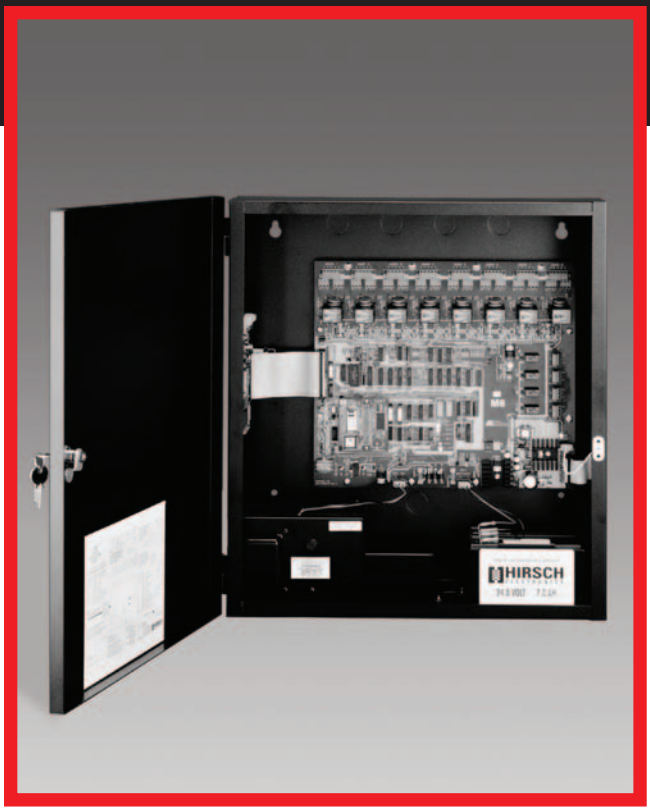
HIRSCH ELECTRONICS

Product Data Sheet



DIGI*TRAC™ Model 8 Controller

*Hirsch DIGI*TRAC controllers are "standalone" access control systems that support:*
— ScramblePad® & ScrambleProx® secure keypads
— MATCH™ intelligent reader interfaces
— High security alarm monitoring
— Relay control outputs
*When connected locally, by a LAN, or by telephone lines to a Hirsch Host PC or server, DIGI*TRAC controllers provide a high-integrity, enterprise-wide access control and security management solution.*

Features

- Controls 8 Fully Supervised Doors
  - Both Entry & Exit
  - Keypads And/Or Readers
- Modular: Uses Expansion Boards
- Standalone or Networked
  - Microprocessor Based
  - High Security Supervised Alarm Inputs (2% Supervision)
  - Door Relay Outputs
  - General Purpose Relay Outputs
  - Dedicated Alarm Relay Outputs
  - Digital Keypad/Reader Channel
- Digital Transmission
  - Long Wiring Runs
  - Multi-drop Connections
  - LAN Interface Options
  - Modem Options
- Encryption Algorithm
  - High Security Transmission
- Local or Remote Programming
  - ScramblePad, ScrambleProx or PC
- Downloadable Firmware
  - Flash Memory
- Printer Port
- Multiple Reader Technologies
- Resident Application Library
- UL Listed: 294, 1076, Grade AA

