

## Vicon Access Control Trove Series Multi-Door Controllers



VAX-TROVE Rack-Mount 8 Door Model

### Overview

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 unique multi-door controllers housed in Altronix® Trove™ lockable box or rack-mount enclosures. The VAX-TROVE is a traditional style door controller, designed to be easily scalable and provide seamless retrofits. They are available in four (4) to sixteen (16) door models. Refer to Ordering Information for specific model names.

The four and eight (4/8) door models include one (1) Master Controller (VAX-MDK Master) and an appropriate number of two-door expander boards (VAX-EXP-2D) in a Trove1 enclosure powered by an eFlow6NB power supply. The twelve and sixteen (12/16) door models consists of two (2) Master Controllers (VAX-MDK Master) and an appropriate number of two-door expander boards (VAX-EXP-2D) in a Trove2 enclosure powered by an eFlow102NB power supply. Refer to the Specifications section for details.

The Master Controller provides on-board communications and connects via a single TCP/IP to a local or external VAX Server for configuration data and event management. The two-door expansion boards connect via RS-485 in the same enclosure or remotely. The Trove enclosure includes a built-in eFlow power supply that provides 12 VDC and a port for back-up battery. The controller provides LED indicators for system status and an LCD display and tactile buttons for simple IP configuration and system diagnostics. Configurable inputs and relay outputs are supported.

### Product at a Glance

- ▶ Used when centralized control of multiple door is required
- ▶ 4-, 8-, 12- and 16-door models; rack-mount options
- ▶ Mounted in Altronix Trove enclosure (box or rack-mount) with built-in eFlow power supply
- ▶ Includes MDK Master Controller and two-door expansion boards
- ▶ 3 to 48 configurable inputs (model dependent)
- ▶ Port for battery backup (battery not included)
- ▶ Unlimited door time zones
- ▶ Supports user holiday groups
- ▶ Can be mounted in equipment rooms for control elsewhere in the system

