Multifactor authentication and 1:N identification

Large storage capacity: up to 50,000 users

Easy integration into existing systems

Power-Over-Ethernet (POE)

MIFARE® and DESFire® contactless card reader/encoder (optional)

Optional wireless LAN communication

FBI PIV IQS certified sensor
The MorphoAccess® 500+ Series (MA 500+) are versatile biometric terminals intended for access control and time & attendance. They use the Morpho proprietary algorithms, which have acquired worldwide reputation for their accuracy and level of performance. Their rapidity and networking capabilities enable them to address all security applications, from one-door control to the protection of buildings, warehouses, vast infrastructures and government agencies.

MA 500+ offers value-added retailers and access control manufacturers a reliable, powerful and scalable solution.

The know-how of the world N°1

- **Wide area, accurate fingerprint sensor**, for high definition fingerprint image acquisition
- The MA 500+ terminals offer the **highest level of security** on the market
- **Fast**: 0.7 sec in authentication mode and 0.9 sec in 1:1000 identification mode (including detection, coding and matching)
- **Accurate**: depending on the required level of security, the false acceptance rate (FAR) can be configured down to 10⁻⁸
  - **Powerful capabilities in a small package**
  - The **highest database capacity** on the market: up to 50,000 users with MA-Xtended license
  - **Multifactor authentication**: with MIFARE® and DESFire® contactless card reader, fingerprint and PIN code
  - Operates in standalone or networked modes. For small populations, it is possible to capture fingerprints and encode badges on the terminal itself.
  - **Equipped with numerous interfaces for easy integration into existing systems**
  - **Trusted and versatile**
  - **Option: false finger detection** with optronic sensor

**Multipurpose software**

- **MorphoAccess® Enrollment & Management System (MEMS):**
  - Complete application for centralized management (enrollment, terminals management, verification station)
- **Morpho Integrator’s Kit (MIK):**
  - Enables integrators to interface rapidly their own proprietary Windows® based applications to the MA 500+ Series
- **Software Development Kit (SDK):**
  - Can be proposed to VARs who want to develop and embed their own application in the MorphoAccess® terminal

### Technical specifications

**MorphoAccess® unit**
- Integrated 500 dpi MorphoSmart™ optical sensor 23x23mm
- Backlit LCD graphical display 128x64 pixels
- Backlit keypad with 12 Keys
- 4 programmable function keys
- Buzzer and bi-color LED
- Dual-core ARM 9 microprocessors with multi thread processing capability
- Dry contact relay

**Interfaces**
- Communication port for identifier management: customizable Wiegand IN & OUT, RS 422, RS 485, Clock & Data IN & OUT, Ethernet (10/100 Base T), Wi-Fi (optional)
- USB port

**Certifications**
- FBI PIV IQS*
- Complies with CE, FCC and RoHS standards

**Database**
- From 3,000 to 50,000 users, two fingerprint templates each, distributed in five databases of 10,000 users each (50,000 users capacity with MA-Xtended license)

**Security**
- SSL on TCP/IP network
- Secure screws, antitheft and anti-tamper switches

**Operating conditions**: -10° to +50° C, 10% < RH < 80%

**Power supply**
- 9V to 16V (350mA typical @ 12V) or Power Over Ethernet (POE)

**Physical characteristics**
- Dimensions: 155x155x74mm
- Weight: 0.8kg

<table>
<thead>
<tr>
<th>Function</th>
<th>MA 500+</th>
<th>MA 520+ D</th>
<th>MA 521+ D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contactless reader</td>
<td>Identification</td>
<td>MIFARE® 1K &amp; 4K, DESFire® 2K, 4K, 8K</td>
<td>MIFARE® 1K &amp; 4K, DESFire® 2K, 4K, 8K</td>
</tr>
<tr>
<td>Database size</td>
<td>3K or 50K with MA-Xtended license</td>
<td>38 or 50K with MA-Xtended license</td>
<td>38 or 50K with MA-Xtended license</td>
</tr>
<tr>
<td>Multi-factor authentication</td>
<td>380, PIN + 80</td>
<td>380, Card + PIN</td>
<td>380, Card + PIN</td>
</tr>
</tbody>
</table>

* PIV IQS: Personal Identity Verification - Image Quality Specifications  
** BIOPIN: alternate password solution instead of fingerprint