



ACCESS CONTROL

MICROSOFT ACCESS™ & SQL SERVER™ EDITIONS

SOFTWARE OVERVIEW

DSX is a robust access control system monitoring application that harnesses the power of the Windows™ desktop and server operating systems. Below is a partial list of standard features.

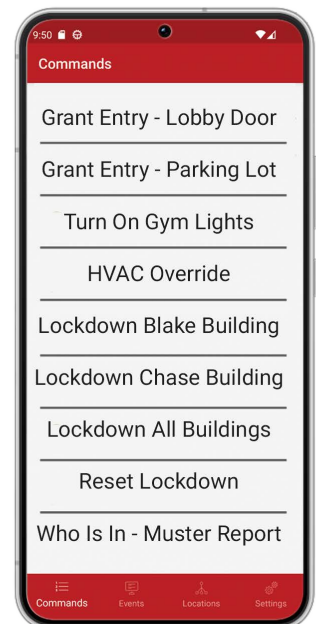
- Mobile Command Android™ / iOS™
- IP OnDemand
- Time Zone / Holiday Cloning
- Mobile Credentials / Readers
- Photo ID Badging
- Time and Attendance
- DVR/NVR Integration
- AES-256 Comm Encryption
- Email/Text Alarm Notification
- HazMat / Emergency Lockdown - Mobile Activated
- Redundant Hot Swap Comm Servers
- FIPS/TWIC/CAC Card Compatibility
- Integrated Lockset Management
- External Card Holder API
- Alarm Maps
- Elevator Control - braXos
- Site License - No Charge to Add Client Workstations to System
- System Growth - No Charge to Add Cards or Doors to System
- Support Contract - Available
- 24-Hour Emergency Support for DSX Dealers with No Annual Fee

SCALABLE SOFTWARE

DSX is inherently scalable to accommodate system growth from a single PC to multiple PCs and Servers. WinDSX comes standard with a Microsoft Access database engine for small systems. WinDSX-SQL is designed for medium to enterprise size solutions using Microsoft SQL Server as the database engine. Microsoft SQL Server is user supplied. Both editions have similar features and capabilities.

MOBILE COMMAND

DSX Mobile Command brings the power of the DSX Workstation to the convenience of a Smart Phone. This secure application enhances the daily operation of the DSX System. The Mobile Command feature allows the manual locking & unlocking of Doors, arming or bypassing of Alarm Points and monitoring of system events from a mobile application. Global functions such as Incident Response as well as repetitive chores (unlocking a door or turning lights on or off) can be programmed into Command Buttons for easy activation. Commands are individually assigned and can control individual doors or entire systems.



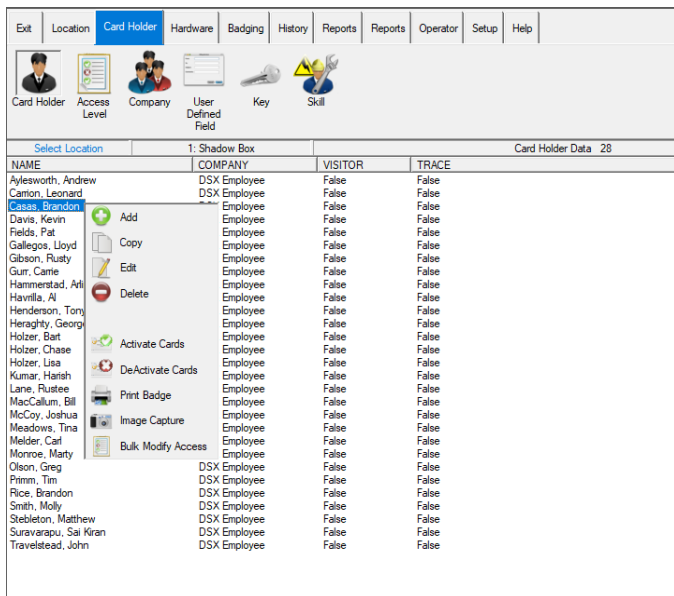


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USER INTERFACE

The User Interface of DSX has an organized & simplified approach to database management. Tabs at the top of the screen show the different categories of data and function. Select the tab of interest and you will see icons for the different items in that collection. A simple click on the data in the list window shows the commands allowed by user password.



SPECIAL APPLICATIONS

DSX has strong linking capabilities that allow for any Card, Input, or Output in a Location to link (interlock) with any other Input, Output, or Time Zone in that Location. Linking applications are programmed under the Hardware Tab and require no additional equipment. Examples include: Emergency Lockdown • Incident Response • Access Level Control • Time Zones Control • Virtual Outputs • Manager First • Snow Days • First Man In • Two Man Rule • Man Trap

MANAGEMENT REPORTS

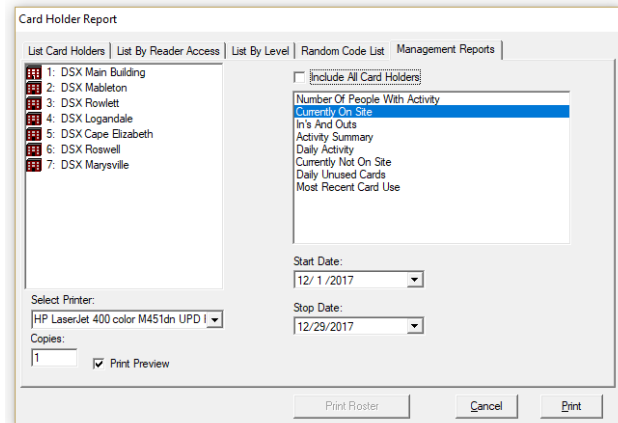
A variety of custom reports are available. The following commonly used reports do not require In and Out Readers

Daily Unused Cards

Reports active Cards that have not been used in “X” number of hours. This report can verify “Who is Not Here” at any time during the day. The report is presented by Location and sorted by Company. Card Holders in the report are listed by their last Card use.

Most Recent Card Use

A “Last Use” report that lists all Active Card Holders and the last place they used their Card. The report is presented by Location and sorted by Company.



SYSTEM SECURITY

Password protection allows for operator specific capabilities to be executed at each Workstation depending on the profile assigned to the operator. AES-256 Encryption secures and safeguards passwords. AD Authentication can be used to enforce password complexity as well as the frequency that passwords must be changed.

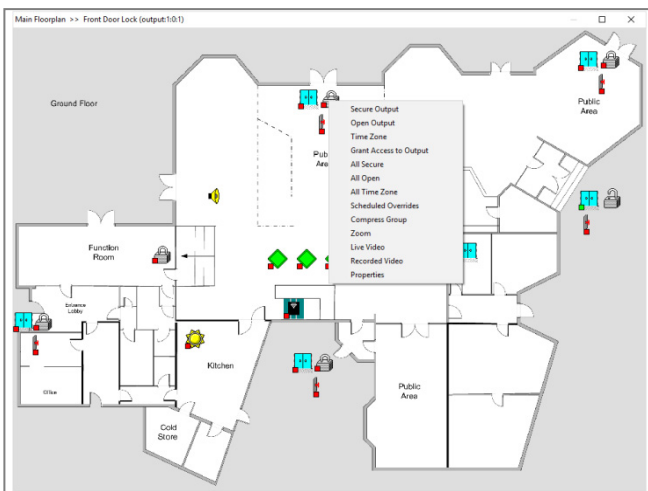


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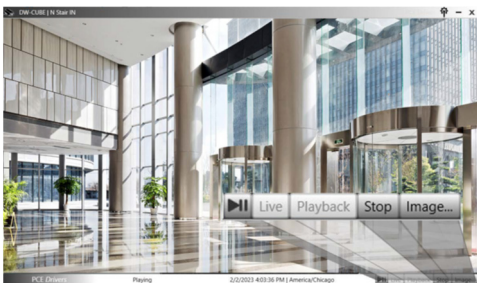
GRAPHIC ALARM AND CONTROL MAPS

Graphic maps display the true real time status of assigned Inputs and Outputs represented by Icons. Operators can perform overrides of the Inputs, Outputs and Override Groups in real time.



