



Hirsch Rack-Mount Mx Controller

High-Security Access Control Integrates with Altronix



The 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, and various combinations of Identiv hardware. The 2U enclosures provide mounting for one (1) Mx and three (3) additional expansion boards (AEB8, REB8) and multiple Altronix devices in an access control system capable of controlling eight doors and 16 readers. Available options include single (24V DC) and a 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 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 system provides a high-integrity, enterprise-class access control and security management solution.

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 8 doors over MATCH, Wiegand, or OSDP
- 12v, 24v, or dual voltage power supply for 8 locks and 8 auxiliary devices
- Network monitoring of power supply and battery operations
- Multi-microprocessor architecture
- Firmware upgrade via Velocity

Altronix Integration

- Eight-door integrated access system with lock and system power
- Mx Controller expansion board configuration options

Mx Controller Features

- Available in 2, 4, or 8 fully supervised door options with entry and exit keypads/readers
- Field upgradeable to control additional doors, up to 8 per unit
- 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 up to four expansion boards:
 - Alarms expansion
 - Relays expansion
- 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
- Global I/O using IP or 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 two 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.

The Mx rack-mount includes the 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 OSDIP readers and optional OSDIP secure channel communications.

Altronix Power Features

- Eight-door integrated access system with lock and system power
- Mx Controller expansion board configuration options
- Rack drawer slide assembly simplifies controller wiring and maintenance
- Comprehensive wire management with tie down points and articulating bracket
- Input 115VAC / 60Hz, 4.2A
- Network Monitoring
 - Network models enable remote servicing and reporting
- Configuration
 - 24VDC single and 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
- 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. All door relays are socketed. All keypad/reader terminals and power circuits are fused (onboard resettable).

Hirsch Rack-Mount Mx Controller

Parameter	Details
Communications	
Serial Interface Ports	Controller to controller: <ul style="list-style-type: none"> • RS-485 multi-drop protocol (X*NET2) • Optically isolated port • Up to 4,000 ft (1,200 m) with 22 gauge, 2 pair, stranded, twisted, and shielded Controller to server: <ul style="list-style-type: none"> • 10/100 Ethernet (TCP/IP) • Encrypted communication • X*NET2 or X*NET3
MATCH Protocol	24V DC nominal
Onboard Reader Support	ScramblePad/MATCH2: <ul style="list-style-type: none"> • Proprietary MATCH protocol • Keypad/reader ports: 8 with 16 device addresses (8 entry and 8 exit) • 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 Onboard MATCH: <ul style="list-style-type: none"> • Industry standard Wiegand • Keypad/reader port: 8 using Mx device address 1-8 • Maximum wiring run: 500 ft (150 m) with 22 AWG shielded cable
RREB	Controller to OSDP reader: <ul style="list-style-type: none"> • Buzzer, LED and security assurance control • Up to 8 door ports for entry and exit OSDP readers • Up to 4,000 ft (1,200 m) with 18 gauge, 2 pair, stranded, twisted, and shielded • Optional Secure Channel
Firmware	
Command and Control Module (CCMx)	<ul style="list-style-type: none"> • Removable and upgradeable • CCM updates all microprocessors (including onboard MATCH) • Time zones: 150 • Door groups: 128 • Control zones: 256 • Holiday schedules: 4 (366 days x 2 years) • Daylight savings time adjustment
Memory	
Buffers	<ul style="list-style-type: none"> • Standard: 1,500 events and 1,500 alarms • If buffer is full, oldest information is discarded first
Credentials	<ul style="list-style-type: none"> • CCMx database up to 4,000 or SNIB3 database up to 500,000
Memory Protection Battery	30 days for code, setups, clock, and buffers
Physical	
Dimensions	19.00"W x 3.50"H x 33"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
Electrical	
MATCH Power (2 Terminals)	<ul style="list-style-type: none"> • 1.0 Amp at 24VDC each, fused and resettable • 2.9 Amp at 24VDC each • Powers MATCH2
Wiegand (2 Terminals)	<ul style="list-style-type: none"> • 500 mA at 12VDC each, fused and resettable • 2.0 Amp at 12Vdc total • Powers standard PACS readers
OSDP Reader	<ul style="list-style-type: none"> • 500 mA at 12VDC each, fused limited • 2.2 Amp max draw per RREB • Powers standard OSDP readers
Door Relays	5 Amp, form C
Alarm Relays	2 Amp, form C
Listings and Approvals	UL 294: Access Control Systems Units; UL 1076: Proprietary Burglar Alarm Systems

