

VICON ACCESS CONTROL CONTROLLERS



Also available in white



Over-the-Door Controller



Elevator/IO Controller



Master Controller Multi-Door Kit

The Vicon Access Control (VAX) system consists of a dedicated Vicon Access Control Server and the edge Controller(s). The Server contains the operating system, database engine, web server, application software and configuration data. The Controller communicates back to the Server over the network and provides an interface to readers, relay outputs, door locks, etc.

Vicon offers 3 types of controllers, door, I/O and elevator, to provide access control to a variety of locations. The uniquely designed over-the-door controllers are offered in single-door or two-door versions. Their patent-pending single-door design offers Request to Exit (REX) motion sensor. When multi-door control is required, a series of multi-door kits are available. These controllers support allow multiple doors to be controlled through a single IP address; they are ideal for legacy wired system retrofits, equipment room mounting or areas where security, space, time and budget are important considerations.

Product at a Glance

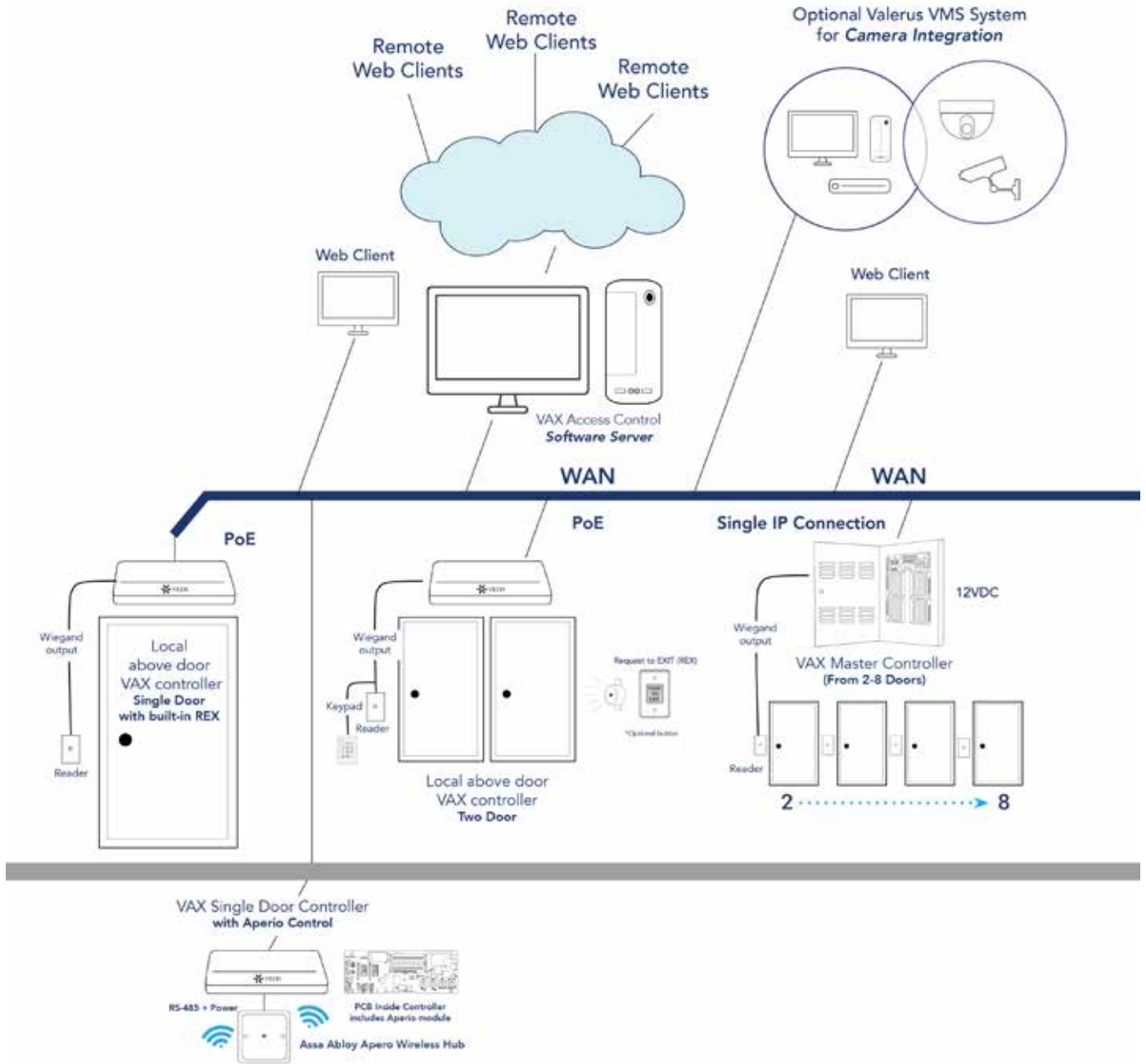
- ▶ Single-door and two-door models; versatile mounting options include convenient over-the-door location or out of sight electrical rooms
- ▶ Master controller multi-door kits available
- ▶ I/O master controller controls up to 8 inputs/outputs
- ▶ Elevator controller controls up to 8 floors
- ▶ Customizable holiday user groups and holiday setup
- ▶ Integrates cardPresso® photo badging software
- ▶ Supports third party badging/hardware (Wiegand card formats; HID/MIFARE readers)
- ▶ Triple swipe feature
- ▶ 256 bit AES encryption between panel and server (optional)
- ▶ Powered by PoE or 12 VDC, product dependent