## Specifications

Controller Hardware	VAX-TROVE-4DR	VAX-TROVE-8DR\ VAX-TROVE-8DR-RK	VAX-TROVE-12DR	VAX-TROVE-16DR
Hardware Components:	1X VAX-MDK Master; 2X VAX-EXP-2D; 1X Trove 1 enclosure; 1X eFlow6NB power supply	1X VAX-MDK Master; 4X VAX-EXP-2D; 1X Trove 1/1R enclosure; 1X eFlow6NB power supply	2X VAX-MDK Master; 6X VAX-EXP-2D; 1X Trove 2 enclosure; 1X eFlow102NB power supply	2X VAX-MDK Master; 8X VAX-EXP-2D; 1X Trove 2 enclosure; 1X eFlow102NB power supply
Processor:	32-bit microprocessor based			
Power:	Supply: eFlow6NB. Input: 120 VAC, 60 Hz, 3.5 A; Output: 12 VDC @ 6 A (72 W). Supervised fire alarm disconnect (NO/NC trigger), short circuit and overload protection and AC Fail supervision. Port for battery backup with built-in charging for standard 12 VDC 7 Ah dry cell battery (not included).		Supply: eFlow102NB. Input: 120 VAC, 60 Hz, 3.5 A; Output: 12 VDC @ 10 A. Supervised fire alarm disconnect (NO/NC trigger), short circuit and overload protection and AC Fail supervision. Port for battery backup with built-in charging for standard 12 VDC 7 Ah dry cell battery (not included).	
Communication:	Between Master controller and VAX web server: 1x Ethernet 10/100 Mbps. Between Master controller and VAX-EXP-2D: RS-485 2-wire (daisy chain or star) Wire Spec: 2000 ft (600 m) max distance; 2 conductors, stranded 22 AWG, shielded			
Network:	Speed: 10/100 Mbps. Modes: Static or DHCP. MAC: Unique. Encryption (panel-server): 256 bit AES option. 1 NIC port (4/8 Door) or 2 NIC (12/16 Door). Wire Spec: 328 ft (100 m) max distance, Cat5 or better			
I/O:	Inputs: 12X supervised or digital (door contact, exit button, external REX, etc). Outputs: 4X lock relays (12 VDC, 500 mA power per lock; 8X solid state relays (24 VDC, 1 A limit per relay). Wire Spec: 500 ft (152 m) max distance; 2 conductors, stranded 22 AWG, shielded.	Inputs: 24X supervised or digital (door contact, exit button, external REX, etc). Outputs: 8X lock relays (12 VDC, 500 mA power per lock); 16X solid state relays (24 VDC, 1 A limit per relay). Wire Spec: 500 ft (152 m) max distance; 2 conductors, stranded 22 AWG, shielded.	Inputs: 36X supervised or digital (door contact, exit button, external REX, etc). Outputs: 12X lock relays (12 VDC, 500 mA power per lock; 24X solid state relays (24 VDC, 1 A limit per relay). Wire Spec: 500 ft (152 m) max distance; 2 conductors, stranded 22 AWG, shielded.	Inputs: 48X supervised or digital (door contact, exit button, external REX, etc). Outputs: 16X lock relays (12 VDC, 500 mA power per lock; 32X solid state relays (24 VDC, 1 A limit per relay). Wire Spec: 500 ft (152 m) max distance; 2 conductors, stranded 22 AWG, shielded.
Readers:	Reader Port: 4X Wiegand	Reader Port: 8X Wiegand	Reader Port: 12X Wiegand	Reader Port: 16X Wiegand
User Interface:	LED indicators: 7X power; 4X reader; 1X network; 5X heartbeat; 12X relay output; 5X on/off line; 8X RS-485 status. LCD Display: 1X 16-channel; 2-line LCD with backlight. Push buttons: 4 tactile switch. Sound: 1X 90 dB Piezo buzzer.	LED indicators: 11X power; 8X reader; 1X network; 5X heartbeat; 24X relay output; 5X on/off line; 12X RS-485 status. LCD Display: 1X 16-channel; 2-line LCD with backlight. Push Buttons: 4 tactile switch. Sound: 1X 90 dB Piezo buzzer.	LED indicators: 15X power; 12X reader; 2X network; 10X heartbeat; 48X relay output; 10X on/off line; 16X RS-485 status. LCD Display: 1X 16-channel; 2-line LCD with backlight. Push Buttons: 4 tactile switch. Sound: 1X 90 dB Piezo buzzer.	LED indicators: 19X power; 16X reader; 2X network; 10X heartbeat; 48X relay output; 10X on/off line; 20X RS-485 status. LCD Display: 1X 16-channel; 2-line LCD with backlight. Push Buttons: 4 tactile switch. Sound: 1X 90 dB Piezo buzzer.
Schedules:	Unlimited door time zones (20 zones per time zone); 256 user time zones; 32 one-time special event door time zones (single zone); 50 door/user holiday groups; supports input time zones; support output time zones			
Protection:	Over-current			
Anti-Passback:	Requires that a VAX-MOD-MEM module to be installed onto the PCB. Refer to illustration provided.			
Time Keeping:	Date/Time: 1x on-board real-time clock (no battery required, maintains up to 1 month); automatic DST switch			
Memory:	Flash Memory: 8.0 Mb			
Housing and Backplane:	Steel (16 AWG) powder-coated lockable enclosure; THC1/TM1R/THC2 backplane includes standoffs for eFlow6NB/ eFlow102NB power supply and MDK controllers. 9x/7x 1/2"-3/4" combination knockouts (4/8 Door); 1x 1.5" knockout/16x 3/4"-1" combination knockouts; 1x 2" knockout (12/16 Door)			
Options:	24 VDC Converter: converts 12 VDC to 24 VDC Dry Contact Converter: converts wet to dry contact Expansion Port: supports serial, extra memory, I/Os for future expansion			
Storage:	Stores up to 100,000 cardholders. Stores up to 50,000 events, first in first out queue.			