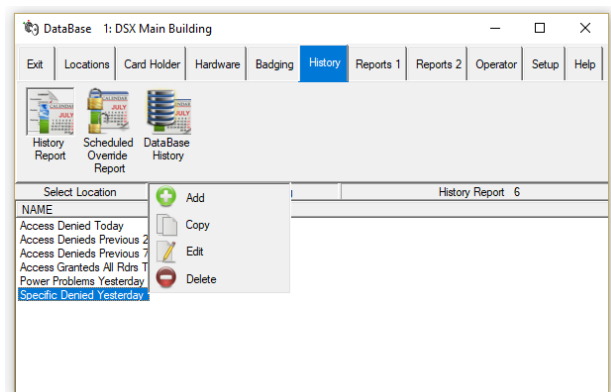
VIDEO INTEGRATION

DSX can integrate with over 20 different DVR/NVR systems and IP Cameras. This integration allows stored and live video from the DVR to be accessed within the DSX Software. All video is transmitted across a network connection. Remote Viewing Interface features vary based on the make and model of the DVR/NVR System. Compatibility available at DSX ACCESS SYSTEMS, INC. (DSXINC.COM) An SDK is available for integration with other systems.



HISTORY REPORT GENERATION

Custom History Reports can be defined by choosing any combination of Locations, Doors, Events, and Card Holders. Reports can be as general or specific as needed. Previews are available before printing and can be sent to a local printer or any printer on the network. Numerous report configurations can be saved and run at any time. History reports can be preconfigured and automatically run up to twice each day of the week. Reports are Emailed from the Workstation where they are created.



Scheduled Override / DataBase History

Located in the History Tab of DataBase, this report shows all scheduled overrides- past, present, and future as well as if they were completed. DataBase History is a simple method of viewing what has changed in the DataBase, when it was changed, and the Operator that made the changes.

PC REQUIREMENTS

PC Hardware Requirements can be found on the DSX Website under Products and Software.



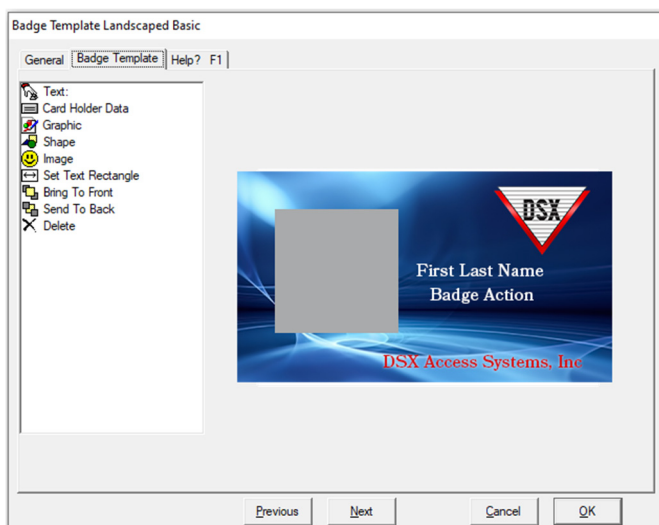


PHOTO ID BADGING

OVERVIEW

WinDSX offers a seamless integration of Video Imaging and Photo ID Badging with the Access Control System. Photo ID Badges can be created for employees and visitors within the Software. This feature allows images to be imported or captured from a live video feed from a high-resolution USB connected camera. These images can be edited within the software. A shared database allows for integration of Card Holder information onto the Cards. Information including Card Holder data and information from any of the 99 User Defined Fields in the database may be used on the Badge.

Badge Templates are created using drag and drop tools in a WHYSIWYG (what you see is what you get) format. Transparent backgrounds, image ghosting, text centering, text shrink to fit, etc. are all part of the WinDSX Software. Unlimited Badge Templates can be created for unique departments or user groups within the system. Print Preview allows last minute adjustments to an assembled badge before printing.



DSX BADGE SYSTEM FEATURES

- Digital Camera Pan & Zoom
- Batch Card Printing
- Image / Signature Importing
- Live Image Capture - USB Webcam
- No Features Key Required
- Transparent Backgrounds
- Image Ghosting
- Multiple Images for each Person
- Image Cropping and Editing
- Auto Image Editing
- Rotate Text & Barcodes
- Encode Magstripe Track 1,2 &3 w/equipped printer
- Generates 3 or 9, 2 of 5, 43 and 128 Barcodes
- Single- or Double-Sided Badges
- CR-80 to CR-100
- Color and/or Black and White Badges
- Text Centering / Shrink to Fit Text & Data Fields
- Bring to Front / Send to Back Layering
- Right Alignment / Text Underlining
- Font & Text Color Selection for each Printed Field

DSX CAMERA SPECIFICATIONS

- Motorized Pan, Tilt & Zoom
- Full HD 1080p Camera & Remote Control
- 10-foot Range Remote Control
- Carl Zeiss Optics with 9-point Auto Focus
- USB 2.0 Compliant 8-foot USB Cable
- 8-foot Universal Power Adapter

PRINTERS

DSX prints to any Windows™ compatible paper stock or Direct Card Printer such as HID and Zebra.



SOFTWARE SPECIFICATIONS & FEATURES

SYSTEM SPECIFICATIONS

32,000 Locations
128 Doors / Readers per Location
50,000 Access Codes per Location
32,000 Time Zones with 3 Holiday Overrides Each
32,000 Access Levels
32,000 Inputs / 32,000 Outputs
32,000 Companies
32,000 Holidays
99 User Defined Fields for each Card Holder
32,000 System Operators & 32,000 Profiles
32,000 ASCII Output Messages
999 Operator Comments
32,000 Graphic Alarm Maps
32,000 Custom Action Messages
Import Graphic Alarm Maps (21 file types)
275+ Card Formats and Mobile Credentials
FIPS/TWIC Card Compatibility (up to 17 Digits)
Integral Photo ID Badging
Time and Attendance
Guard Tour / Visitor Management
DVR/NVR Integration
Auto Incremental Downloads (changes only)
Floor Select Elevator Control & Reporting
High Level Elevator Control with BraXos
After Hours HVAC Zone Control
Location wide Input / Output Linking
Location wide Code to Input / Output Linking
4 Zone Anti-Passback (Hard, Soft & Timed)
Integral Database Backup System - Access Only
Integral Custom Report Generator with Previewing
Schedule Automatic History Reports / Email SMTP
"Who is In" Input / Mobile App Activated via Email
Card Holder "Photo Roster" Report
Code Tracing (Reader & User Selectable)
Regional Time Zone Aware
Operator Audit Trail
TCP/IP Communications, USB, IP OnDemand

Limit of Card Uses 1-10,000
Card Disable Reader
Threat Level Management
Mobile Smart Phone Application
Auto / Manual Image Recall
Workstation Event Filtering
Global Access Level Manager
Unlimited Access Levels per Card Holder
Date Controlled Temporary Access Levels
Card Use It or Lose It - Automatic Deactivation
Precision Start Times / Dates for Card Activation
Precision Stop Times / Dates for Card De-Activation
Multiple De-Activate Dates for Cards
Card Holder Biometric Enrollment Export
Embedded Hot Links in Action Messages
Scheduled Overrides with Multiple Dates per
Time Zones Controlled with Linking Logic
Hot-Swap Backup Communications Server (SQL)
Hidden & Predefined User Defined Fields
Alarm Email Notification / Text Messaging
Comm Server (CS.exe) can run as a Service
Bulk Modification to Card Holder Access Levels
AES Encryption from Comm Server to Controllers
AES Encryption from Comm Server to Workstations
AES Encryption for DSX Passwords
AD Authentication for Operator Login
Startup Map (always displayed)
Custom Map Sizes

DSX L-85 SOFTWARE & INTEGRATED LOCKSETS

Schlage - AD Series Wireless/Hardwired Locksets
Schlage - NDE & LE Wireless Locksets
DSX L-85 supports LAN and USB Communications
to Locksets. Features Supported: Standard, Curfew,
Classroom/Storeroom, Office, Privacy & Apartment.