An input/output (I/O) controller is used to expand the number of input and output relays into the VAX system. It provides 8 inputs/outputs and is expandable to 64. An elevator controller is used to incorporate elevator access into the VAX system. It provides up to 8 floors (4 cabs) and is expandable up to 64 floors.

The controllers provide LED indicators for system status and an LCD display for system diagnostics. Configurable dry contact inputs and relay outputs are supported. The controllers support 2 readers.

VICON ACCESS CONTROL CONTROLLERS

Typical VAX Installation Diagram



Data Sheet Number: V274-21
 Dated: 1/2019

Vicon Data Sheet Part Number: 8009-7274-21-01
 Specifications subject to change without notice.

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VICON ACCESS CONTROL CONTROLLERS

SPECIFICATIONS

These unique over-the-door controllers, available for single or two doors, mount conveniently at the door(s) location it is managing.

Door Controller Hardware

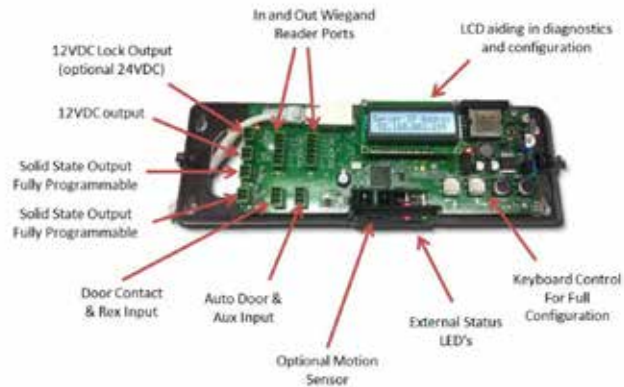
Processor:	32-bit microprocessor based
Power:	Supply: 802.3af PoE/PoE+ (provides up to 20 W) Lock: Solid state 12 VDC, 500 mA/24 VDC, 250 mA (with optional converter) Auxiliary Output: 12 VDC 200 mA
Network:	Speed: 10/100 Mbps Modes: Static or DHCP MAC: Unique Encryption (panel-server): 256 bit AES option
I/O:	Lock Relay: 1x wet contact solid state Auxiliary Relays: 2x dry contact solid state (24 VDC, 1A limit) Inputs: 4x supervisor or digital (REX, door contact, HDCP opener, auxiliary)
Readers:	Reader Port: 2x Wiegand (D0, D1, BUZ, LED, VCC, GND)
User Interface:	LEDs: 2x power indicator; 2x reader data flow indicator; 3x relay status indicator; 2x Ethernet status indicator; 2x on-board info; 2x off-board info (PIR) LCD Display: 1x 16 channel; 2-line LCD with backlight Push Buttons: 4x tactile switch Sound: 1x 90 db Piezo
Integrated Motion:	Passive PIRs: 5.0 m detection performance 94° (H)/82° (V) detection area 64 detection zones 170 uA consumption Tricolor LED (red, green, orange)
Protection:	PoE: in-rush current limit/overall current limit Over-Current: Strike, relays, 12 VDC output Surge: Strike, readers, inputs Tamper: Photo tamper sensor
Time Keeping:	Date/Time: 1x on-board real-time clock (no battery required, maintains up to 1 month)
Memory:	Flash Memory: 8.0 Mb

