



## Hirsch Rack-mount Mx Controller

### High-Security Access Control

- Fully supervised 2, 4, and 8-door models
- Integrated network communication
- Designed for use with Hirsch Velocity Software security management system
- Scalable from a single controller to networked, multi-site installations
- Connectivity with up to 16 readers over Scramble\*Net, Wiegand, or OSDP
- 12v, 24v, or dual voltage power supply for 8 locks
- Network monitoring of power supply and battery operations
- Multi-microprocessor architecture
- Firmware upgrade via Velocity

Identiv's Hirsch Rack-mount Mx Controller is available in 2, 4, and 8 door models, with each door fully supervised, and power supplied to readers, locks, and peripherals. It is a 150W integrated 2U rack-mount power system that incorporates system power, lock power, battery back-up and various combinations of Identiv controllers. The 2U enclosures provide mounting for one (1) MX and (1) Expansion Card (AEB8, REB8, MEB/CB128, SNIB3) and multiple LifeSafety Power FlexPower® devices in an access control system capable of controlling eight doors and 16 readers. Available options include single (24V DC) or dual voltage operation (12 and 24 VDC), power distribution and control, individual output protection by either fuses or class 2 power limiting, buffered lock control, and remote reporting and test. Each output is protected against electrical surges caused by lightning or transients on the external wiring (SurgeShield™) and each control output is individually selectable for available DC voltages, and either failsafe or failsecure operation with fire alarm interface. Network reporting capabilities include operational fault status; power supply output; battery charging voltage; battery charging current; and fire alarm input status. In addition to automated and scheduled status reports, diagnostic servicing and battery load tests can be performed remotely, saving or reducing the cost of on-site servicing. With the Mx Controller at its core, the Identiv system provides a high-integrity, enterprise-class access control and security management solution.

#### Mx Modular Controller Features

- Controls 2, 4, or 8 fully supervised doors with entry and optional exit keypads/readers and is field upgradeable
- Scalable from single controller to networked multi-site installations
- Multi-microprocessor architecture with dedicated Crypto-processor
- Integrated network communication with onboard Ethernet IP port
- Dedicated alarm relay outputs
- Integrated hardware encryption with enabled devices
- High security supervised alarm inputs
- Configurable relay outputs (door or general purpose in Velocity)
- Bay for one expansion boards:
  - Memory (up to 132,000 users)
  - Alarms expansion
  - Relays expansion
  - SNIB3 Communication Board
- MATCH Protocol:
  - ScramblePads and MATCH2 interfaces
  - For extended cable runs
  - For entry/exit reader setup
- Wiegand entry reader connectivity for each door
- Wiegand setup via Velocity
- Multi-drop global I/O using RS485
- Firmware can be updated through Velocity
- Supports a wide variety of readers and credentials

As an access control system, the Hirsch Mx Controller includes extensive onboard firmware for control sequences as basic as “who goes where when” to sophisticated functions like 2-person rule, occupancy counting, individual user tagging, door interlocking, and anti-passback. Full functionality is maintained even when the Velocity Security Management System is not available, for example during a network outage.

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.

### LifeSafety Power Features

- Eight door integrated access system with lock and system power
- MX controller or MX plus expansion board configuration options
- Rack drawer slide assembly simplifies controller wiring and maintenance
- Comprehensive wire management with tie down points and articulating bracket
- 120 or 230V AC user selectable input supports data center electrical systems
- Network Monitoring
  - Network models enable remote servicing and reporting
- Configuration Options
  - 24VDC single or 24V, 12VDC dual voltage options cover all access functions
  - Power distribution for either direct (D8), relay buffered (C8) lock control or (F8) FAI control
  - Individual output selection for failsafe, failsecure, lock voltage and fire alarm interface
- High capacity battery charge capability
- Automotive fuses for ease of service and replaceability
- Available companion battery housing for rack-mount use (part number: RBE)
- Fire Alarm Interface
  - Latching or Non-latching | Remote reset capability
  - Normally Open, Normally Closed
  - Voltage or Polarity Reversal Activation
- Comprehensive fault detection and reporting
  - May be connected to Identiv controller or used standalone
  - Form C contact transfer for AC Loss or brownout
  - Form C contact transfer for abnormal system operation
- Lifetime Warranty on rack, power supply and power distribution module.
- Warranty on Hirsch Mx Controller is two years

### High Security Input Monitoring

Identiv 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.

### Relay Control System

Relay outputs on Hirsch Mx Controllers can be used for electric door locks and strikes, arming/disarming security systems, alarm annunciation, elevator floor control, HVAC control, lighting control, storage locker control, and many other equipment control applications. These relays may be activated by codes (via the ScramblePad family), cards (via the reader), time zones, alarms, or logic sequences linked to other relays. Mx Controllers are also ideal for after-hours tenant override systems. A history of who issued the override command is available for tenant billing or audit trails. The same reader/keypad used for access control can be used for tenant override and remote operator command functions.