DSX-1022

INTELLIGENT CONTROLLER

- 8 Supervised Programmable Inputs
- 4 Fused Relay Outputs
- TCP/IP Communications
- 275+ Card/Keypad Formats+
CAC/FIPS/TWIC
- Non-Volatile Memory Available
- 512K RAM / 512K Flash ROM
- UL 294 / UL 1076



GENERAL INFORMATION

The DSX-1022 is an independent processing Two Door Intelligent Controller designed to be a cost-effective building block of the DSX Hardware Platform. This Controller is an ideal fit for parking garages, gates, and other remote locations that do not require many readers. The DSX-1022 features fuses in line with common terminals on all four Relay Outputs. Battery Test and Load Shed protect the Panel and Backup Battery.

CONTROLLER ARCHITECTURE

Designed as a unitized (Processor and I/O board combined) Controller with small space requirements, the DSX-1022 Intelligent Controller accommodates two reader/keypad controlled Doors or Devices. The Controller can be used with all other DSX Controllers as a Master or Sub in the Controller Network. (The first Controller of each Location is designated as the Master and is responsible for communications to the PC as well as all other panels considered Sub Controllers.) The DSX-1022 contains an RDC186 processor, RAM, ROM, Power Supply and removable field wiring terminals. Each DSX-1022 operates as a fully distributed processing Control Panel that retains all data necessary for system operation in its own RAM. Controller Level decisions about Access Control, Alarm Monitoring and Time Zone changes are made from the Database maintained in the DSX-1022. An integral real-time clock and calendar allows Time Zone control with Holiday Overrides for Inputs, Outputs and Cards even when communication to the PC or other Controllers is not available.

READER TECHNOLOGIES

The DSX-1022 is compatible with Proximity, Bar Code, Magnetic Strip, Biometric and Smart Card Readers. Any combination of reader technologies may be used in the same system. A keypad may be added to most Readers to create a Card and/or PIN controlled entry point. Compatibility with 275+ Card Reader/Keypad and Card formats including Smart Phone Credentials makes the DSX-1022 perfect for retrofits.

MEMORY

The standard configuration of a DSX-1022 contains 512K Flash Rom and 512K of RAM. The RAM memory allocation is dynamic between Database and Event Storage. It is set for optimum use by the Host PC according to the data entered. Non-Volatile Memory can be added with purchase or later.

INPUTS

Eight EOL Supervised Inputs are capable of 2,3 and four state point monitoring with status LEDs. The armed status of each Input can be controlled by up to 4 Time Zones, I/O and Card Linking as well as manually from the PC. Two Inputs are designated as Door Position Inputs and two are designated for Exit Request. The remaining four Inputs are available for point monitoring.

DSX-1022 OUTPUTS

Four programmable Relay Outputs. Two Outputs (Output 1's) are Form-C, fused Relay Outputs to control the Locks of the Reader-controlled Doors. Two Outputs (Output 2's) are programmable Form-C fused Relay Outputs. All Relay Outputs have fuses in series with the Common Terminal. Two Pre-Warn Outputs (1 for each Door) are used to indicate the controlled Doors are being held open and about to go into Alarm. If the Door is Locked, Armed and Opened, the Output pulses low starting at 1/3 of the Door Open Too Long time and changes to a steady low when the Door goes into Alarm. The Open Collector Outputs reset automatically when the Door is closed.

COMMUNICATIONS

DSX-1022 Controllers communicate with the Comm Server via TCP/IP, USB, and IP OnDemand.

TCP/IP LAN Communications can be utilized from the DSX Comm Server PC to a Master Controller. The DSX Software, without the use of additional services, will redirect what would typically be serial port communications to a TCP/IP address. DSX-LAN-D serial device at the Master Controller receives the communications over the LAN and converts it to RS-232/RS-485 for the Master Controller.

Direct Connect Communications to the PC from the Master 1022 Controller is accomplished with a DSX-USB module. The DSX-USB connects the USB port of the PC and provides a RS-232/RS-485 output to connect to the panel. The RS-485 communications from the DSX-USB to the Master utilizes a two-twisted-pair cable for the data and supports up to 4,000 feet of cable distance.

DSX-IP OnDemand offers an efficient process for IP Communications. The communication portal is opened only when necessary (OnDemand), which offers increased system integrity. OnDemand opens the communication portal, data is exchanged, and the portal is closed. This allows the use of Internet or Cellular metered service for communication without constant online exposure. Resulting in enhanced security and lower bandwidth consumption. A DSX-LAN-D module and a cellular router allow for easy deployment and low cost anywhere cell service and power are available.

Panel to Panel Communications are a true point to point, regenerative, RS-485, 4-wire communications method. Panel-to-Panel network communications are regenerated at each Controller providing up to 4,000 feet of distance between Controllers over two-twisted-pair cables. Panel-to-Panel communications can be configured in a series loop, star configuration or both. Star Configurations require the use of a DSX-1035 Quadraplexor.

DSX-1022 SPECIFICATIONS

Size Enclosure 15.5"W x 13.5"H x 6.0"D
Controller 10.5"W x 7.5"H x 1.5"D

Weight Cabinet 11.00 lb.
Controller 1.60 lb.
Package Total 12.60 lb.

Finish

Black Powder Coat on Enclosure, Black Enamel on Shield

Temperature / Humidity

Operating 32° to 131°F / 0 to 95% relative. Storage -35-150°F

Supply Voltage

Panel Voltage 16.5VAC 40VA For UL-1076 use 2 Transformers
Power Requirements 33 Watts (112.6 BTU)
Panel Current Draw 540ma
UL Listed or CSA Certified Class II Transformer Required

Output Voltage

Panel Output 12VDC 1A - Fused
Panel Output 5VDC 1/2A - Fused

Inputs

8 EOL Supervised / UL Installations require Tamper Switch
Connected to an Input armed with a 24-hour Time Zone.

Outputs

Form C Relays (1-2) 4 fused at 1A / Relay Ratings 5AMP 30VDC
6 LED Outputs - 3 per Reader - Open Collector 100ma
2 Pre-Alarm Outputs - 1 per Door - Open Collector 100ma

Access Controlled Entry Points

Card Reader or Keypad. Any combination of Card Readers, Keypads, or Card + Keypad controlled entry points may be used. 275+ types available including FIPS/TWIC and CAC.

Battery Charging Output

Trickle Charge 13.5VDC 500ma Fused
Standby Time 3.3 hours under maximum load
For UL Installations, battery must be Powersonic PS-1270, Interstate PC-1270 or SBS S-1272.
For UL 1076 use two batteries.

Communication Ports

RS-485 In (2) 1 for Master to PC, 1 from Sub
RS-485 Out 1 to subsequent Subs

Processor RDC186 20Mhz

RAM Memory Standard 512K

Non-Volatile Memory optional (Part number DSX-1040NV)

Warranty Limited 2 years



DSX-1048

INTELLIGENT CONTROLLER

- Scalable Architecture for 2 to 8 Doors
- UL294 / UL 1076
- 275+ Card/Keypad Formats + CAC/FIPS/TWIC
- Real Time Processing and Communications
- Integrated Power Supply and Distribution
- Non-Volatile Memory Available



GENERAL INFORMATION

The DSX-1048PKG Intelligent Controller is an independent processing 8 Door package designed to be a cost-effective building block of the DSX Hardware Platform. Up to 8 Doors can be controlled from 1 enclosure for an efficient space saving package. The Controllers are strategically placed throughout the customer Location and connected with a two-twisted-pair cable. Each DSX-1048 operates as a fully intelligent and independent controller that retains all data necessary for system operation in its own RAM. An integral real-time Clock and Calendar performs Time Zone control with Holiday Overrides for Inputs, Outputs and Cards even when communication to the PC or other Controllers is not available.

CONTROLLER ARCHITECTURE

The DSX-1048 Intelligent Controller can be used in conjunction with all other DSX Controllers as a Master or Sub in the Controller Network. Any Controller may be designated as a Master or Sub Controller. (The first Controller of each Location is designated as the Master and is responsible for communications to the PC as well as all other panels considered Sub Controllers.) The Master or Sub mode of operation is determined by dip switch settings on the Panel.

Up to 16 DSX-1048PKG Intelligent Controllers may be used in a single Location providing for up to 128 Readers. Multiple Locations can be grouped for Systems that require more than 128 Readers/Keypads.