Housing and Back Plate:	Molded ABS plastic; removable cover for quick access; flat surface mount back plate with cabling port
Options:	24 VDC Converter: converts 12 VDC to 24 VDC Dry Contact Converter: converts wet to dry contact Expansion Port: supports WiFi, serial, extra memory, I/Os for future expansion 50,000 events stored in case of network failure
Storage:	

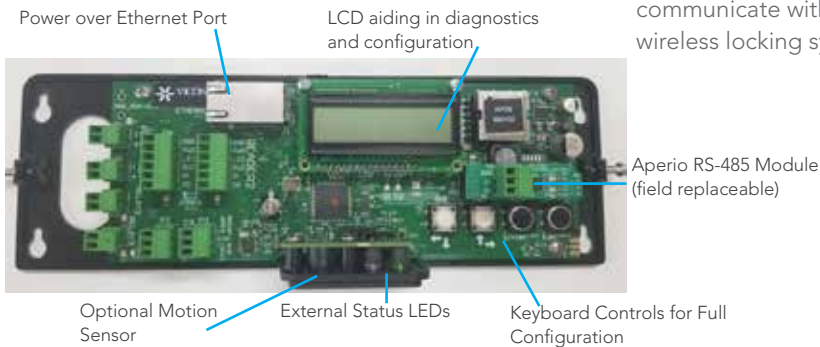
Mechanical & Environmental

Dimensions:	W: 10.0 in. (254 mm); H: 2.0 in. (51 mm); D: 3.25 in. (83 mm)
Weight:	0.9 lb (0.4 kg)
Operating Temperature:	32 - 122° F (0 - 50° C)
Operating Humidity:	10% to 90% relative humidity, non-condensing
Approvals:	UL; CE

Door Controller PCB Diagram



Door Controller PCB Diagram with Aperio Module



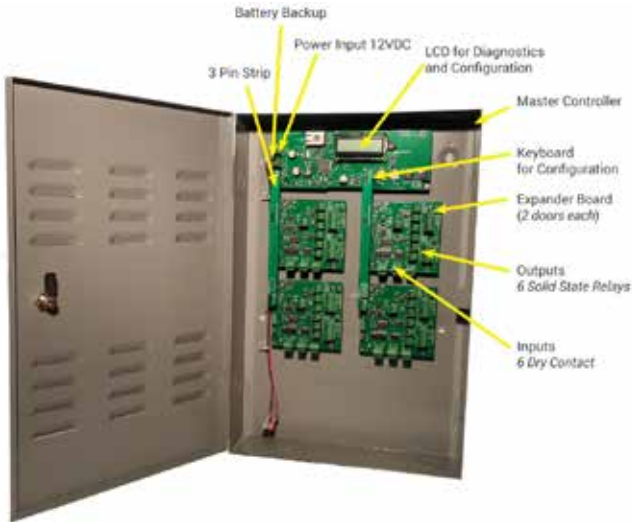
Adding a VAX-APERIO-8 module to the door controller allows it to communicate with up to 8 ASSA ABLOY Aperio hubs to control a wireless locking system



VICON ACCESS CONTROL CONTROLLERS

Master Controller Multi-Door Kit in Lockable Enclosure

The multi-door master controllers are used when centralized control of multiple doors is required. They can be conveniently mounted in equipment rooms for control elsewhere in the system.



SPECIFICATIONS

Multi-Door Master Controller Hardware

Processor:	32-bit microprocessor based
Power:	Supply: 12 VDC input from external power supply Lock: Solid state 12 VDC, 500 mA
Network:	Speed: 10/100 Mbps Modes: Static or DHCP MAC: Unique Encryption (panel-server): 256 bit AES option
I/O:	Relays: 6-24 dry contact solid state Inputs: 6-24 dry contact
Readers:	Reader Port: 2x Wiegand
User Interface:	LEDs: 2x power indicator; 2x reader data flow indicator; 3x relay status indicator; 2x Ethernet status indicator Display: 2-line LCD with backlight Push Buttons: 4x tactile switch (keyboard for data entry) Sound: 1x 90 db Piezo

Mechanical & Environmental

Dimensions:	W: 11.625 in. (295 mm); H: 17.25 in. (438 mm); D: 3.625 in. (92 mm)
Construction:	Metal enclosure
Operating Temperature:	32 - 122° F (0 - 50° C)
Operating Humidity:	10% to 90% relative humidity, non-condensing
Approvals:	UL; ETL listed (conforms to UL 294); certified to CSA-22.2 no. 205; CE

The VAX-MDK Multi-Door Kits requires an external 12 VDC power supply; if the optional battery backup is being used, a 13.5 VDC is recommended to fully charge the battery. Below are power consumptions when using the VAX-MDK kits with typical number of readers and door strikes. For details on specific power calculations, speak to your Vicon sales representative.

