HIRSCH

Hirsch Mx Controller
with Onboard SNIB3 Powered by RREB
Mx-2-S3OB, Mx-4-S3OB, Mx-8-S3OB

This kit replaces the previous Mx-8-N3-FICAM kit and provides the required SNIB3 built onboard, which frees up one expansion slot.

The Hirsch Mx Controller with Onboard SNIB3 Powered by RREB kit is foundational for the critical U.S. federal government security standard known as FICAM (Federal Identity, Credential, and Access Management).

The Mx Controller is the core of Hirsch's physical access control system (PACS) and is designed for use with Hirsch's Hirsch Velocity™ Software security management system, uTrust TS Readers, Hirsch ScramblePad®, ScrambleProx®, ScrambleSmartProx®, and secure keypads.

The award-winning, multi-door Hirsch Mx Controllers provide a wide range of features for enterprise-scale solutions encompassing large buildings, campuses, and multi campus facilities. The modular design and scalable architecture enable an installation to start small and grow large, from a single controller system to a larger, multi-site enterprise.

These FICAM ready kits ship with the SNIB3 module built onto the main board, and is powered by the included RS-485 Reader Expansion Board (RREB), allowing an additional expansion module. SNIB3 is a leading edge communication device that provides IPv6, Gigabit Ethernet, and FIPS 140-2 certified cryptography, including TLS v1.2.

FICAM Foundational
- SNIB3 built onboard the main controller board
- Mx Controller family is on the GSA APL (13.02 and 13.01)

OSDP Reader Ready
- Encrypted secure channel communication to perform authentication
- Bi-directional connectivity enables remote updates and reader status

Store More Credentials per Controller
- SNIB3 module now securely stores up to 500,000 PIV credentials
- Requires Hirsch Velocity Software version 3.8.1 or later

Field Upgradeable
- MX-M8-RK-MX8S3OB
- MX-M2-RK-MX2S3OB
- MX-M2-RK-MX4S3OB
- MX-M2-RK-MX8S3OB

Mx Controller

Specifications	
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: • 10/100/1000 Ethernet (TCP/IP) • Encrypted communication
MATCH Protocol	24V DC nominal
Reader Support	Please refer to RREB specifications for OSDP
Command and Control Module (CCMx)	• Removable and upgradeable • Time zones: 150 • Control zones: 256 • Daylight savings time adjustment • CCM upgrades through Velocity • Door groups: 128 • Holiday schedules: 4 (366 days x 2 years) • CCM updates all microprocessors (including onboard MATCH)
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: 4,000 on CCM database • Store up to 500,000 users on SNIB3 database
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	32o to 140oF (0o to 60oC)
Relative Humidity	0 to 90%, non-condensing
Keypad/Reader Power (8 Terminals)	• 1.0 Amp to 24VDC each, fused and resettable • 2.9 Amp at 24VDC each • Powers ScramblePads and MATCH2
Wiegand Keypad/Reader (8 Terminals)	• 500 mA at 12VDC each, fused and resettable • 2.0 Amp at 12VDC total • Powers standard PACS readers
Power Supply	• Switching • 110-240 VAC, 50/60, fused
Standby Batteries	7 AH included
Door Relays	5 Amp, form C
Alarm Relays	2 Amp, form C
Listing and Approvals	• UL 294: Access Control Systems Units • UL 1076: Proprietary Burglar Alarm Systems

RS-485 Reader Expansion Board (RREB)

Hirsch's RS-485 Reader Expansion Board (RREB) is a unique reader communication device that installs onto the expansion cable of Hirsch Mx and DIGI*TRAC Controllers. The RREB features eight RS-485 communication ports, capable of supporting 16 readers on eight doors (one entry and one exit per door). The RREB makes it possible to have extremely high data rates with up to 16 FICAM PACS PIV smart card readers while using Open Supervised Device Protocol (OSDP).

Some of the design elements include:

- Multiple reader technologies that support diverse card bases and transitions to common smart cards
- Reader communication lines that are isolated from each other and the rest of the controllers
- Optimized ground loop for all reader power configurations
- Eight independent channels for simultaneous communications
- Supports OSDP

Specifications

Communications	
Wiring for Controller	Flat ribbon cable inside controller enclosure
Supervision	RREB is a passive communications board; reader tamper and communication supervision is handled by SNIB3
Wiring to Reader	· Two-pair, stranded, twisted, overall shield 18 AWG · Half-duplex RS-485 plus power
Electrical	
Operating Power	900mA at 28VDC
Reader Power	· Eight terminals, two readers maximum · 500mA at 12VDC each
Physical	
Alarm	Physical tamper or panel enclosure
Dimensions	6.85 x 4.05 x 0.52 in (17.4 x 10.3 x 1.32 cm)
Shipping Weight	1 lb (0.45 kg)
Operating Temperature Range	32o to 140oF (0o to 60oC)
Relative Humidity	0 to 90%, non-condensing
Listings and Approvals	· UL-ALVY (294), Access Control Systems Units · CUL-UEHX7, Signal Appliances · CE