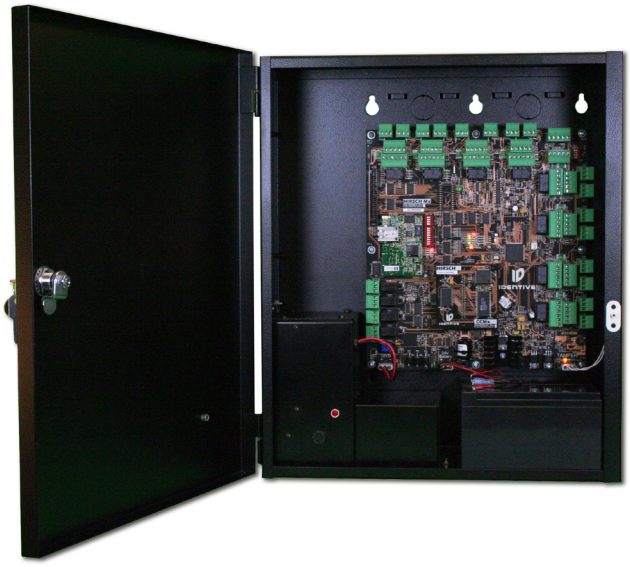

Hirsch Mx Controller

High Secure Access Control

- Fully supervised 4 and 8 door models
- Integrated network communication
- Designed for use with Identiv Connected Physical Access Manager (ICPAM)
- Scalable from a single controller to networked, multi-site installations
- Support for uTrust TS Readers
- Onboard MATCH for connecting standard Wiegand readers
- Multi-microprocessor architecture
- Modular expansion of I/O and badge capacity

Identiv's Hirsch Mx Controller is available in four (4) and eight (8) door models with each door fully supervised. The modular design and the scalable architecture of the controller enables an installation to start small and expand as needed, from a single controller system to a larger, multi-site enterprise. Mx Controllers are the core of Identiv's physical access control solutions. These controllers are designed for use with the Identiv Connected Physical Access Manager (ICPAM) solution and uTrust TS Readers. A range of models and expansion options in the Mx product line provide a variety of access control, high-security alarm monitoring, and relay control outputs.

Mx Modular Controller Features

- Controls 4 or 8 fully supervised doors with entry and optional exit keypads/readers and is field upgradeable
- 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 ICPAM)
- Bay for up to 4 expansion boards:
  - Memory (up to 132,000 users)
  - Alarms expansion (maximum 4)
  - Relays expansion (maximum 5)
  - 256 bit encryption and TCP/IP version 6 support for the network communication board
- MATCH protocol, allowing for an added 1,800 ft of wiring from the panel to the MATCH Board, plus entry and exit readers:
  - MATCH2 interfaces
  - Extended reader cable runs
  - Entry/exit readers operate over the same data cable, minimizing installation costs
  - MATCH encodes card number data for enhanced security over Wiegand messaging
- Wiegand setup and entry reader connectivity for each door
- Controller peer-to-peer device I/O using RS485
- Available with either Match or Wiegand port

As an access control system, the Mx Controller includes extensive onboard firmware for control sequences as basic as "who goes where and when" to sophisticated functions like the two-person rule and anti-passback. Full functionality is maintained even when ICPAM is not available (i.e, 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 PIN code, card, or both.

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. While the standard Mx Controller has an extensive array of options, there are many custom features that are available through Identiv's Professional Services Group (PSG). These options range from integration with time and attendance systems to PKI certificate authentication services.

Readers and keypads supported include uTrust TS Readers and many other technologies, including magnetic stripe, smart card (i.e., DESFire, MIFARE, PIV, or PIV-I), proximity, bar code, RF, IR, and biometric. Technologies may be combined on the same controller or the same door in many different combinations.

High Security Input Monitoring

Identiv uses very stable digitally processed analog inputs with line supervision for high-security input monitoring. A line supervision module is located at the door contact, alarm sensor, request to exit (RQE/REX), 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. This provides significant advantages over traditional error-prone, environment-sensitive analogue wiring back to controllers.

Relay Control System

Relay outputs on 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, cards (via reader), time zones, or alarms. 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 or 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 and replaceable. All keypad/reader terminals and power circuits are fused and are onboard resettable. Each unit is configured in a heavy duty, NEMA style enclosure, with lock and tamper alarm.