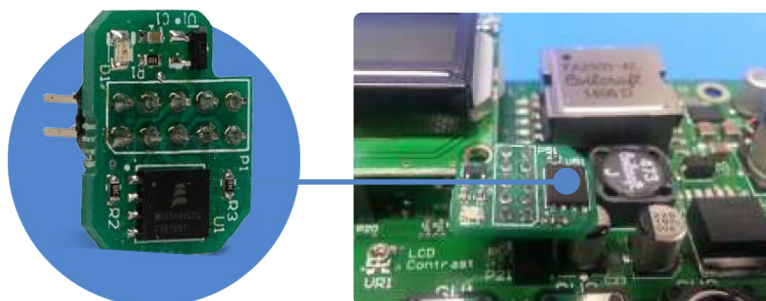
## Specifications (cont'd)

Controller Hardware	VAX-TROVE-4DR	VAX-TROVE-8DR\ VAX-TROVE-8DR-RK	VAX-TROVE-12DR	VAX-TROVE-16DR
<b>Mechanical &amp; Environmental</b>				
Dimensions:	Trove 1 Box: W: 14.5 in. (368 mm); H: 18.0 in. (457 mm); D: 4.62 in. (117 mm) Trove 2 Box: W: 21.75 in. (546 mm); H: 27.25 in. (692 mm); D: 6.5 in. (165 mm) Rack-Mount: W: 19.0 in. (483 mm); H: 3.25 in. (82.6 mm); D: 26.5 in. (673.1 mm); 2U			
Weight:	Trove 1 Box: 11.8 lb (5.35 kg) Trove 2 Box: 29.1 lb (13.2 kg) Rack-Mount: Approximately 18 lb (8.16 kg)			
Operating Temperature:	32 - 120° F (0 - 49° C)			
Operating Humidity:	10% to 85% relative humidity, non-condensing			
Approvals:	UL294; CE			
Country of Origin:	Canada			

## Ordering Information

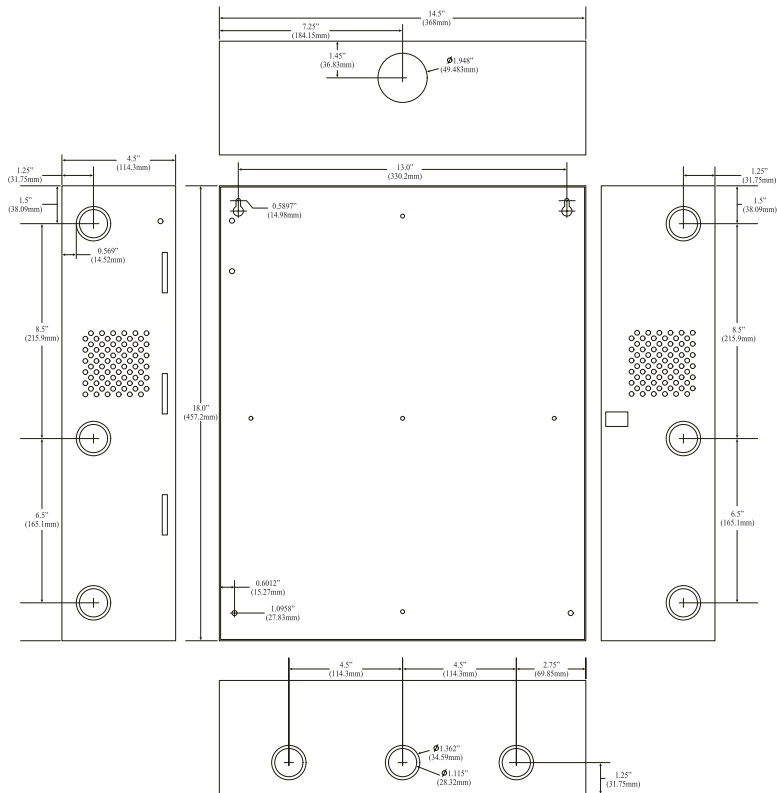
Model	Description
VAX-TROVE-4DR	Four-door controller; includes 1 master controller board, 2 two-door expander boards and a 12 VDC @ 6A power supply in an Altronix Trove1 steel lockable box enclosure
VAX-TROVE-8DR	Eight-door controller; includes 1 master controller board, 4 two-door expander boards and a 12 VDC @ 6A power supply in an Altronix Trove1 steel lockable box enclosure
VAX-TROVE-8DR-RK	Four-door controller; includes 1 master controller board, 4 two-door expander boards and a 12 VDC @ 6A power supply in an Altronix Trove1R steel lockable rack-mount enclosure
VAX-TROVE-12DR	Twelve-door controller; includes 2 master controller board, 6 two-door expander boards and a 12 VDC @ 10A power supply in an Altronix Trove2 steel lockable box enclosure
VAX-TROVE-16DR	Sixteen-door controller; includes 2 master controller board, 8 two-door expander boards and a 12 VDC @ 10A power supply in an Altronix Trove2 steel lockable box enclosure
<b>Options</b>	
VAX-EXP-2D	Two-door expander board; used to expand multi-door controllers
VAX-PRS-STRIP	Interconnect strip; connects the Master Control Panel to door expansion board or I/O expansion board
VAX-MOD-MEM	Module to expand memory; required for anti-passback