Each DSX-1048PKG includes a DSX-1040E Enclosure, a DSX-1040CDM Communications Distribution Module and 4 DSX-1042 Intelligent Controllers. Each DSX-1048 provides 8 Reader Ports, 32 Inputs and 16 Outputs. Each DSX-1042 has a 12V fused power Output for its Card Readers and Keypads. The DSX-1042 contains an RDC186 Processor; 512K of RAM, 512K of Flash ROM and a Real Time Clock. Removable terminal blocks allow all Door and field wiring connections to be made easily.

The DSX-1040CDM receives RS-485 communications (from upstream Controllers or modules) and regenerates the 4-wire-RS-485 to the next enclosure. The DSX-1040CDM also distributes Sub Controller Communication to Sub Panels within the same Enclosure.

SYSTEM POWER

Each Controller in the DSX-1048PKG is powered from an individually fused 12V Output from the DSX-1040CDM located in the same Enclosure. The module also provides 5V power for the Readers and/or Keypads that require it.

The DSX-1040PDP (Power Distribution Panel) powers the DSX-1040CDM.

DSX-1048PKG CONTINUED

DSX-1040PDP (Power Distribution Panel) houses the Controller and Lock Power supplies, Backup Batteries and Fused Power Distribution Module. The DSX-1040PDP is comprised of a DSX-1040PE Enclosure, an RWS-150 15V Power Supply for the Controllers, an RWS-150-[15] or [27] for either 12V or 24V Locks, and a DSX-1040PDM Power Distribution Module.

The DSX-1040PDM performs several critical functions:

- Takes 15V power from the SWS-150 and provides two 3.5A Class II, Power Limited, Fused Outputs to power the DSX-1040CDM which distributes the power to the DSX-1042 Controllers in the same enclosure.
- Provides a 12V Battery charging circuit to charge Backup Batteries for the Controllers.
- Provides a charging circuit for the optional batteries used to back up the 12 or 24V Lock Power from the RWS-150 Lock Power Supply.
- The Power Distribution Module has 3 N.C. Relay Outputs, two to signal Loss of AC (one for Lock Power and one for Controller Power) and one to signal Low Battery. These Outputs can be connected to spare Inputs in the DSX-1048PKG.
- The Module also has a Battery Test Input. When activated, the Input shuts off the charging circuit and load tests the battery for 1 minute. This Input can be connected to a spare Output in the DSX-1048PKG and programmed by Time Zone to test when desired.
- Routes Lock Power through individual fuses for each of the 8 Class II, Power Limited Outputs.
- Has a Fire Override Input relay to break Lock Power.
- Has Fire Override Output to connect to the next 1040PDM.
- All Outputs are Class II Power Limited.

READER TECHNOLOGIES

Compatible with Proximity, Bar Code, Magnetic Stripe, Biometric and Smart Card Readers. Over 275+ Card Formats including Smart Phone Credentials are available to make it a perfect panel for retrofits. Any combination of reader technologies may be used in the same system. A Keypad may be added to most Readers to create a Card and/or Card + PIN controlled entry point.

The panel is compatible with two wire Wiegand and Clock and Data Outputs without the use of any modules. Each Reader Port has 3 LED Open Collector Outputs for Door Secure, Door Open and Access Denied/Keypad PIN Entry to accommodate almost any reader and LED configuration. It is possible to connect the Sounder Control Line of most Card Readers to the Pre-Warn Output for Door Held Open annunciation.

MEMORY

Each Controller has a standard configuration of 512K of Flash ROM and 512K of RAM. The RAM memory allocation is

dynamic between Database and Event Storage and set for optimum use by the Host PC according to the data entered for that location. Flash ROM allows for Controllers' Operating System to be upgraded without changing Eprom chips. The 512K of ROM eliminates the need to increase the memory in Controllers as the system grows. When the Controller is in service, the amount of RAM and the version of ROM can be viewed from the DSX Communications Software. Non-Volatile Memory can be added to any DSX-1042 Controller (Part Number DSX-1040PNV)

INPUTS

The DSX-1048PKG has 32 EOL Supervised Inputs capable of 2, 3, and 4 state Point Monitoring with Trouble Reports. The armed status of each Input can be controlled by up to 4 Time Zones, I/O Linking, Card Linking and manually from the PC. Eight Inputs are designated as Door Position and eight Inputs are designated as Exit Request for the Reader controlled Doors. The remaining sixteen Inputs are left for additional monitoring points.

OUTPUTS

The DSX-1048PKG has 16 Programmable Outputs and 8 Pre-Warn Outputs. Eight Form-C, 5 Amp rated relays are used to control the Locks for the Reader controlled Doors. Eight are Open Collector Outputs. Both types have an LED for status and are fully programmable.

The 8 Pre-Warn Outputs (1 for each Door) indicate if the Door is being held open and about to go into alarm. Once the Door is opened, the Output pulses low starting at 1/3 of the Door Open Too Long time and changes to a steady low when the Door goes into Alarm. The Open Collector Outputs reset automatically when the Door is closed.

DSX-IP ONDEMAND

Offers an efficient process for IP Communications. The communication portal is opened when necessary or OnDemand, which offers increased system integrity. OnDemand opens the communication portal, data is exchanged, and the portal is closed. This allows the use of Internet or Cellular metered service for communication without constant online exposure. Resulting in enhanced security and lower bandwidth consumption. A DSX-LAN-D module and a cellular router allow for easy deployment and low cost anywhere cell service and power are available.

DIRECT CONNECT

A DSX-USB module can connect the USB port of the PC to the Master 1042 Controller. The DSX-USB provides the RS-232 Output that connects to the Controller. The RS-485 Output of the DSX-USB can be used if the Master Controller is more than 50 feet away by placing a DSX-MCI module at the Controller to convert the RS-485 Output of the USB back to the RS-232 for termination.

INTERNAL COMMUNICATION

Enclosure to Enclosure Communications is handled at each DSX-1048 by a DSX-1040CDM (Communications Distribution Module) using true Point to Point, regenerative, RS-485, 4-wire communications.

- Two RS-485 ports for In and Out 4-wire communications to and from other Enclosures. Controller Network communication is regenerated at each DSX-1040CDM allowing up to 4,000 feet of distance between Enclosures over two-twisted-pair cables.
- Two RS-232 Ports - one is used to connect to the Master Controller and is only used in DSX1048PKG Enclosures that contain a Master Controller. The second is used to connect to each Sub Controller in that same Enclosure.

Enclosure to Enclosure communications is connected in a series loop configuration unless a DSX-1035 Quadraplexor is used for Star wiring.

A DSX-IP-HUB can be used for IP Sub communications. This module connects the Master Controller to the Network which allows Sub Controller communications to be routed via IP through the network to standard DSX-LAN-D modules connected to Sub Controllers or clusters of Sub Controllers.

DATABASE DOWNLOADS

DSX Controllers utilize a synchronized database maintained by incremental and automatic or scheduled downloads of changes only. This intelligent and independent processing increases the speed of the panel's actions and reactions providing more stability and security to the overall system. The Controllers are downloaded with all parameters the first time they are brought online. Once the initial full download occurs, all database changes, such as adding or deleting Card Holders, are sent to the Controllers by incremental download. The Controllers' transaction buffer adjusts its size to utilize any RAM not allocated for data.

DIAGNOSTIC, SUPERVISORY & STATUS LEDs

The DSX-1048 has 88 Diagnostic LEDs to indicate panel status. 32 are for Input Status, 16 are for Output Status. The rest are for Communications, Fuse and Processor Status.

DSX-1048 SPECIFICATIONS

Size

DSX-1040E Enclosure	15.5" W x 22.5" H x 6" D
DSX-1040CDM	11" W x 4.5" H x 1.5" D
DSX-1042	11" W x 4.5" H x 1.5" D

Weight

DSX-1040E Enclosure	19.2 lb.
DSX-1040CDM	1.0 lb.
DSX-1042	1.2 lb.
DSX-1048PKG Total	25.0 lb.

Finish

Black Powder Coat with White Silkscreen on Enclosure

SPECIFICATIONS CONTINUED....