PARAMETER	HIRSCH MX CONTROLLER
Serial Interface Ports	Controller to controller: • RS-485 multi-drop protocol (X*NET2/X*NET3) • Optically isolated port • Up to 4,000 ft (1,200 m) with 22 gauge, 2 pair, stranded, twisted, and shielded Controller to server: • 10/100 Ethernet (TCP/IP) • Encrypted communication
MATCH Protocol	24V DC nominal

PARAMETER	HIRSCH MX CONTROLLER
Reader Support	MATCH2: • 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 Wiegand: • Industry standard Wiegand • Keypad/reader port: 8 using Mx device address 1 - 8 • Maximum wiring run: 500 ft (150 m) with 18 gauge, 2 pair, stranded, twisted, overall shield
Command and Control Module (CCMx)	• 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
Public Private Key Processor and Secure Digital Key Vault	Global platform compatible and secure storage of key material
Buffers	• Standard: 1,500 events and 1,500 alarms • MEB/CB128 (reduces users by 20%) or MEB/BE: 20,000 events and 2,000 alarms • If buffer is full, oldest information is discarded first
Users	• Standard: 2000 - 4000 (Access Policy Dependent (1)) • Memory Expansion Board MEB/CB64: Up to 68,000 • Memory Expansion Board MEB/CB128: Up to 132,000
Memory Protection Battery	30 days for code, setups, clock, and buffers
Security	• Enclosure door tamper switch • Key lock
Enclosure	NEMA type with conduit knockouts and removable door
Dimensions	18 x 15.25 x 5.5 in (457 x 387 x 140 mm)
Weight	30 lbs (13.6 kg)
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
Keypad/Reader Power (8 Terminals)	• 1.0 Amp at 24VDC each, fused and resettable • 2.9 Amp at 24VDC each • Powers MATCH2
Wiegand Keypad/Reader (8 Terminals)	• 500 mA at 12VDC each, fused and resettable • 2.0 Amp at 12VDc total • Powers standard readers
Power Supply	• Switching • 110 - 240 VAC, 50/60, fused
Standby Batteries	7 AH included
Door Relays	5 Amp, form C

(1) One access policy uses one credential record; multiple access policies use two credential records.

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PARAMETER	HIRSCH MX CONTROLLER
Alarm Relays	2 Amp, form C
Listings and Approvals	• UL 294: Access Control Systems Units • UL 1076: Proprietary Burglar Alarm Systems

Ordering Information for Mx Controllers

PART NUMBER (PID)	IDENTIV SKU	PRODUCT	DESCRIPTION
ICPAM-MX-4	ICPAM-MX-4-N3	MX Controller 4 Door	Identiv MX-4 Controller, 4 Door, with SNIB3 and 4 Line Module 3 Accessory (MELM3)
ICPAM-MX-8	ICPAM-MX-8-N3	MX Controller 8 Door	Identiv MX-8 Controller, 8 Door, with SNIB3 and 8 Line Module 3 Accessory (MELM3)
ICPAM-MX-UPG	ICPAM-MX-UK-4-8	MX Upgrade Kit, 4 to 8	Upgrade Kit MX-4 to MX-8 includes larger battery, extra connectors, CCMx dongle, and 4 Module 3 Accessory (MELM3)

Ordering Information for Expansion Boards

PART NUMBER (PID)	IDENTIV SKU	PRODUCT	DESCRIPTION
ICPAM-MX-ALM8	ICPAM-AEB8	MX Controller Accessory, Alarm Expansion	Alarm Expansion Board, 8 Inputs (#AEB8); 8 Line Module accessory included (MELM1)
ICPAM-MX-RLY8	ICPAM-REB8	MX Controller Accessory, Relay Expansion	Relay Expansion Board, 8 Output Relays (#REB8)
ICPAM-MX-MEB64	ICPAM-MEB/CB64	MX Controller Accessory, Memory Expansion	Memory Expansion Board, Code/Event (64) (#MEB/CB64)
ICPAM-MX-MEB128	ICPAM-MEB/CB128	MX Controller Accessory, Memory Expansion	Memory Expansion Board, Code/Event (128) (#MEB/CB128)
ICPAM-MX-MB	ICPAM-MRIA	MATCH Board	MATCH Reader Interface Assembly, includes MATCH Board and Assembly (requires MB2 mounting box)

Identiv, Inc. (NASDAQ: INVE) 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 and a wide range of RFID-enabled applications. Customers in the government, enterprise, consumer, education, healthcare, 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. For more information, visit identiv.com or email sales@identiv.com.

Technical data is subject to change without notice.