### Reliability by Design

Mx Controllers are designed for “high availability” as a complete system for global markets. Standby batteries for both memory and system operation are standard. The controller ships with an internal switching power supply. All door relays are socketed. All keypad/reader terminals and power circuits are fused (onboard resettable).

PARAMETER	HIRSCH MX CONTROLLER
<b>Communications</b>	
Serial Interface Ports	Controller to controller: <ul style="list-style-type: none"> <li>• RS-485 multi-drop protocol (X*NET2)</li> <li>• Optically isolated port</li> <li>• Up to 4,000 ft (1,200 m) with 22 gauge, 2 pair, stranded, twisted, and shielded</li> </ul> Controller to server: <ul style="list-style-type: none"> <li>• 10/100 Ethernet (TCP/IP)</li> <li>• Encrypted communication</li> </ul>
MATCH Protocol	24V DC nominal
Reader Support	ScramblePad/MATCH2: <ul style="list-style-type: none"> <li>• Proprietary MATCH protocol</li> <li>• Keypad/reader ports: 8 with 16 device addresses (8 entry and 8 exit)</li> <li>• Maximum wiring run: 750 ft (230 m) with 22 gauge or 1,800 ft (550 m) with 18 gauge, 2 pair, stranded, twisted, overall shield</li> </ul> Onboard MATCH: <ul style="list-style-type: none"> <li>• Industry standard Wiegand</li> <li>• Keypad/reader port: 8 using Mx device address 1 - 8</li> <li>• Maximum wiring run: 500 ft (150 m) with 18 gauge, 2 pair, stranded, twisted, overall shield</li> </ul>
<b>Firmware</b>	
Command and Control Module (CCMx)	<ul style="list-style-type: none"> <li>• Removable and upgradeable</li> <li>• CCM updates all microprocessors (including onboard MATCH)</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>Memory</b>	
Buffers	<ul style="list-style-type: none"> <li>• Standard: 1,500 events and 1,500 alarms</li> <li>• MEB/CB128 (reduces users by 20%) or MEB/BE: 20,000 events and 2,000 alarms</li> <li>• If buffer is full, oldest information is discarded first</li> </ul>
Users	<ul style="list-style-type: none"> <li>• Standard: 4,000</li> <li>• MEB/CB128: 132,000</li> </ul>
Memory Protection Battery	30 days for code, setups, clock, and buffers
<b>Physical</b>	
Dimensions	19.00"W x 3.50"H x 20.50"D
Weight	27 lbs
Expansion Boards	6 x 4.25 x 0.75 in (152 x 108 x 19 mm) and 1.0 lb (0.45 kg)
Operating Temperature Range	32° to 140°F (0° to 60°C)
Relative Humidity	0 to 90%, non-condensing
<b>Electrical</b>	
Keypad/Reader Power (8 Terminals)	<ul style="list-style-type: none"> <li>• 1.0 Amp at 24VDC each, fused and resettable</li> <li>• 2.9 Amp at 24VDC each</li> <li>• Powers MATCH2</li> </ul>
Wiegand Keypad/Reader (8 Terminals)	<ul style="list-style-type: none"> <li>• 500 mA at 12VDC each, fused and resettable</li> <li>• 2.0 Amp at 12Vdc total</li> <li>• Powers standard PACS readers</li> </ul>
Door Relays	5 Amp, form C
Alarm Relays	2 Amp, form C

PARAMETER   HIRSCH MX CONTROLLER CONTINUED	
Listings and Approvals	<ul style="list-style-type: none"> <li>UL 294: Access Control Systems Units</li> <li>UL 1076: Proprietary Burglar Alarm Systems</li> </ul>
<b>LifeSafety Power Specifications</b>	
Input Power	<ul style="list-style-type: none"> <li>Input 120/230 VAC 50/60 Hz   170 Watts</li> <li>Thermal overload protection / Short circuit protection</li> </ul>
Output Power	<ul style="list-style-type: none"> <li>150 Watts: 24VDC @ 6 Amps</li> <li>150 Watts: 24VDC @ 4 Amps and 12VDC @ 4 Amps</li> </ul>
Power Distribution	<ul style="list-style-type: none"> <li>D8/D8P</li> <li>Eight auxiliary outputs: D8 fused at 3A/ea, D8P Class II Power limited at 2.5A/ea</li> <li>C8/C8P</li> <li>Eight relay control outputs: C8 fused at 3A/ea, C8P Class II Power limited at 2.5A/ea</li> <li>F8/F8P</li> <li>Eight FAI control outputs: F8 fused at 3A/ea, F8P Class II Power limited at 2.5A/ea</li> <li>Individually selectable outputs on dual voltage systems</li> </ul>
Power Supervision	<ul style="list-style-type: none"> <li>AC input, DC1, and DC2 output</li> <li>Low battery and battery presence supervision (form C contacts)</li> <li>AC fail supervision (form C contacts)</li> <li>System Fault, AC Fault, Ground Fault, Reverse Battery</li> </ul>
External Indications	AC on master on/off switch
Battery Charging	<ul style="list-style-type: none"> <li>Maximum charge current 2.0 amp   Maximum battery capacity 80Ah</li> <li>Independent built-in charger for sealed lead acid or gel type batteries</li> <li>Microprocessor dual rate charging 24V battery set</li> <li>Automatic switchover to standby battery when AC fails</li> <li>Zero voltage drop when switched over to battery backup</li> <li>Low Battery Cutoff to Prevent Deep Discharge</li> </ul>
Regulatory Compliance	UL294 6th Edition, UL603, UL1076, ULC S318, ULC S319
BTU Rating	RGI150, RGI150B 66BTU/Hr