VAX-MDK Power Consumption Chart

Model	12 VDC Power Supply	13.5 VDC Power Supply
VAX-MDK-2	1.5 A	1.4 A
VAX-MDK-4	3 A	2.75 A
VAX-MDK-6	4.25 A	4.1 A
VAX-MDK-8	5 A	5 A

VICON ACCESS CONTROL CONTROLLERS SPECIFICATIONS

I/O Controller Hardware

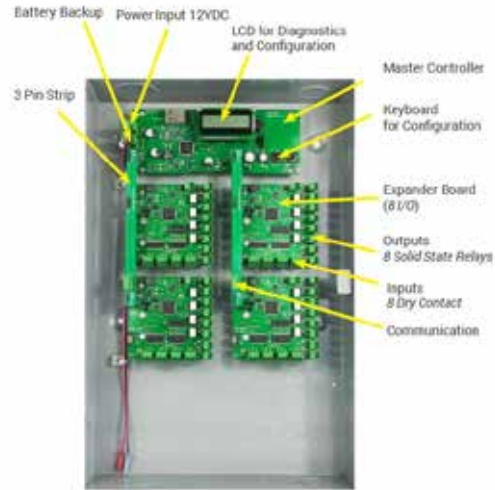
Processor:	32-bit microprocessor based
Power:	12 VDC powered with external power supply Auxiliary Output: 12 VDC 450 mA (for expander boards).
Network:	Speed: 10/100 Mbps Modes: Static or DHCP Encryption (panel-server): 256 bit AES option
I/O on Expander:	8x dry contact inputs; 8x solid state outputs
User Interface:	LEDs: 2x power indicator; 2x Ethernet status indicator LCD Display: 1x 16 channel; 2-line LCD with backlight Push Buttons: 4x tactile switch (keyboard for data entry) Sound: 1x 90 db Piezo
Support:	Up to 64 I/Os per master controller (with expander boards) 16 input time zones; 16 holiday time zone groups, 50 holidays each 64 output time zones 8 holiday time zone groups, 50 holidays each
Protection:	Configurable photo tamper sensor
Communications:	RS-485 protocol
Time Keeping:	Date/Time: 1x on-board real-time clock (no battery required, maintains up to 1 month)
Storage:	50,000 events; on-board

Mechanical & Environmental

Dimensions:	W: 11.625 in. (295 mm); H: 17.25 in. (438 mm); D: 3.625 in. (92 mm)
Weight:	4.1 lb (1.9 kg)
Construction:	Metal enclosure
Operating Temperature:	32 - 122° F (0 - 50° C)
Operating Humidity:	10% to 90% relative humidity, non-condensing
Approvals:	UL; ETL listed (conforms to UL 294); certified to CSA-22.2 no. 205; CE

VAX-IO-STR-2 Controller Diagram

Unit may look slightly different but connections will be similar.



Elevator Controller Hardware

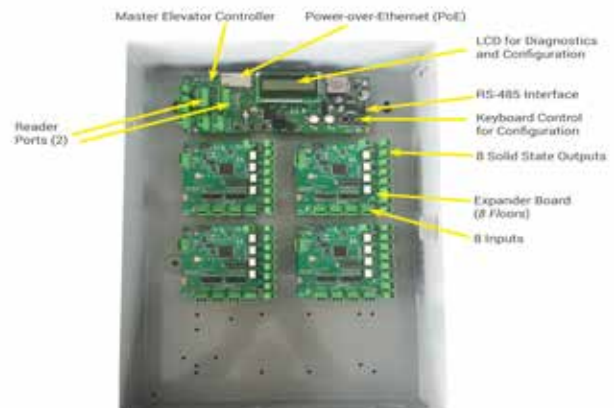
Processor:	32-bit microprocessor based
Power:	Supply: 802.3af PoE (up to 15.4 W)/PoE+ Reader: 12 VDC, 250 mA per port Auxiliary Output: 12 VDC 200 mA (for expander boards)
Network:	Speed: 10/100 Mbps Modes: Static or DHCP Encryption (panel-server): 256 bit AES option
I/O on Expander:	8x inputs; 8x solid state outputs
Readers:	Reader Port: 2x Wiegand (D0, D1); 1 per cab Formats: magnetic stripe, biometric, bar code and Wiegand
User Interface:	LEDs: 2x power indicator; 2x reader data flow indicator; 1x communication status; 2x Ethernet status indicator; 1x heartbeat LCD Display: 1x 16 channel; 2-line LCD with backlight Push Buttons: 4x tactile switch (keyboard for data entry) Sound: 1x 90 db Piezo
Support:	4 cabs per master controller Up to 64 floors per master controller (with expander boards) 2 readers Button or non-button sensing 256 user time zones; 50 user holiday time zone groups, 50 holidays each 64 floor time zones 8 floor holiday time zone groups, 50 holidays each
Protection:	Configurable photo tamper sensor
Communications:	RS-485 protocol
Time Keeping:	Date/Time: 1x on-board real-time clock (no battery required, maintains up to 1 month)
Storage:	50,000 users; 50,000 events; on-board

