

EM-3011

Small-Size Capacitive Fingerprint Module



Compact, lightweight, and easy to integrate, the Aratek EM-3011 is a small-size capacitive fingerprint sensor designed for OEMs and system integrators. It offers a practical way to add reliable fingerprint recognition across a wide range of devices. Its capacitive sensing delivers reliable capture across varied finger conditions, while international fingerprint standards support, flexible interfaces, and comprehensive SDKs help simplify integration. From POS and access control terminals to PC security applications, and more, the EM-3011 balances reliable performance, low power consumption, and integration flexibility.



Compact & Lightweight

Small-size and low weight make it easy to integrate without adding unnecessary bulk to the host device.



International Biometric Standards

Supports ISO/IEC 19794-2/-4, ANSI INCITS 378/381, and WSQ for interoperable fingerprint data exchange.



Reliable Finger Capture

Ensures consistent and accurate fingerprint capture—even from dry, wet, aged, or dirty fingers.



Live Finger Detection (LFD)

Helps detect and reject fake fingers for more secure fingerprint recognition.



Flexible Interfaces

Supports UART, SPI, and USB interfaces to accommodate different device architectures.



Cost-Effective

Delivers reliable fingerprint recognition at a competitive cost for volume integration.



Comprehensive SDK Support

A complete fingerprint SDK simplifies application development and biometric integration.



Multi-Platform Support

Supports Windows, Android, Linux, and embedded systems.

EM-3011 Fingerprint Module

Physical Parameter

Dimension (W*L*H)	20*33*3.5 mm
Weight	4.4 g

Performance Parameter

Sensor Type	Capacitive
Platen Size (W*L)	11.4*15.3 mm
Sensing Area (W*L)	10.4*14.4 mm
Image Size	256*288 pixels
Image Resolution	508 dpi
Gray Level	8 bits, 256 level

Communication Mode

Communication Interface	UART (TTL 115200bps default) USB 1.1/ 2.0 SPI
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Operation Environment

Work Voltage	3.3V~5V
Work Current	<50 mA
Operating Temperature	0°C~55°C
Operating Humidity	20~90%R.H
ESD	Contact: ±8KV, Air: ±15KV

Supported OS

Windows, Android, Linux, Embedded systems



Applications

- PC/Network Security
- Hospitality
- Finance and Banking
- Telecommunication
- Healthcare
- Law Enforcement

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