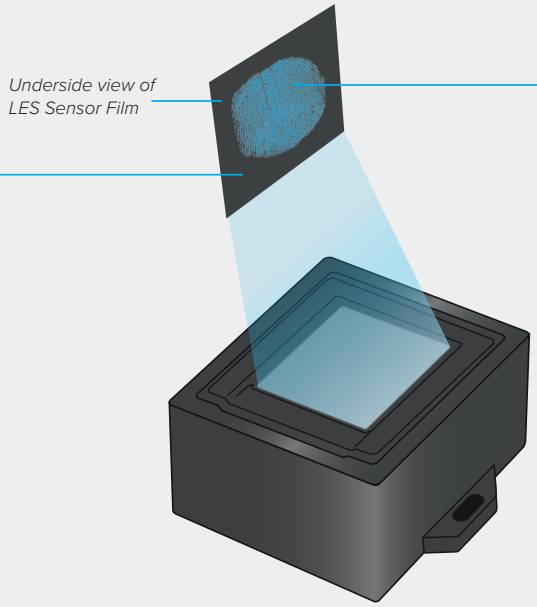
Columbo sets the standard for fast, compact, FBI PIV single-print sensors. This FAP 30 scanner delivers exceptional quality and durability along with greater accuracy than FAP 10 or FAP 20 units, yet does so in a thin, lightweight form factor.

Columbo sensors, whether standalone or embedded, require very little power to operate. Their low-maintenance design accurately scans old or damaged fingers and delivers reliable results even under extreme environmental conditions. Built for high-volume environments, Columbo also features a comprehensive software development kit (SDK) to streamline application integration on a wide variety of common platforms including Windows, Android, and Linux.

LES Light Emitting Sensor Technology

Integrated Biometrics’ scanners use our patented light-emitting sensor (LES) technology to deliver fixed and mobile FBI certified fingerprint imaging in an exceptionally durable, lightweight device.

LES film contains luminescent phosphor microparticles that respond to human fingers when they touch the film



A CMOS camera captures the glow from the phosphor particles, producing a high-resolution fingerprint image

LES Phosphor Particle	•	13-32 µm
Human Hair	●	50-70 µm
Fine Beach Sand	●	90 µm

FEATURES & BENEFITS

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
- Rejects common spoofing attacks
- Emits no bright lights during scans
- Meets or exceeds US military durability specifications

Smarter

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

Hardware-based Automatic Spoof Rejection

IB's LES film recognizes real versus manufactured fingerprints. LES-based scanners automatically reject fingerprints based on silicone, glue, rubber, and other common spoofing materials.

Two options for PKCS (Public Key Cryptology Standard)

PKCS – Elliptical Curve NIST P-521 or RSA 2048; AES-256, TRNG - NIST SP-800-90 A, B, C; Optional SHA-256, HMAC, MAC

Software-Based Autodetect

IB's LES technology automatically detects the finger capture that generates the highest quality image without user intervention. Application developers enable this feature through the IB's software development kit (SDK).

AVAILABLE OEM VERSIONS

Embeddable - Large Board
15cm FPC / Molex
Part No. CL11070-000

Embeddable - Large Board
4cm FPC / Molex
Part No. CL11020-000

Embeddable - Small Board
4cm FPC / Solder Pins
Part No. CM11020-000

Embedded Columbo Evaluation Cable (not pictured) CLCA1MA-150 58" Molex to Type A

Images & Capture

Sensor Type
Electroluminescent - Light-emitting sensor (LES)
CMOS CIS camera

Resolution
500 PPI

Gray Scale
256 grayscale dynamic range (8-bit grayscale)

Image Size
400 W x 500 H pixels

Supported Image Formats
RAW, JPEG2000, BMP, PNG, WSQ

FBI Certification / Image Certifications
PIV 071006, FIPS 201, FAP 30 /
Certified to Mobile ID Requirements

Speed
Min frame rate > 10 FPS

API Interface
Single-finger image,
Multi-device / multi-thread support

Encryption (Single board version only)
X.509 Certificate with ECDSA; PKCS – Elliptical Curve
NIST P-521 or RSA 2048; AES-256, TRNG -
NIST SP-800-90 A, B, C; Optional SHA-256, HMAC, MAC

Weight & Dimensions

Product Weight
Less than 70g (without cable)

Platen Size
20.32mm x 25.4mm / 0.8” x 1.0”

Sensing Area
20.32mm x 25.4mm / 0.8” x 1.0”

Scanner Assembly Dimensions
OEM 46.5mm x 39mm x 27.5mm / 1.83” x 1.53” x 1.08”

Power & Connectors

Interface
Varies with version

Power Source
Varies with version

USB Power Requirement / Consumption
4.4 to 5.25v, full scanning <150mA, standby <50 mA

Conformance & Certifications

USB Certification
USB-IF USB.ORG

FCC/CE Conformance
FCC Part 15 (per ANSI C62.4:2003) Class A; CSA ICES-003 Class A; CE Emissions: EN 55022:2006 Class A;
CE Immunity: EN 55024:1998/A1:2001/A2:2003, IEC 61000-4-2

Air Discharge / Contact Discharge
In compliance with IEC 61000-4-2

Equipment Safety
IEC 60950-1

Hazardous Material RoHS Certified
RoHS directive 2002/95/EC

Vibration Test
Per Mil-STD-810F (Method 514.5), Category 24, Fig. 514.5C-17

Temperatures & Humidity

Operating Temperature
-10°C ~ +55°C / 14°F ~ 131°F

Humidity
10~90% RH < 104°F / 40°C (non-condensing)

Storage Temperature
-30°C ~ +80°C / -22°F ~ 176°F

Surfaces & Systems

Ingress Protection / Water / Dust
IP65 sealed bezel to scanning surface

Surface Durability
MIL-C-675c 4.5010, MIL-STD-810F

Surface Resistance / Allowable Cleaning Chemicals
Visit https://integratedbiometrics.com/cleaning/

Vibration Test
per MIL-STD-810F (Method 514.5), Category 24, Fig. 514.5C-17

OS Support
Windows Desktop 32/64 bit (7, 8, 10), Windows Server, Linux, Android 4.0+, Java

Warranty

1 year hardware warranty
(extended warranty available for purchase)