Description

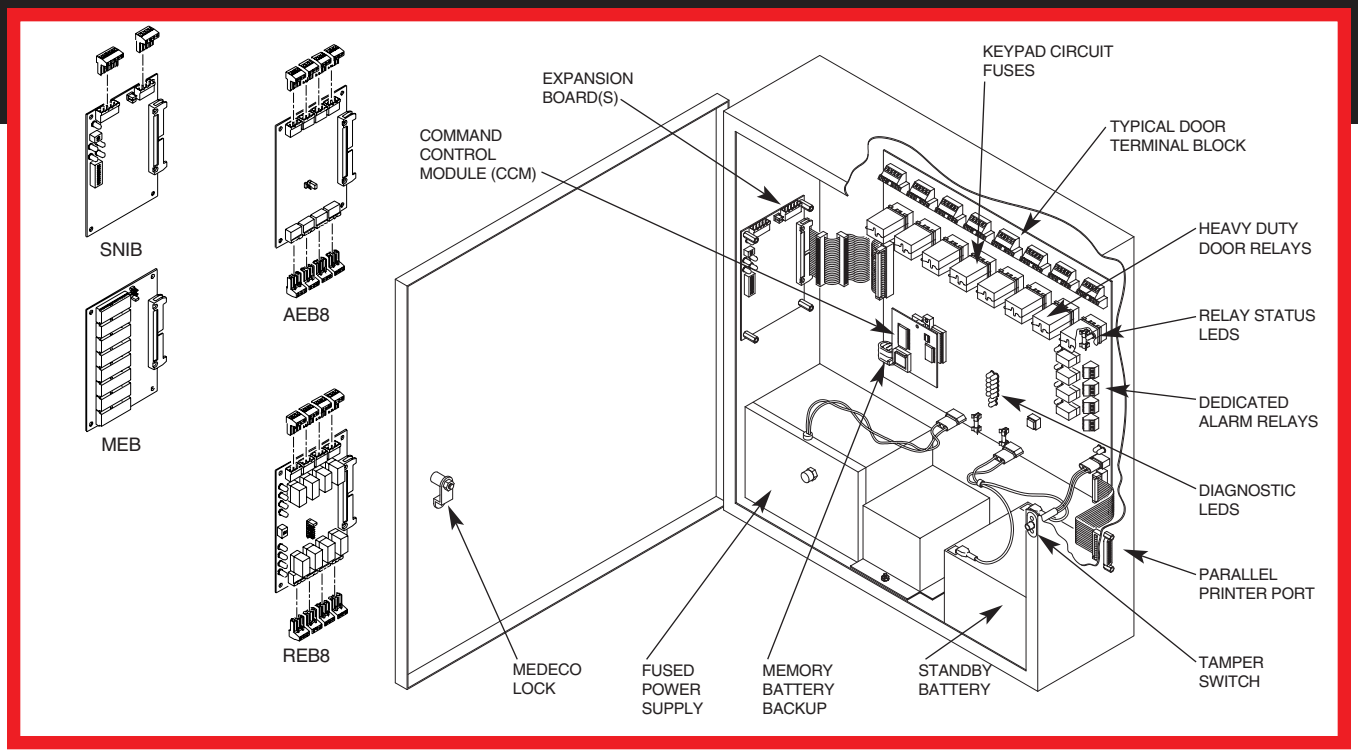
All DIGI*TRAC controllers have the same firmware functionality. A range of models and expansion options provides a variety of access control, high security alarm monitoring, relay control outputs, and programmable logic configurations to fit most applications. Each unit can be a complete standalone system or a distributed controller in a larger, multi-site enterprise system. This modular design and "scalable" architecture allows a system to start small and grow large.

Access Control System

As an access control system, the DIGI*TRAC controller includes extensive local 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.

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.

Readers supported include ScramblePad, ScrambleProx and, via the MATCH intelligent reader interface, these technologies: Magnetic Stripe, Proximity, Wiegand, Bar Code, Smart Card, RF, IR, and Biometric. Technologies may be combined on the same controller or the same door in any combination.

High Security Reader Channel

The DIGI*TRAC controller supports electrically isolated terminal blocks that provide communications and power to the ScramblePad, ScrambleProx and MATCH interfaces. The communication path allows multi-drop connections for entrance and exit keypads, and dual technology applications.

User codes are digitized for transmission between a Hirsch ScramblePad, ScrambleProx or MATCH and the DIGI*TRAC controller. Digital transmission allows longer wiring runs than are normally available with conventional access control reader technologies.

High Security Alarm Monitoring

Hirsch uses very stable digitally processed analog inputs with 2% line supervision for high security alarm monitoring. A line supervision module (DTLM, MELM, or SBMS) is located at the door contact, alarm sensor, request to exit (RQE), or similar device to establish this supervision.

In lieu of "shunting," which turns off supervision, Hirsch uses "alarm masking" for full-time supervision and reporting of line status — even during hours of authorized access. 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 DIGI*TRAC 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 ScramblePad), cards (via MATCH and reader), time zones, alarms, or logic sequences linked to other relays.