Enclosure / Conduit Knockouts

Concentric knockouts in Top, Bottom and Sides
Knockouts accommodate 1/2, 3/4, 1, 1 1/2 inch conduit.
Nema Type 1 equivalent enclosure with lift-off hinged door, lock, key and tamper switch

Temperature

Operating 32° to 131° F
Storage -35° to 150° F

Humidity

Operating 0 to 95% Relative

Power Requirements

DSX-1042	13.5 VDC @ 300ma from 1040CDM
DSX-1040CDM	13.5 VDC @ 150ma from 1040PDP
Total Max Current	13.5 VDC @ 7.0A

Output Voltage

Panel Outputs provide a regulated, fused, DC Voltage

DSX-1042	9-13.5 VDC - 12 VDC nominal - 1A Fused
DSX-1040CDM	9-13.5 VDC - 12 VDC nominal - 1.5A Fused
DSX-1040CDM	5 VDC - .5A Fused

All Outputs are Class II, Power Limited

Inputs

32 EOL Supervised
16 Inputs for standard point monitoring
16 Inputs for Door Position and Exit Request monitoring.
All Inputs support 2, 3, and 4 state monitoring with five programmable circuit types

Outputs

8 Form C Relays
Relay Output Ratings - 5 AMP - 30 VDC
8 Open Collector Outputs - negative 100ma
24 LED Outputs - 3 per Reader port -negative 100ma
8 Pre-Alarm Outputs - 1 per Door - negative 100ma

Access Controlled Entry Points

8 Card Reader or Keypad
275+ Card and Reader Formats including CAC/FIPS/TWIC
Any combination of card readers and keypads may be used.

Communication Ports

DSX-1042
1 - RS-232 In - Master to PC
1 - RS-232 Out - Panel to DSX-1040CDM
DSX-1040CDM
1 - RS-232 In - Master to DSX-1040CDM
1 - RS-232 Out - Sub Communications
1 - RS-485 In - From previous DSX-1048PKG
1 - RS-485 Out - To subsequent DSX-1048PKG

Processor

RDC186 20Mhz

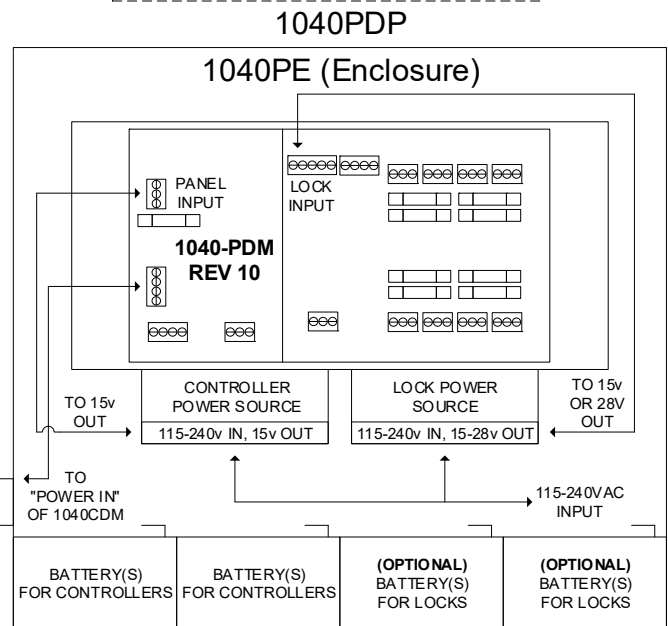
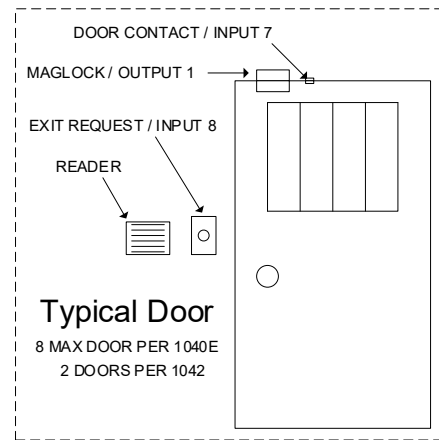
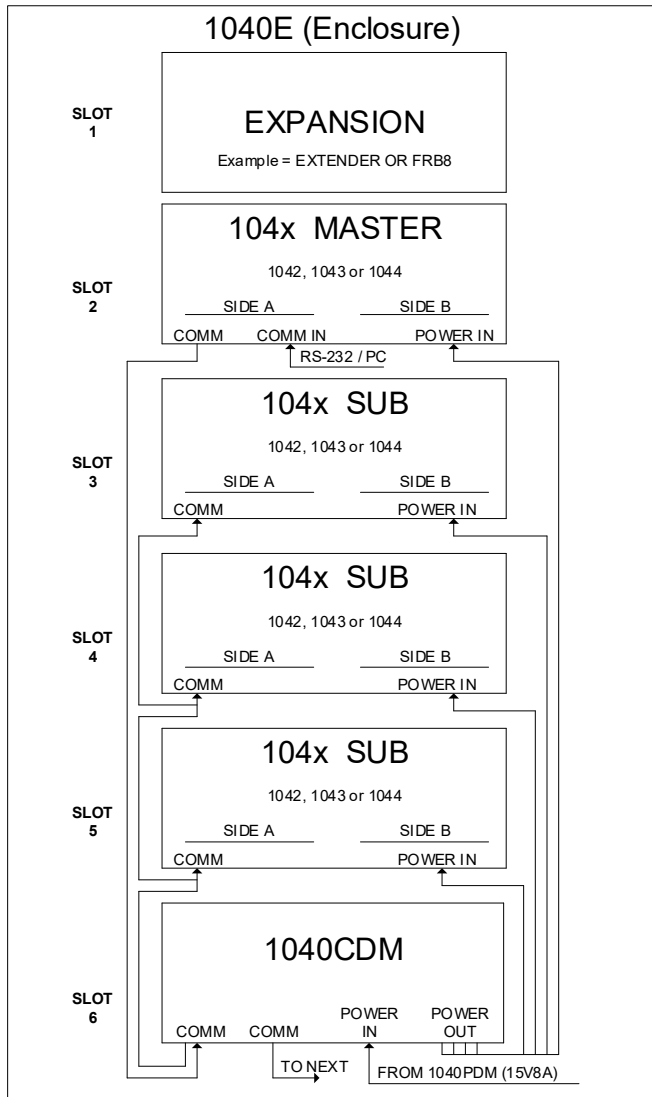
RAM/ROM Memory

Flash ROM 512K Standard RAM 512K
Non-Volatile Memory can be ordered with new Controllers or added to existing Controllers.

Warranty

Limited 2 Years

DSX-1048 BASIC ARCHITECTURE



The DSX-1048PKG includes a DSX-1040E Enclosure, a DSX-1040CDM Communication Distribution Module and 4 DSX-1042 Intelligent Controllers. This provides 8 Reader Ports, 32 Inputs and 16 Outputs. The DSX-1048PKG comes complete with 32 - 1K ohm EOL Resistors, Lock & Key, Wire Ties, Tamper Switch, an External Power Indicator and a DSX-1040PDP Power Distribution Panel.

The DSX-1040CDM receives RS-485 communications (from upstream Controllers or modules) and regenerates the 4 wire-RS485 to the next DSX-1048PKG. The DSX-CDM also distributes the RS-232 Sub Controller communication to the Sub Panels within the same Enclosure. Each DSX-1042 is powered from an individually fused 12volt Output from the DSX-1040CDM (Communications Distribution Module). The DSX-1040CDM receives power from two current limited Outputs on the DSX-1040PDP (Power Distribution Panel)

The DSX-1040PDP is used in conjunction with the DSX-1048PKG and houses the Panel and Lock Power supplies, Backup Batteries and Fused Power Distribution Module. The DSX-1040PDP is comprised of:

- DSX-1040PE Enclosure
- RWS-150 15V Power Supply for Controllers
- RWS-1580 [15] or [27] for either 12V or 24V Locks
- DSX-1040PDM (Power Distribution Module)

The DSX-1040PDM:

- Supervises Power Supplies and Batteries.
- Distributes power through fused Outputs.
- Provides Battery charging circuits.
- All Outputs are Class II Power Limited.