## Ordering Information for Mx Rack-mount Controllers

PART NUMBER (PID)	PRODUCT	DESCRIPTION
MX-2-RM24/12/D	Model MX-2 controller, Rack-mount, LifeSafety Power, for up to 2 doors	Controls 2 Supervised Doors. 4,000 Users. Includes 2 door relays, 2 Alarm Inputs (requires Line Modules), enclosure, power supply, battery, tamper switch, key lock, and integrated SNIB2. Supports 1 Expansion Board. 110-240 VAC.
MX-4-RM24/12/D	Model MX-4 controller, Rack-mount, LifeSafety Power, for up to 4 doors	Controls 4 Supervised Doors. 4,000 Users. Includes 4 door relays, 4 Alarm Inputs (requires Line Modules), enclosure, power supply, battery, tamper switch, key lock, and integrated SNIB2. Supports 1 Expansion Board. 110-240 VAC.
MX-8-RM24/12/D	Model MX-8 controller, Rack-mount, LifeSafety Power, for up to 8 doors	Controls 8 Supervised Doors. 4,000 Users. Includes 8 door relays, 8 Alarm Inputs (requires Line Modules), enclosure, power supply, battery, tamper switch, key lock, and integrated SNIB2. Supports 1 Expansion Board. 110-240 VAC.access systems.

## Ordering Information for Expansion Boards

MODEL	DESCRIPTION	COMMENTS
AEB8	Alarm Expansion Board with 8 Inputs	Adds 8 additional high security alarm inputs. Velocity supports up to 5 boards. Each input requires an appropriate Line Module. Features removable connectors.
REB8	Relay Expansion Board with 8 Relays	Adds additional 2 Amp Form C relays. Up to five (5) REB8s per controller. Status LEDs and removable connectors.
MEB/CB128	Memory Expansion Board – CODE Expansion of 128,000 with Buffer Option	Expands CODE Memory by 128,000 (from 4,000 to 132,000) credentials. A portion of the Code Memory may be allocated to alarm and event buffers, which will reduce the number of users. Protected from data loss during power failures for up to 30 days by controller memory battery. (Limited Availability. Use MEB/CB64 or MEB/CB128.)
SNIB3	Secure Network Interface Board 3	Networks DIGI*TRAC controller to PC (with Velocity Version 3.6 SP1 or later only) via 10/100/1000 Ethernet (TCP/IP). Optically isolated RS-485 port for multi-drop between SNIB2s at baud rates up to 115K Bps. Supports AES (128 and 256 bit Rijndael) encryption between host PC and Master SNIB3 and between Master SNIB3 and downstream SNIB2 or SNIB3. Master SNIB3 supports integral Xbox functionality for globalization. Supports IPv6, DHCP and second network port for future use, FICAM enabled. UL listed.
RREB RS-485	Reader Expansion Board RS-485	Reader Expansion Board (RREB) provides OSDP communication with up to 16 readers across 8 doors for processing PIV/PIV-I/CIV credentials at time of access in compliance with FICAM.

Identiv, Inc. is a global provider of physical security and secure identification. Identiv's products, software, systems, and services address the markets for physical and logical access control, video analytics and a wide range of RFID-enabled applications. Customers in the government, enterprise, consumer, education, healthcare, banking, retail, and transportation sectors rely on Identiv's access and identification solutions. Identiv's mission is to secure the connected physical world: from perimeter to desktop access, and from the world of physical things to the Internet of Everything.

Identiv has offices worldwide. Addresses and phone numbers are listed at [identiv.com/contact](http://identiv.com/contact). For more information, visit [identiv.com](http://identiv.com) or email [sales@identiv.com](mailto:sales@identiv.com).

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