



# Hirsch Mx-1-ME Controller

## High-Security Access Control



Manage a single fully supervised door at the edge with a protective metal enclosure, power supply and backup battery.

With firmware, functionality, and communication protocols compatible to the Hirsch DIGI\*TRAC and Mx Controllers, the Mx-1-ME seamlessly integrates with existing systems, retaining credentials, readers, and user databases.

Designed for use with uTrust TS readers and secure keypads, Mx-1-ME adds network edge capability to the Hirsch enterprise security management ecosystem.

Hirsch Mx-1-ME includes extensive onboard

firmware for basic access control logic to sophisticated functions like the two-person rule, occupancy counting, individual user tagging, door interlocking, and anti-passback. Full functionality is maintained even when Velocity is not available, for example, during a network outage.

Hirsch Mx-1-ME supports a wide variety of readers and credentials, and expansion ports enable the option to add the REB8, AEB8, or up to 8 wireless locks.

### Features and Benefits

- Fully supervised one-door model with integrated, secure network communication
- Scalable from a single controller to networked multi-site installations
- Connectivity to OSDP (RS-485) or Wiegand readers
- Auxiliary input and relay, high-security supervised alarm inputs, and configurable relay outputs (door or general purpose)
- Wet or dry relay hardware setting
- Multi-microprocessor architecture with dedicated crypto-processor
- Firmware upgrade via Velocity
- Integrated network communication with onboard 10/100/1000 Ethernet IP port
- Integrated hardware encryption with enabled devices
- Special circuitry to protect reader/relay terminals from excessive current draws
- Optional support for wireless lock integration with the MX-1-W license

The Hirsch Mx-1-ME (Metal Enclosure) Controller features a modular design and scalable architecture, enabling an installation to start small and expand as needed.

### **Intelligent Distributed Architecture**

Access may be restricted based on Time of Day, Day of Week, and Door. Access may be granted when the user presents the correct code, card, or both. The user may be granted temporary access based on Use Count Limits, Temporary Day Limits, and Absentee Rule Limits, with Auto-Disable or Auto-Delete on Expiration of Temporary Users. Additional functions include Unlock/Relock, Alarm Mask/Unmask, and Lock Down/Lock Down Release. The associated door may be monitored for Door Forced Open and Door Open Too Long, while providing Auto Relock Control.

### **High-Security Alarm Monitoring**

Hirsch uses very stable digitally processed analog inputs with line supervision for high-security alarm monitoring. A line supervision module is located at the door contact, alarm sensor, request to exit (RQE), or similar device to establish this supervision. Conditions reported include Alarm, Secure, RQE, Mask, Tamper Alarm, Tamper Secure, Short, Open, Noisy, and Input-Out-of-Spec.

### **Reliability by Design**

Mx-1-ME Controllers are designed for high availability as a complete system for global markets. A standby battery for memory is standard, while a standby UPS or battery for operation is optional. The controller has a 30 VDC with a maximum of 5A external power supply. Power connectors are fused. Readers and relays are protected by built-in hardware circuits which will cut off power when they detect over-power consumption, protecting the board against unintended damage and this event will also be reported back to Velocity so that user can take corrective action.

### **Features and Benefits**

- Supports a wide variety of readers and credentials
- The availability of expansion ports on Mx-1-ME, enables the option to add the REB8, AEB8

The Mx-1-ME has a built-in Secure Network Interface Board 3 (SNIB3) with enhanced memory storage at 500K credentials, security, TLS, 128-bit, or 256-bit encryption options, and network functionality and capabilities. The SNIB3 is a leading edge communication device that provides IPv6, Gigabit Ethernet, and FIPS 140-2 certified cryptography, including AES 256 bit encryption. These features are foundational for the critical U.S. federal government security standard known as FICAM and enabling OSDP readers and optional OSDP encrypted communications.