DSX-PDP POWER DISTRIBUTION PANEL

- 12VDC / 7A Power for Controllers
- Battery Backup for Controllers
- Optional Battery Backup for Locks
- Lock Power 12VDC-8A / 24VDC-4A-8A
- 12V / 24V Lock Power Selectable per 2 Outputs
- AC Loss / Low Battery Supervisory Outputs
- All Outputs - Class II, Power Limited
- Fire Override Selectable per 2 Outputs



GENERAL INFORMATION

The DSX-1040PDP Power Distribution Panel is the supervised power plant for the DSX-1048PKG Intelligent Controller. The DSX-1040PDP is comprised of:

- DSX-1040PE Enclosure
- RWS-150 15V Power Supply for Controllers
- RWS-1580 [15] or [27] for either 12V or 24V Locks
- DSX-1040PDM (Power Distribution Module)

The DSXPDP carries a 2 Year Limited Warranty.

POWER ARCHITECTURE

One RWS-150 Power supply for Controllers converts 115 VAC to 15 VDC. The second Power Supply (RWS-150 15/27, converts 115 VAC to either 12 or 24 VDC for Lock Power. Both Power Supplies feed the power to the DSX-1040PDM (Power Distribution Module). The DSX-1040PDM provides fused 12 VDC / 7A power to the DSX-1040CDM (which redistributes power through individually fused Outputs to each Controller in the DSX 1048 Enclosure.

INPUTS

- The DSX-PDM has a Battery Test Input. When activated, this Input shuts off the charging circuit and load tests the battery for 1 minute. This Input can be tied to a spare Output in the DSX-1048PKG and programmed by Time Zone to test when desired.
- The Module also has a connection point for a Fire - Override Relay to break Lock Power to all Locks.

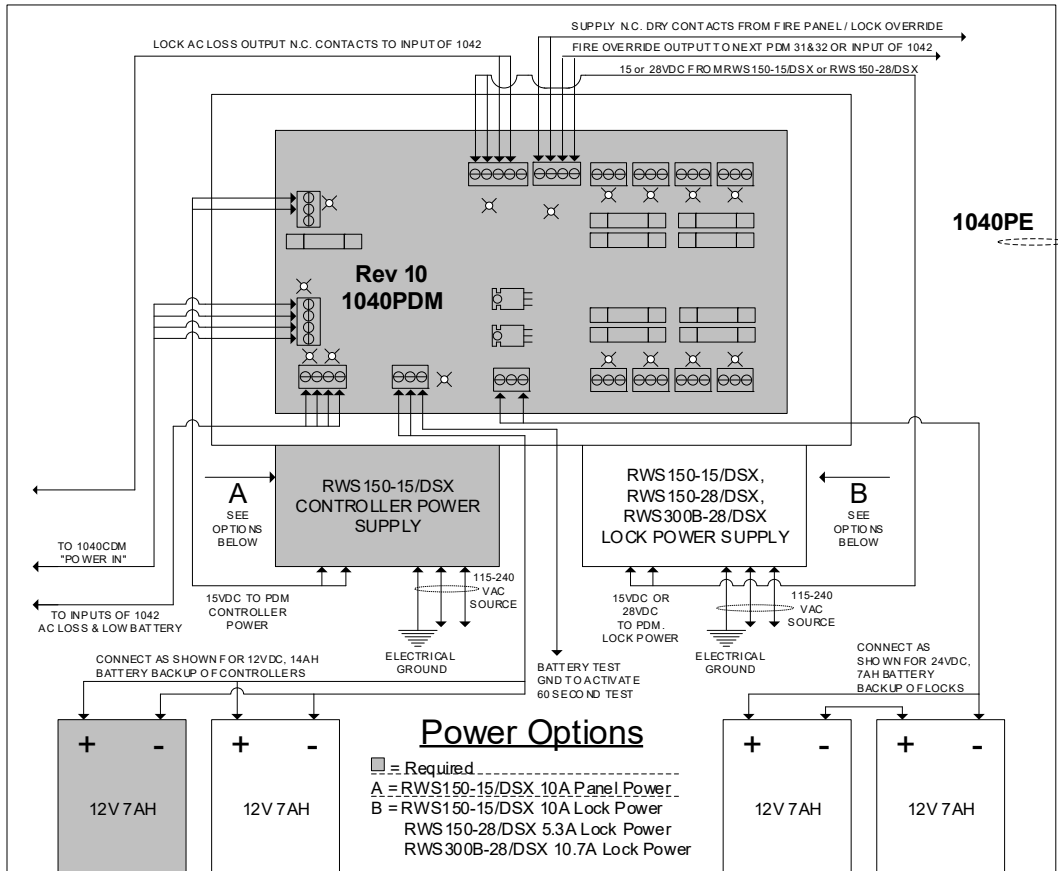
POWER DISTRIBUTION MODULE DSX-1040PDM

- Converts 15 VDC Power from the RWS-150 and provides two 12 VDC 3.5-amp Class II, Power Limited, Fused Outputs to power the DSX-1040CDM (which distributes power to the DSX-1042 Controllers in the DSX-1048PKG).
- Provides a 12 VDC Battery charging circuit to charge Backup Batteries for the Controllers and the optional batteries to backup Lock Power.
- Has Outputs to signal Loss of AC Power and Low Battery.
- Has a Battery Test Input and Load Shed Capabilities.
- Routes Lock Power through individual fuses for each of the 8 Outputs.
- All Outputs are Class II, Power Limited.
- Each pair of Outputs has a Fire Override Bypass Jumper to exclude them from a Fire Override activation.

OUTPUTS

- The Power Distribution Module has 3 N.C. Relay Outputs, two to signal Loss of AC (one for Lock Power and one for Controller Power) and one to signal Low Battery. These Outputs can be connected to spare Inputs in the DSX-1048PKG.
- Routes Lock Power through individual fuses for each of the 8 Class II, Power Limited Outputs with connection points for the Lock Wiring and the Output relays located in the DSX-1048.
- Has Lock Power Fire Override Output that can connect to an Input in the 1048 for Monitoring or to connect to the next 1048 and 1040PDM.

DSX-1040PDP BASIC ARCHITECTURE



DSX-1040PDP SPECIFICATIONS

Size

DSX-1040PE Enclosure	15.5"W x 14"H x 6"D
DSX-1040PDM	8"W x 4"H x 1.5"D
RWS-150 15/28	3.9"W x 7.8"H x 2.0"D

Weight

DSX-1040PE Enclosure	11.0 lb.
DSX-1040PDM	1.3 lb.
RWS-150 15/27	1.6 lb.
RWS-150 28	2.31 lb.

Finish

Black Powder Coat with White Silkscreen

Enclosure / Conduit Knockouts

Concentric knockouts in Top, Bottom and Sides
 Knockouts accommodate 1/2, 3/4, 1, 1 1/2 inch conduit.
 Nema Type 1 equivalent enclosure with lift-off hinged door, lock, key and Tamper Switch

Supervisory Outputs

Low Battery 1 - N.C. Relays
 Loss of AC 2 - N.C. Relays

Warranty

Limited 2 Years

Power Input Requirements

DSX-1040PDM	15 VDC / 7A for Panels
Locks	15 VDC/8A or 28 VDC/4 8A
RWS-150 or RWS 300	120 VAC (88-264 VAC) auto-detect

Power Inputs

DSX-1040PDM	10-15 VDC, 12 VDC nominal 2-3.5A Outputs
Locks	8 - 12 VDC @ 7A or 24 VDC @ 4 - 10A
Panel Battery Charging Circuit	12 VDC/3A
Lock Battery Charging Circuit	12/24 VDC / 3A
RWS-150/15	15 VDC 8.0A 150 Watts 511.8 BTUs
RWS-150/28	28 VDC 4.0A 150 Watts 511.8 BTUs
RWS-300/28	28 VDC 10.0A 300 Watts 1091.8 BTUs

*All 1040PDM Outputs are Class II, Power Limited

Inputs

Battery Test Active Low from spare Output on DSX-1048
 Fire Override connection point for N.C. relay contact to control PDM relay that enables all Lock Power

Diagnostic LEDs

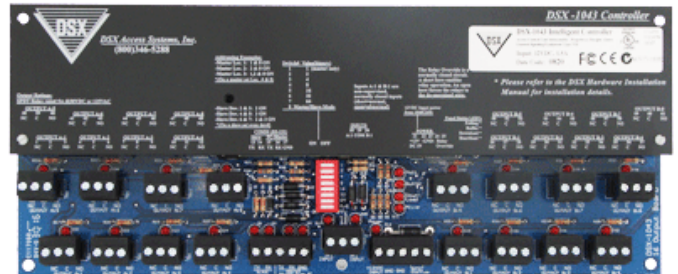
The DSX-1040PDP has 17 diagnostic LEDs.
 Power On LEDs for each of the two Power Inputs, Low Battery, Battery Test AC Loss, and Fire Override. The DSX-PDM also has 1 KED for each of the eight fused Outputs for Lock Power.