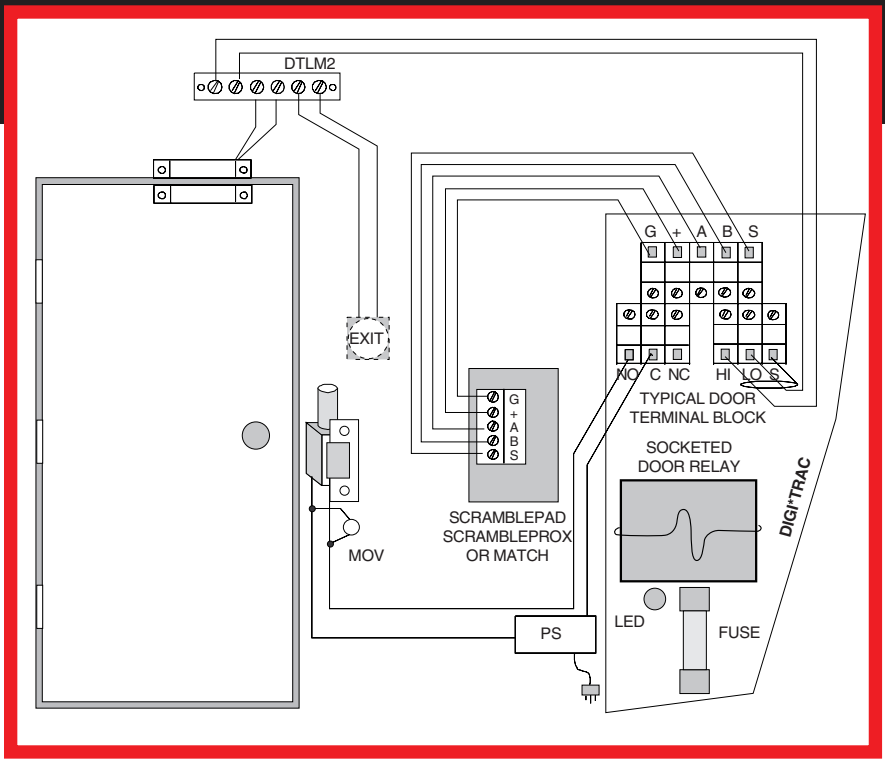
When used with a ScramblePad, DIGI*TRAC controllers are ideal for after-hours tenant override systems. A history of who issued the override command is available for tenant billing or audit trails. The same ScramblePad used for access control can be used for tenant override and remote operator command functions.

Programmer's Terminal

DIGI*TRAC controllers can be programmed by either a ScramblePad or a PC using Hirsch Host software. The PC can be local or connected by LAN or modem. A ScramblePad used for access control can also be used as a programmer's terminal. Programming functions supported include: add & delete user access codes, assign unlock/relock codes, assign alarm codes, and assign elevator control codes.

SCRAMBLE*NET™

DIGI*TRAC controllers communicate with a Hirsch Host PC using SCRAMBLE*NET protocol which uses an encryption algorithm for high security. The SCRAMBLE*NETcommand/packet structure is ideal for LAN and hardwired paths, including RS-485 multi-drop and RS-232 via direct connect or dial-up modem.



Typical Controller-to-Door Wiring Diagram

Reliability By Design

DIGI*TRAC controllers are designed for "high availability" as complete systems solutions for global markets. Standby batteries for both memory and system operation are standard. The controller ships with an internal international power supply. All door relays are socketed. All Keypad/Reader terminals and power circuits are fused. Each unit is configured in a heavy duty, NEMA style enclosure, with a high security lock and tamper alarm.

Specifications

Communications

- Serial Interface Ports:
  - SCRAMBLE*NET: Requires SNIB. Encrypted message structure.
  - RS-485 multi-drop or RS-232 protocol
  - Optically isolated serial port
  - Baud Rate: 9600 or 19,200
  - RS-485: 4000 ft. (1220m) with 22 gauge. 2 pair, stranded, twisted, overall shield
  - RS232: 50 ft (15m) @9600 baud
- Parallel Printer Port: Standard
- Keypad/Reader Port: 16 device addresses
  - Address 1-8 for door relay 1-8 entry. Address 9-16 for door relay 1-8 exit. Any address for command and programming
  - Wiring: 750 ft (160m) with 22 gauge, 1800 ft (550m) with 18 gauge. 2 pair, stranded, twisted, overall shield

Firmware

- Command & Control Module (CCM):
  - Removable & Upgradable
  - Time Zones: 150
  - Access Zones: 128
  - Control Zones: 256
  - Holidays: Four 366 Day x 2 Years
  - Daylight Savings Time Adjustment
- Dial-Up to Remote Host:
  - Phone Numbers: 4, with roll over
  - User selectable retry attempts
  - Call-back mode for security
  - Initiation by alarm, buffer % full, and/or time

Memory

- Buffers: 1500 events, 1500 alarms standard
  - 20,000 events, 2,000 alarms with MEB/BE
  - 20,000 events, 2,000 alarms with MEB/CB (reduces users by 20%)
  - Oldest discarded first, if full
- Users: 4000 standard
  - 8,000 with MEB/CE16
  - 20,000 with MEB/CE32
  - 68,000 with MEB/CB64
  - 132,000 with MEB/CB128
- Battery Backup: 30 day for code, setups, clock and buffer

Electrical

- Keypad/Reader Power: 8 terminals
  - 1.0 Amp @24VDC each, fused
  - 2.90 Amp @24VDC, total
  - Powers ScramblePad, ScrambleProx and MATCH
- Primary and Standby Power:
  - 90-130VAC, 50/60 Hz., fused
  - 180-260VAC, 50/60 Hz, fused
- Uninterruptible Power Supply
- Standby Batteries: 7 AH Included
- Door Relays: 10 Amp, Form C
- Control Relays: 2 Amp, Form C (requires REB8)
- Alarm Relays: 2 Amp, Form C
- LEDs:
  - Individual Relay Status
  - Battery (OK, Low, Fail)
  - AC (OK, Fail)
  - System (OK, Fail)
  - Keypad/MATCH (Poll, Response)
  - SCRAMBLE*NET (Poll, Response)
  - Test Mode
  - Alarm Events in Buffer
  - Box Tamper Alarm