## VAX-MOD-MEM Installation

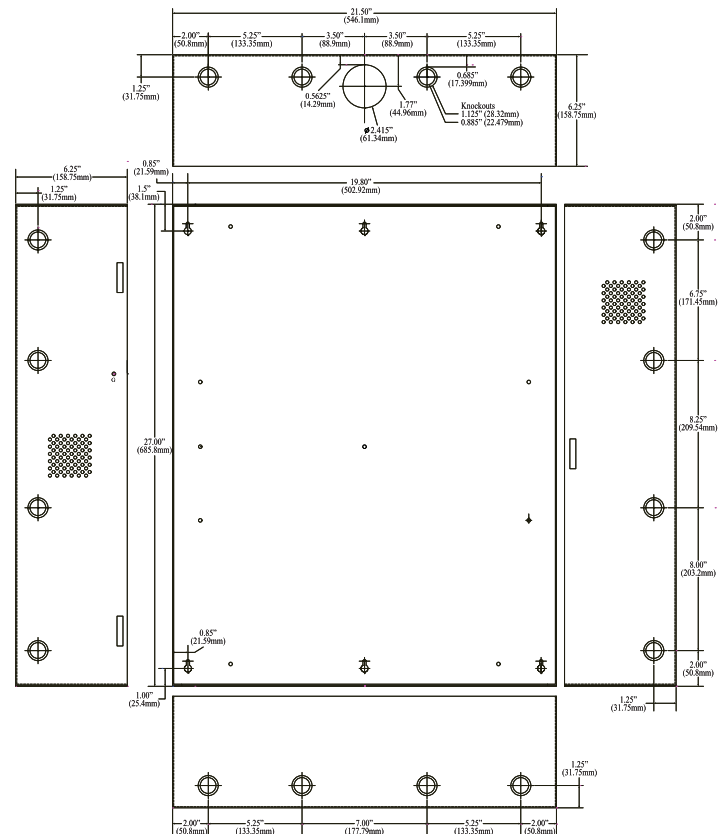


## Dimensional Drawing

### VAX-TROVE 4/8 DOOR

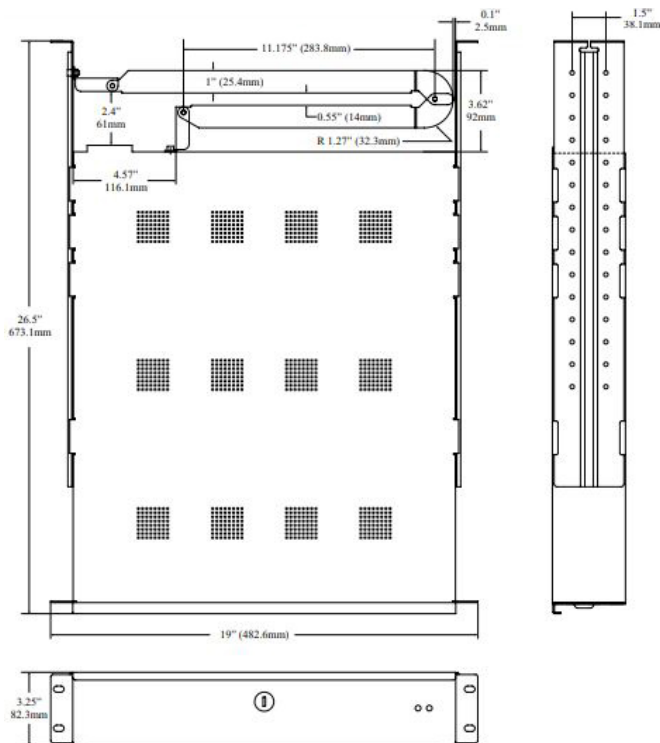


### VAX-TROVE 12/16 DOOR



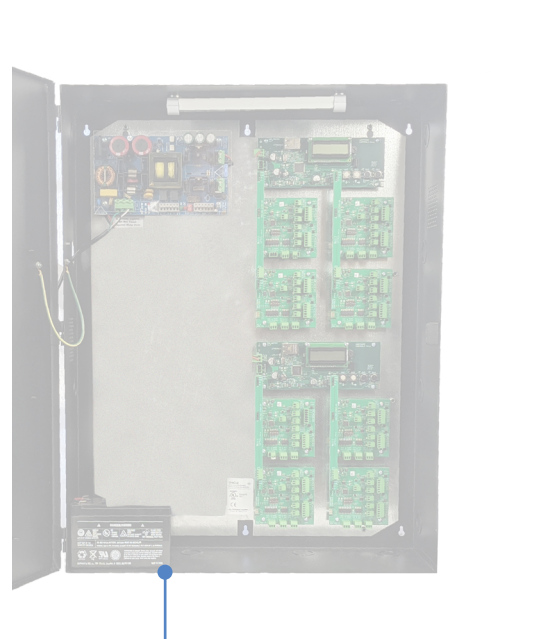
## Dimensional Drawing (cont'd)

Rack-Mount 8 Door

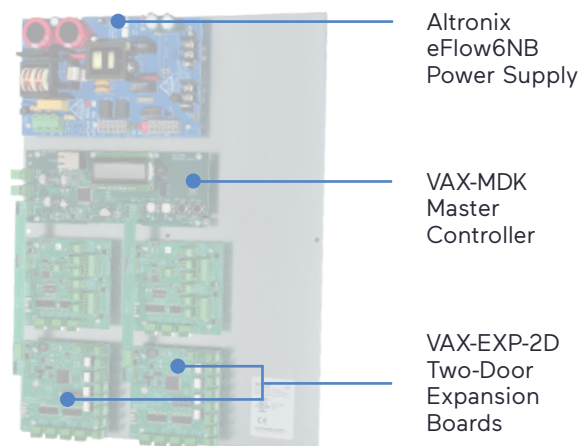


# VAX-TROVE-16DR Enclosure

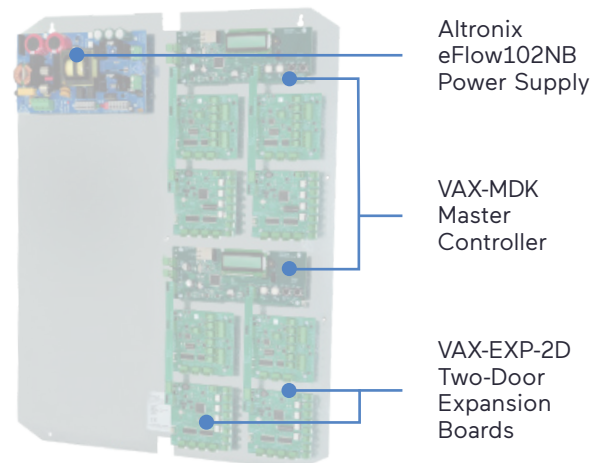
### Typical Installation of a customer-supplied battery backup



## VAX-TROVE 4/8 Door Models



## VAX-TROVE 12/16 Door Models



Data Sheet Number: V274-93-03  
Vicon Data Sheet Number: 8009-7274-93-03

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