## Specifications

Communications	
<b>Serial Interface Ports</b>	Controller to controller: <ul style="list-style-type: none"> <li>· RS-485 multi-drop protocol (X*NET2, X*NET3)</li> <li>· Up to 4,000 ft (1,200 m) with 22 gauge, 2 pair, stranded, twisted, and shielded</li> </ul>
<b>OSDP Protocol</b>	Controller to reader: <ul style="list-style-type: none"> <li>· Buzzer, LED, and optional secure OSDP</li> <li>· Single port for entry and exit readers</li> <li>· Up to 4,000 ft (1,200 m) with 18 gauge, 2 pair, stranded, twisted, and shielded</li> </ul>
<b>Wiegand Protocol</b>	Onboard Wiegand: <ul style="list-style-type: none"> <li>· Industry standard Wiegand</li> <li>· Reader ports: 2 (1 entry port and 1 exit port)</li> <li>· Maximum wiring run: 500 ft (150 m) with 18 gauge, 2 pair, stranded, twisted, overall shield</li> </ul>
Firmware	
<b>Command and Control Module (CCMx)</b>	<ul style="list-style-type: none"> <li>· Flash upgradeable</li> <li>· Time zones: 150</li> <li>· Door groups: 128</li> <li>· Control zones: 256</li> <li>· Holiday schedules: 4 (366 days x 2 years)</li> <li>· Daylight savings time adjustment</li> </ul>
<b>SNIB3</b>	<ul style="list-style-type: none"> <li>· Flash upgradeable with signed and encrypted firmware</li> <li>· FIPS AES 256 encryption</li> <li>· TLS 1.2 Encryption (Requires Velocity 3.7 SP2 or later)</li> <li>· 10/100/1000 Ethernet (TCP/IPv4 or v6)</li> </ul>
Memory	
<b>Buffers</b>	Standard: 1,500 events and 1,500 alarms
<b>Credentials</b>	Up to 500,000
<b>Memory Protection Battery</b>	10 days for code, setups, clock, and buffers
Physical	
<b>Security</b>	Cover opening tamper switch
<b>Enclosure</b>	NEMA type with conduit knockouts and removable door
<b>Dimensions</b>	14 x 14 x 5.5 in
<b>Weight</b>	24 lbs (11 kg) w/ battery
<b>Expansion Boards (Max 5)</b>	6 H x 4.25 W x .75 D in
<b>Operating Temperature Range</b>	32° to 140°F (0° to 60°C)
<b>Relative Humidity</b>	0 to 90%, non-condensing

## Specifications

Electrical	
<b>OSDP Keypad/Reader Power (1 Terminal)</b>	750mA at 12V (up to 2 readers), fused and resettable
<b>Wiegand Keypad/Reader (2 Terminals)</b>	500mA per port @12V, fused and resettable. Note: When the door and AUX relays are configured at 12V/500mA, the max current draw for the Wiegand reader ports combined is limited to 750mA
<b>Power Supply</b>	AC INPUT 110 -240V, 50-60 Hz, fused. Built-in PSU module generates 5A @ 30V DC for the controller and connected devices
<b>Standby Batteries</b>	2 X 12V, 1.3 AH VRLA connected in series included as standard for 24V back up.
<b>Door Relay</b>	Dry 2A at 30V, Form C Wet 250mA @ 24V / 500mA @ 12V
<b>Auxiliary Relay</b>	Dry 2A at 30V, Form C Wet 250mA @ 24V / 500mA @ 12V
<b>Listings and Approvals</b>	UL 294: Access Control Systems Units UL 1076: Proprietary Burglar Alarm Systems

## Controller Part Numbers

Part Number	Description
<b>MX-1-ME</b>	Mx-1 Controller, 1 door, metal enclosure, 1 auxiliary relay, 2 Alarm Inputs (requires Line Modules), switching power supply (110/230), batt (1.3Ah), tamper switch, integrated SNIB3 and RREB (one port, 2 readers).
<b>MX-1-W</b>	Velocity security management application software license. For Mx-1 only, adds 8 wireless locks, counts against module license. First year SSA (Software Support Agreement) required, not included.
<b>SSA-MX-1-W</b>	Velocity Mx-1, 8 wireless locks Software Support Agreement - 1 Year.*

\*One Month, 3 Year and 5 Year options available.

## Intrusion Detection Kits

The Intrusion Detection Kit provides a Hirsch controller with AEB8's for inputs to monitor intrusion points. Hirsch Controllers are UL 1076 compliant.

Part Number	Description
<b>Mx-1-ME-IDS-8-KIT</b>	Mx-1 Controller, 1 x AEB8 for 8 IDS inputs, metal enclosure
<b>Mx-1-ME-IDS-16-KIT</b>	Mx-1 Controller, 2 x AEB8 for 16 IDS inputs, metal enclosure
<b>Mx-1-ME-IDS-24-KIT</b>	Mx-1 Controller, 3 x AEB8 for 24 IDS inputs, metal enclosure
<b>Mx-1-ME-IDS-32-KIT</b>	Mx-1 Controller, 4 x AEB8 for 32 IDS inputs, metal enclosure

## Expansion Board Part Numbers

Part Number	Description
<b>AEB8</b>	Adds eight (8) additional high-security alarm inputs. Velocity supports up to four (4) AEB8's. Each input requires an appropriate Line Module. Features removable connectors.
<b>REB8</b>	Adds additional eight (8) Amp Form C relays. Up to five (5) REB8's per controller. Status LEDs and removable connectors