DSX-1043

INTELLIGENT OUTPUT CONTROLLER

- 16 Programmable Form C Relays
- 4 Time / Day Schedules per Output
- Output Control (Override) Input
- Two Inputs for Supervision
- Two Inputs for Supervision
- UL 294 / UL 1076
- Flexible I/O Linking
- Non-Volatile Memory Available
- Scalable Architecture



GENERAL INFORMATION

The DSX-1043 is an independent processing, 16 Output Intelligent Controller designed to be a cost-effective building block in the DSX Hardware Platform that allows expansion in a scalable manner. Up to 64 Outputs can be controlled from 1 enclosure for an efficient space saving package. Each DSX-1043 operates as a fully intelligent and independent controller that retains all data necessary for system operation in its own RAM. An integral real-time Clock and Calendar allows Time Zone control and Holiday Overrides for Outputs even when communication to the PC or other Controllers is not available. The DSX-1043 carries a Limited 2 Year Warranty

CONTROLLER ARCHITECTURE

The DSX-1043 Intelligent Controller may be used in conjunction with all other DSX Controllers as a Master or Sub in the Controller Network. Any controller may be designated as a Master or Sub Controller. The Master or Sub mode of operation is determined by the panel's dip switch settings. The first panel of each Location is designated as Master while all others are considered Subs.

The Master is responsible for communications to the PC and to the Sub Controllers. Up to 64 Controllers can be used in a single Location.

Up to 4 DSX-1043 Controllers can be placed in a DSX-1040E Enclosure along with a DSX-1040CDM Communication Distribution Module. The Controller can be placed in a

1042PKG mixed with DSX-1042 and DSX-1044 Controllers. The DSX-1043 contains an RDC186 Processor, 512K of RAM, 512K of Flash ROM and a Real Time Clock. The DSX-1043 allows all field wiring connections to be made via removable terminal blocks. The DSX-1040CDM receives RS-485 communications (from upstream Controllers or Modules) and regenerates the 4 wire RS-485 to the next enclosure. The DSX-1040CDM also distributes RS-232 Sub Controller communication to Sub panels located within the same enclosure.

OUTPUTS

The DSX-1043 has 16 Programmable, Form C, 5 Amp 30VAC/30VDC rated Relay Outputs. The On/Off state of the Outputs can be controlled by up to 4 Time Zones, I/O and Card Linking, and manually from the PC. The Relay Override Input requires a closure for the Outputs to operate. When the Override Input is open, the Outputs are de-energized. All Outputs have an LED for status.

INPUTS

The DSX-1043 has 2 non-supervised Inputs for Tamper monitoring. The armed status of each Input can be controlled by up to 4 Time Zones, I/O Card Linking and manually from the PC.

SYSTEM POWER

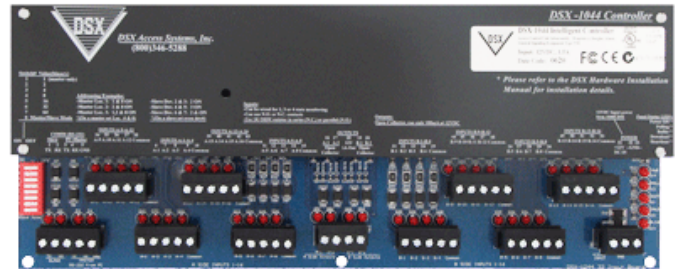
Each DSX-1043 is powered from an individually fused 12 Volt Output from the DSX-1040CDM module located in the same DSX-1040E Enclosure.



DSX-1044

INTELLIGENT INPUT CONTROLLER

- 32 Programmable Inputs
- 2, 3, and 4 State Monitoring
- 4 Digital (Open Collector) Outputs
- Status LEDs for each Input
- UL 294 / UL 1076
- Flexible I/O Linking
- Non-Volatile Memory Available
- Scalable Architecture



GENERAL INFORMATION

The DSX-1044 is an independent processing, 32 Input Intelligent Controller designed to be a cost-effective building block in the DSX Hardware Platform that allows expansion in a scalable manner. Up to 128 Inputs can be controlled from one enclosure for an efficient space saving package. Each DSX-1044 operates as a fully intelligent and independent controller that retains all data necessary for system operation in its own RAM. An integral real-time Clock and Calendar allows Time Zone control and Holiday Overrides for Inputs even when communication to the PC or other Controllers is not available. The DSX-1044 carries a Limited 2 Year Warranty

CONTROLLER ARCHITECTURE

The DSX-1044 Intelligent Controller may be used in conjunction with all other DSX Controllers as a Master or Sub in the Controller Network. Any controller may be designated as a Master or Sub Controller. The Master or Sub mode of operation is determined by the panel's dip switch settings. The first panel of each Location is designated as Master while all others are considered Subs.

The Master is responsible for communications to the PC and to the Sub Controllers. Up to 64 Controllers can be used in a single Location. Up to four DSX-1044 Controllers can be placed in a DSX-1040E Enclosure along with a DSX-1040CDM Communication Distribution Module. The Controller can be placed in a 1042PKG mixed with DSX-1042 and DSX-1043

Controllers. The DSX-1044 contains an RDC186 Processor, 512K of RAM, 512K of Flash ROM and a Real Time Clock. The DSX-1044 allows all field wiring connections to be made via removable terminal blocks. The DSX-1040CDM receives RS-485 communications (from upstream Controllers or Modules) and regenerates the 4 wire RS-485 to the next enclosure. The DSX-1040CDM also distributes RS-232 Sub Controller communication to Sub panels located within the same enclosure.

INPUTS

The DSX-1044 has 32 Programmable Inputs. The armed status of each Input can be controlled by up to 4 Time Zones, I/O Card Linking and manually from the PC. Each Input has its own status LED that is On when the Input is normal. Each Input individually supports 2, 3, and 4 state point monitoring.

OUTPUTS

The DSX-1044 has 4 Digital (Open Collector) Outputs that have the same programmability and functionality of all other DSX Outputs. The On/Off state of each Output is reflected by Status LEDs. The Outputs can be controlled by up to 4 Time Zones, I/O Card Linking and manually from the PC.

SYSTEM POWER

Each DSX-1044 is powered from an individually fused 12 Volt Output from the DSX-1040CDM module located in the same DSX-1040E Enclosure.

DSX-1043 SPECIFICATIONS

Size

DSX-1043 11"W x 4.5"H x 1.5"D

Weight

DSX-1043 1.6 lb.

Finish

Black Powder Coat with White Silkscreen on Enclosure
Black Nylon with White Silkscreen on DSX-1043

Temperature

Operating 32° to 131° F
Storage -35° to 150° F

Humidity

Operating 0 to 95%, Relative

Power Requirements

DSX-1043 13.5 VDC @ 800ma from 1040CDM

Inputs

2 Non-Supervised
1 Relay Override Input

UL Installations require a Tamper Switch to be connected to an Input programmed with a 24-hour Time Zone

Outputs

16 Form-C Relays
Relay Output Ratings 5 AMP 30 VDC

Communication Ports

1 RS-232 In Master to PC
1 RS-232 Out - Panel to DSX-1040CDM

Processor

RDC186 20 Mhz

RAM/ROM Memory

Flash ROM 512K
Standard RAM 512K
Non-Volatile Memory is available for new and existing Controllers

Warranty

Limited 2 Years

DSX-1044 SPECIFICATIONS

Size

DSX-1044 11"W x 4.5"H x 1.5"D

Weight

DSX-1044 1.2 lb.