Mechanical & Environmental

Dimensions:	W: 11.625 in. (295 mm); H: 17.25 in. (438 mm); D: 3.625 in. (92 mm)
Weight:	4.1 lb (1.9 kg)
Construction:	Metal enclosure
Operating Temperature:	32 - 122° F (0 - 50° C)
Operating Humidity:	10% to 90% relative humidity, non-condensing
Approvals:	UL; ETL listed (conforms to UL 294); certified to CSA-22.2 no. 205; CE

Elevator Controller Diagram

Unit may look slightly different but connections will be similar.



VICON ACCESS CONTROL CONTROLLERS

ORDERING INFORMATION

Door and Multi-Door Controllers

Description	Model Number
SINGLE DOOR CONTROLLER; integrated PIR/REX; supports back to back readers; black enclosure	VAX-1D-REX-1
SINGLE DOOR CONTROLLER; without integrated PIR/REX; supports back to back readers; black enclosure	VAX-1D-1
TWO DOOR CONTROLLER; integrated PIR/REX; supports back to back readers; black enclosure	VAX-2D-REX-1
TWO DOOR CONTROLLER; without integrated PIR/REX; supports back to back readers; black enclosure	VAX-2D-1
TWO DOOR MULTI-DOOR KIT; includes 1 master and 1 two door board mounted in a steel vented and lockable enclosure	VAX-MDK-2
FOUR DOOR MULTI-DOOR KIT; includes 1 master and 2 two-door boards mounted in a steel vented and lockable enclosure	VAX-MDK-4
SIX DOOR MULTI-DOOR KIT; includes 1 master and 3 two-door boards mounted in a steel vented and lockable enclosure	VAX-MDK-6
EIGHT MULTI-DOOR KIT; includes 1 master and 4 two-door boards mounted in a steel vented and lockable enclosure	VAX-MDK-8
TWO DOOR EXPANDER; used to expand 2, 4 or 6 multi-door kits; no enclosure	VAX-EXP-2D
Options	
ASSA ABLOY Aperio master controller; controls up to 8 Aperio hubs; for single and two door controllers; for single and two-door controllers	VAX-APERIO-8
Optional white enclosure	VAX-ENCL-W

Elevator Controller

Description	Model Number
ELEVATOR CONTROLLER; includes 8 floor modules; complete in metal enclosure; accepts up to 7 expanders to control 64 floors	VAX-ELV-STR
EMPTY METAL ENCLOSURE; for use with expander boards	VAX-ENCL-ST
8 FLOOR/IO EXPANDER; for elevator and I/O controller; no enclosure	VAX-IO-EXP8-PCB

I/O Controllers

Description	Model Number
INPUT/OUTPUT (I/O) CONTROLLER; includes 8 input/output expansion module; 12 VDC input; built-in RS-485 ports; complete in metal enclosure; accepts up to 7 expanders to control 64 floors	VAX-IO-STR-2
EMPTY METAL ENCLOSURE; for use with expander boards	VAX-ENCL-ST
8 FLOOR/IO EXPANDER; for elevator and I/O controller; no enclosure	VAX-IO-EXP8-PCB

VAX Options

Description	Model Number
Converts controller to wireless network	VAX-WIFI-ABLY
Module to convert lock 12 VDC output to dry contact output	VAX-MOD-DRY
Module to convert lock power from 12 VDC 500 mA to 24 VDC 250 mA	VAX-MOD-24
Module to expand memory; required for anti-passback	VAX-MOD-MEM