Hirsch Rack-Mount Power Specifications

Parameter	Details
Input Power	<ul style="list-style-type: none"> Input 115 VAC 60 Hz Thermal overload protection / Short circuit protection
Output Power	<ul style="list-style-type: none"> 24VDC @ 10 Amps 24VDC @ 10 Amps and 12VDC @ 6 Amps
Power Distribution	<ul style="list-style-type: none"> PDS8 Eight auxiliary outputs: PDS8 fused at 3A/ea Linq8ACM Eight relay control outputs: ACM fused at 2.5A/ea Fire alarm disconnect for any or all of the 8 outputs Individually selectable outputs on dual voltage systems
Power Supervision	<ul style="list-style-type: none"> AC input, DC1, and DC2 output Low battery and battery presence supervision (form C contacts) AC fail supervision (form C contacts) System Fault, AC Fault, Ground Fault, Reverse Battery
External Indications	AC on master on/off switch
Battery Charging	<ul style="list-style-type: none"> Maximum charge current 2.0 amp Maximum battery capacity 80Ah Independent built-in charger for sealed lead acid or gel type batteries Microprocessor dual rate charging 24V battery set Automatic switchover to standby battery when AC fails Zero voltage drop when switched over to battery backup Low Battery Cutoff to Prevent Deep Discharge
BTU Rating	EFlow 123BTU/Hr, AL1204UX 123BTU/Hr

Ordering Information

Item Number	Description	Extended Description
Mx-2-RM24-12-B	Mx-2-S3OB controller in Altronix Trove rack mount enclosure with 115VAC power supply.	Controls 2 Supervised Doors. 500,000 Users. Includes 2 door relays, 2 Alarm Inputs (requires line modules), enclosure, 115VAC/24VDC and 115VAC/12VDC or 24VDC power supplies, tamper switch, key lock, onboard SNIB3 and RREB. Supports up to 3 more expansion boards.
Mx-2-RM24-12-AT	Mx-2-S3OB controller in Altronix Trove rack mount enclosure with AEB8, REB8 and 115VAC power supply.	Controls 2 Supervised Doors. 500,000 Users. Includes 2 door relays, 2 Alarm Inputs (requires line modules), enclosure, 115VAC/24VDC and 115VAC/12VDC or 24VDC power supplies, tamper switch, key lock, onboard SNIB3, RREB, AEB8 & REB8. Supports up to one more expansion board.
Mx-4-RM24-12-B	Mx-4-S3OB controller in Altronix Trove rack mount enclosure with 115VAC power supply.	Controls 4 Supervised Doors. 500,000 Users. Includes 4 door relays, 4 Alarm Inputs (requires line modules), enclosure, 115VAC/24VDC and 115VAC/12VDC or 24VDC power supplies, tamper switch, key lock, onboard SNIB3 and RREB. Supports up to 3 more expansion boards.
Mx-4-RM24-12-AT	Mx-4-S3OB controller in Altronix Trove rack mount enclosure with AEB8, REB8 and 115VAC power supply.	Controls 4 Supervised Doors. 500,000 Users. Includes 4 door relays, 4 Alarm Inputs (requires line modules), enclosure, 115VAC/24VDC and 115VAC/12VDC or 24VDC power supplies, tamper switch, key lock, onboard SNIB3, RREB, AEB8 & REB8. Supports up to one more expansion board.
Mx-8-RM24-12-B	Mx-8-S3OB controller in Altronix Trove rack mount enclosure with 115VAC power supply.	Controls 8 Supervised Doors. 500,000 Users. Includes 8 door relays, 8 Alarm Inputs (requires line modules), enclosure, 115VAC/24VDC and 115VAC/12VDC or 24VDC power supplies, tamper switch, key lock, onboard SNIB3 and RREB. Supports up to 3 more expansion boards.
Mx-8-RM24-12-AT	Mx-8-S3OB controller in Altronix Trove rack mount enclosure with AEB8, REB8 and 115VAC power supply.	Controls 8 Supervised Doors. 500,000 Users. Includes 8 door relays, 8 Alarm Inputs (requires line modules), enclosure, 115VAC/24VDC and 115VAC/12VDC or 24VDC power supplies, tamper switch, key lock, onboard SNIB3, RREB, AEB8 & REB8. Supports up to one more expansion board.