








DSX-1020

Intelligent One Door Controller

- **8 Supervised Programmable Inputs**
- **2 Fused Relay Outputs**
- **TCP/IP Communications**
- **185+ Card and Keypad Formats**
- **Flexible I/O Linking - Local & Panel to Panel**
- **Installs in 1021 and 1022 Enclosure**
- **512K RAM / 512K Flash ROM**
- **Compatible with all existing DSX Controllers**
- **UL 294**     



General Information

The DSX-1020 is an independent processing, one door intelligent controller designed to be a cost effective building block of the DSX hardware platform that allows expansion in a scalable manner. One small, feature loaded package that can be strategically deployed where a single reader is required such as parking garages, gates and other remote situations. This newly designed controller has several new features such as fuses in line with the common terminals on all relay outputs. Battery Test and Load Shed are also new features incorporated into the panel to protect the panel and its backup battery. The DSX-1020 carries a Limited 2 Year Warranty.

Controller Architecture

The DSX-1020 Intelligent Controller (panel) is designed as a unitized (processor and I/O board combined) controller with small space requirements that accommodates a single reader/keypad controlled door. The DSX-1020 can be used in conjunction with all other DSX Controllers as a Master or Slave in the Controller Network. The first Controller of each location is designated as the Master. The Master is responsible for communications to the PC and to the Slave Controllers.

The unitized DSX-1020 controller contains an AM186 processor, RAM, ROM, power supply, and removable field wiring terminals. Each DSX-1020 operates as a fully distributed processing control panel that retains all data necessary for system operation in its own RAM. Each DSX-1020 checks its database to make decisions about access control, alarm monitoring, and time zone changes. The DSX-1020 has an integral real-time clock and calendar which 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-1020 is compatible with Wiegand, Barium Ferrite, Proximity, Bar Code, Magnetic Stripe, Biometrics, 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. The DSX-1020 is compatible with over 185 different card readers / keypads and card formats which makes it the perfect panel for retrofits.

Memory

The DSX-1020 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 data entered for that location.

Inputs

The DSX-1020 has 8 EOL supervised Inputs capable of two, three, 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 & Card Linking, and Manually from the PC. One Input (input 7) is designated as the Door Position Input for the reader controlled door. One Input (input 8) is designated as the Exit Request Input for the reader controlled door. The remaining six Inputs are then left for point monitoring of any contact closure output device.

Outputs

The DSX-1020 has three Outputs. One Output (output 1) is the Form-C, fused at 1 Amp, relay output to control the lock for the reader controlled door. One Outputs (output 2) is also a Form-C, fused at 1 Amp, relay output that is programmed and used in the same ways as all other outputs. All Relay Outputs have 1A fuses in series with the Common terminal. One Pre-Warn Output is used to indicate the controlled door is 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 anytime the door is in alarm. This open collector output resets automatically when the door is closed.

Communications:

The DSX-1020 Intelligent Controller can communicate with the Comm Server (Host PC) via TCP/IP, direct serial port, and dial-up modem.

TCP/IP LAN Communications can be performed from the WinDSX Comm Server PC to a Master Controller. The WinDSX Software without the use of any additional Hardware or Software will redirect what would typically be serial port communications to a TCP/IP address. A DSX-LAN (M) device at the Master Controller receives the communications over the LAN from the WinDSX PC and converts it to RS-232/RS-485 for the Master Controller. The end result is real time communications similar to that of a direct serial port connection.

Direct Connect Communications to the PC from the Master 1020 Controller is performed with the use of the MCI module which connects to the comm port of the PC and converts the RS-232 signal from the PC to RS-485. The RS-485 communications from the MCI to the Master utilizes two twisted pair cable for the data and one pair for power. The RS-485 output of the MCI will support up to 4000 feet of cable distance. The controller communicates with the PC at a default baud rate of 9600. As long as the communications signal arrives at the Master as RS-485 and RS-232 at the PC in an asynchronous, full duplex mode, operating at 9600 baud, the method of communication in between can be just about any mode of transport such as Direct Wire, T1, Lease Line, or Fiber Optics.

Dial-Up Modem Communications from the DSX-1020 Master Controller to the PC utilizes a DSX-Modem and DSX-MCI module at the Controller and a DSX-Modem at the PC. At the DSX-1020 Master, the RS-485 Host Communications Port connects to a DSX-MCI module which converts the RS-485 of the Controller to RS-232 for the Modem. The DSX-MCI and Modem derive power from the 12VDC output of the DSX-1020 panel. The Controller will auto-dial to the PC all Alarm and supervisory conditions. The controller can also be programmed to dial the PC when its event buffer is 80% full.

Panel to Panel Communications is a true point to point, regenerative, RS-485, 4-wire, communications method. This allows the panel to panel network communications to be regenerated at each controller providing up to 4000 feet of distance between controllers over two twisted pair cable. Panel to Panel communications can be configured in a series loop, star configuration, or both. Star configurations require a DSX-1035 Quadraplexor.

DSX-1020 Specifications

Size

Cabinet	15.5" W x 13.5" H x 6.0"D
DSX-1020	10.5" W x 7.5" H x 1.5" D

Weight

Cabinet	11.00 lb.
DSX-1020	1.60 lb.
Package Total	12.60 lb.

Finish

Black Powder Coat on Enclosure and Black Enamel on Shield

Temperature/Humidity

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

Supply Voltage

Panel Voltage	16.5 VAC 40VA
Power Requirements	33 Watts (112.6 BTU)
Panel Current Draw	540 ma (Current will vary depending on panel voltage output loads).

UL Listed or CSA Certified Class II Transformer Required.

Output Voltage

Panel Output	12VDC1A - Fused
Panel Output	5VDC 1/2A - Fused

Inputs

EOL Supervised 8
Inputs 5 through 6 are used for point monitoring.
Inputs 7 and 8 are used for door position and exit request monitoring.
All Inputs support two, three, and four state monitoring with five programmable circuit types.

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

Outputs

Form C Relays (1-2)	2 fused at 1A
Relay Ratings	5 AMP 30 VDC
LED Outputs	3 open collector 100ma
Pre-Alarm Outputs	1 open collector 100ma

Access Controlled Entry Points

Card Reader or Keypad 1
Any combination of card readers, keypads, or card and keypad controlled entry points may be used.

Battery Charging Output

Trickle Charge	13.5 VDC 500ma Fused
Standby Time	3.3 hours under maximum load.

For UL Installations, battery must be Powersonic PS-1270, Interstate PC-1270, or a SBS S-1272.

Communication Ports

RS-485 In	2	1 for Master to PC, 1 From Slave
RS-485 Out	1	To Subsequent Slaves

DSX-1020 Master Controllers always require a MCI Module.

Processor

AM186	20Mhz
-------	-------

RAM Memory

Standard	512K
----------	------

* The transaction buffer automatically adjusts to utilize any RAM not allocated for system parameters.

Warranty

Limited	2 Years
---------	---------

1020/0904.p65