Finish

Black Powder Coat with White Silkscreen on Enclosure
Black Nylon with White Silkscreen on DSX-1044

Temperature

Operating 32° to 131° F
Storage -35° to 150° F

Humidity

Operating 0 to 95%, Relative

Power Requirements

DSX-1044 13.5 VDC @ 550ma from 1040CDM

Inputs

32 Supervised
2, 3, and 4 State Monitoring

UL Installations require a Tamper Switch to be connected to an Input programmed with a 24-hour Time Zone

Outputs

4 Digital (Open Collector)
Output Ratings 12 VDC @ 100ma sinking

Communication Ports

1 RS-232 In Master to PC
1 RS-232 Out Panel to DSX-1040CDM

Processor

RDC186 20 Mhz

RAM/ROM Memory

Flash ROM 512K
Standard RAM 512K
Non-Volatile Memory is available for new and existing Controllers

Warranty

Limited 2 Years



DSX-LAN-D

LAN COMMUNICATIONS MODULE

- Web Interface for Configuration
- Admin and User Complex Passwords
- Transmitted Security Log
- RS-232 / RS-485 Outputs
- Diagnostic LEDs
- UDP Protocol with definable Socket
- Powered from DSX Controller



GENERAL PURPOSE

The DSX-LAN-D module is used to provide Local or Wide Area Network Communications between the Comm Server PC and the Master Controller. The DSX Software is inherently TCP/IP capable and can direct communications to a specific IP address and UDP port number. The DSX-LAN-D module receives that communication and converts it to RS-232 or RS-485 that connects directly to the Master Controller.

The DSX-LAN-D can also be used with a Sub Controller or a cluster of Sub Controllers with the use of the DSX-IP-HUB at the Master Controller. The IP-HUB is an appliance that routes Sub Panel Communications to LAN modules installed at Sub Controllers.

The DSX-LAN-D module security provides an Admin and User Password of 6 to 19 characters with user definable complexity. The User password can change the network settings and the Admin password can change both network and security settings. The Security Log feature allows for an optional IP Address and Port to be defined (not the Comm Server). Once defined, the module will send all Login attempts and notifications of changes made to that Log address. The module can also send a supervisory heartbeat message to this same address at a user definable frequency.

POWER

The DSX-LAN-D is powered from the Controller or the DSX-1040CDM. The module is powered from 5 - 12 VDC requiring a mere 350ma. Powering the module from the DSX Controller provides a good stable battery backed up source. 5 V output is preferred.

MOUNTING

The DSX-LAN-D is designed to fit in the same Equipment Cabinet as the DSX-1048 and DSX-1022 Controllers. It can mount on the inside or rest in the bottom of the enclosure. It has three mounting holes and removable terminal blocks for ease of installation.

SPECIFICATIONS

Size

4.75"H x 2.8"W x 1.5"D

Weight

7.5 oz.

Temperature

Operating 0° to 70° C

Power Requirements

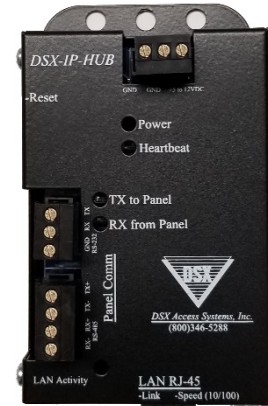
DC Input Voltage 5 - 12 VDC @ 350ma
5 VDC preferred.



DSX-IP-HUB

SUB COMMUNICATIONS ROUTER

- Web Interface for configuration
- Admin and User Complex Passwords
- RS-232 / RS-485 Inputs
- Diagnostic LEDs
- UDP Protocol with definable Socket
- Powered from the DSX Controller



GENERAL PURPOSE

The DSX-IP-HUB is a module that connects to the Master Controller and to the Network and allows Sub Controller Communication to be routed via IP through the Network to Standard DSX-LAN-D modules connected to the Sub Controllers or clusters of Sub Controllers.

The DSX-IP-HUB allows Controller Communication to be IP via the LAN without the use of PC Master Software. In fact, the IP-HUB can be used in some cases to replace PC Master Software by adding or reconfiguring an existing panel to be a Master Controller and attaching a DSX-IP-HUB to it. The Sub Controllers use standard DSX-LAN-D modules and would only require minor reprogramming to allow communication with the new Master Controller through the IP-HUB.

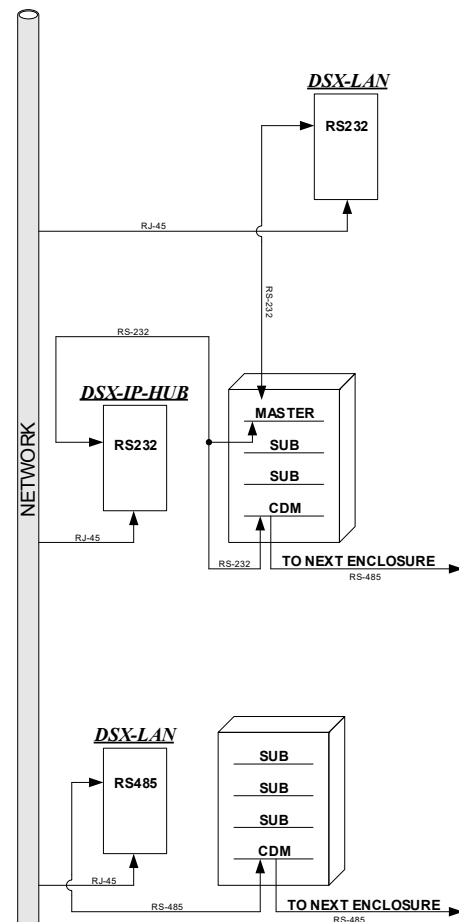
SPECIFICATIONS

Size
4.75”H x 2.8”W x 1.5”D

Weight
7.5 oz.

Temperature
Operating 0° to 70° C

Power Requirements
DC Input Voltage 5 - 12 VDC @ 350ma
5 VDC preferred.





DSX-CRT CARD READ TRANSLATOR

- CRT2 2 Reader Ports / 4 Outputs
- CRT4 4 Reader Ports / 8 Outputs
- IP to Wiegand Translator

OVERVIEW

The DSX-CRT can receive a concise and secure packet over the customer's network and translate it to a Wiegand Card Read or Pulsed Output. The CRT is a gateway for other systems such as Visitor Management, Facial Recognition, Temp & Mask Verification, Parking, or other applications to send a Card Read or Access Request or even an Alarm to the DSX System.

Each CRT2 Module provides communications for Two Doors. The 4 Open Collector Outputs can be connected to DSX Controller Inputs for Alarm Activation, to Initiate Linking, Emergency Lockdown or Unlocks, Request to Exit, Linking between Locations and other system interactions. The DSX-CRT will operate with any Access Control panel that accepts Wiegand (OSDP-Future). The Module has a Web Interface for programming where the Wiegand Output Format is configured to 26, 33, 35, 37, 40 or 48-bits.

With a Covid/Temp Screening System, the employee has their identity confirmed by a Card Read or Facial Recognition device. If they have a fever, it sends a Command to the CRT to activate an Open Collector Output to signal a "fever alarm" or a different Output for a "no mask" alarm. If the Card Holder is screened and validated, their Card number is sent to the CRT which translates it to a Card Read and sends it to the DSX Controller. The Controller could respond by Unlocking a Door or Checking the Card Holder In to enable their Card throughout the rest of the Location.



The DSX-CRT is available in two configurations:

- DSX-CRT2** 2 Reader Ports 4 Outputs
- DSX-CRT4** 4 Reader Ports 8 Outputs

SPECIFICATIONS

Size / Weight

CRT2	4 3/4" H x 3" W	8 oz.
CRT4	6 3/4" H x 3 1/2" W	13.5 oz

Power Requirements

5 to 12 VDC

Outputs

CRT2

2 Wiegand Ports with 26, 33, 35, 37, 48-bit Outputs
4 Open Collector 100ma Outputs

CRT4

4 Wiegand Ports with 26, 33, 35, 37, 48-bit Outputs
8 Open Collector 100ma Outputs



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