Physical

- Door Tamper Switch
- Medeco High Security Key Lock
- Enclosure: NEMA type, with conduit knockouts & removable door
- Dimensions: 22" H x 20" W x 6.25D" (55.9 cm x 51cm x 15.9cm)
- Expansion Boards: 6" H x 4.25"W x .75"D (15.2cm x 10.8cm x 1.9cm)
- Shipping Weight: 60lbs (27.2kg)
- Expansion Boards: 1 lb (.05kg)
- Operating Temperature Range: 32°F to 140° F (0° to 60° C)
- Relative Humidity: 0 to 90%, non-condensing

Listings & Approvals

- UL 294 Access Control Systems Units
- UL 1076 Proprietary Burglar Alarm Systems, Grade AA
- CE

Ordering Information — Controllers

Model #	Description	Comments
M8N	DIGI*TRAC MODEL 8N - 8 Door - 115VAC	Controls 8 Supervised Doors. 4000 Users. Includes 8 door relays, 8 Alarm Inputs (requires Line Modules), enclosure, power supply, battery, tamper switch, Medeco lock and SNIB. Supports Expansion Boards. CE. UL Listed. 115VAC.

Note: Add "-230" to model number for 230 VAC.

Ordering Information — Expansion Boards & Modem

Model #	Description	Comments
AEB8	Alarm Expansion Board - 8 Inputs	Adds 8 additional high security alarm inputs. SNAP, SAM and MOMENTUM support up to 2 boards in M2, M8, MSP or M64. Velocity supports up to 4 boards in M2, M8, MSP, M64 and up to 2 boards in M16. Each input requires appropriate Line Module. Features removable connectors. UL Listed. CE.
REB8	Relay Expansion Board - 8 Relays	Adds 8 additional 2 Amp Form C relays to an M2, M8, M16 or MSP-8R. May not be installed in an M64. A total of 5 (4 if networked) REB8 Boards may be installed in all other DIGI*TRAC controllers. Removable connectors & status LEDs. UL Listed. CE.
MEB/BE	Memory Expansion Board - Buffer Expansion	Expands standard buffer from 1500 events and 1500 alarms to 20,000 events and 2,000 alarms with CCM 7.X. Expands standard buffer from 37 events and 37 alarms (700 events and 700 alarms with CE boards) to 20,000 events and 2,000 alarms with CCM 6.6. Protected from data loss during power failures for up to 30 days by controller memory battery. UL Listed. CE.
MEB/CE16	Memory Expansion Board - CODE Expansion 4,000/16,000	Expands CODE Memory from 4,000 to 8,000 on Velocity and MOMENTUM with CCM 7.X. Not recognized by SNAP or SAM with CCM 7.X. Expands CODE Memory from 1,000 to 16,000 maximum with CCM6.X. Protected from data loss during power failures for up to 30 days by controller memory battery. UL Listed. CE.
MEB/CB64	Memory Expansion Board - CODE Expansion of 64,000 with Buffer Option	Expands CODE Memory by 64,000 (from 4,000 to 68,000) with CCM 7.X on Velocity and MOMENTUM. Not recognized by CCM 6.6 or earlier. A portion of the Code Memory may be allocated to alarm and event Buffers on Velocity only. Protected from data loss during power failures for up to 30 days by controller memory battery. CE. UL Listed.
MEB/CB128	Memory Expansion Board - CODE Expansion of 128,000 with Buffer Option	Expands CODE Memory by 128,000 (from 4000 to 132,000) with CCM 7.X on Velocity and MOMENTUM. Not recognized by CCM 6.6 or earlier. A portion of the Code Memory may be allocated to alarm and event Buffers on Velocity only. Protected from data loss during power failures for up to 30 days by controller memory battery. CE. UL Listed.
DM9600A-DL	DIGI*TRAC 9600 BAUD MODEM ASSEMBLY (Factory Set: Dial-Up Line)	A miniature 9600 Baud Modem Assembly that can be powered from & installed internally in the M1, M2, M8, M16 or MSP for remote site management via dial-up network. Includes cables, adaptor, & power supply harness. Do not use at Host PC or NET*MUX4 out port.

Note: The DIGI*TRAC M8 controller can accommodate up to 5 expansion boards. Only one MEB/CE or MEB/CB is supported per controller. A maximum of 4 AEB8 expansion boards are supported per controller.

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