



VICON ACCESS CONTROL

VAX-CR-35L
Mounts to Single Gang Wall
Switch Box or Mullion

Mobile Smartcard Reader and Credentials



Overview

Vicon's contactless smartcard reader with mobile access support offers a new level of convenience for Vicon Access Control (VAX) customers who prefer to use their smartphones (iPhone or Android) instead of cards or fobs. The mobile access support offers VAX customers the convenience of using their smartphone (iPhone or Android) instead of cards or fobs. Upon installing the CONEKT® smartphone app, users can scan their own, unique VAX credentials (VAX-BTC) into their phone, allowing them to communicate via Bluetooth Low Energy (BLE) with these readers. A variety of smartcard credentials are also available.

Based on proven contactless digital radio frequency identification (RFID) technology, the readers interface with VAX system by complying with the Wiegand or bi-directional OSDP communication protocol. They offer value added features such as MAXSecure™ and ValidID™, that provide increased security of data, and support both sector and card serial number reads (CSN).

Refer to Ordering Information table for details on all models.

Product at a Glance

- ▶ Mobile-ready contactless smartcard reader
- ▶ Long read range (up to 15 ft)
- ▶ Models that support Wiegand or OSDP output interface
- ▶ Mounts to window frames (mullions) or single gang box
- ▶ Credentials stored on smartphone (iPhone or Android) for communication with reader
- ▶ Variety of smartcard credentials available
- ▶ IP67 rated
- ▶ Powered by 12 VDC

SPECIFICATIONS

Mobile Reader

Model	VAX-CR-35L
Technology ¹ :	Contactless smartcard and Bluetooth Low Energy (BLE)
Frequency:	13.56 MHz (contactless smartcard); 2.4 GHz (BLE)
Read Range ⁵ :	Up to 15 ft (4.6 m)
Interface:	Wiegand (26-bit and custom formats), ABA Track II magnetic stripe (clock and data) or OSDP ⁷ (Open Supervised Device Protocol)
Audio Tone:	Beeper included standard
LED:	Five state standard (blue, red, green, amber and off)
Technologies Supported:	Interoperable with CSN ⁸ (may include ISO 14443 compliant credentials, credentials making use of LEGIC [®] Advant and Prime, and MIFARE [®] Classic 1k & 4k, MIFARE [®] DESFire [®] EV1 & EV2, MIFARE UltraLight [®] and MIFARE Plus [®]), and Sector ⁹ (may include Delta Card Sector, such as MIFARE [®] Classic 1k & 4k, MIFARE [®] DESFire [®] EV1 & EV2, as well as FIPS201 [PIV Type A], TWIC, and CAC credentials), as well as VAX-BTC Mobile Access Credentials ¹⁰ .
Voltage ⁴ :	+8 - 14 VDC; linear power supply recommended
Current:	40 mA typical, 195 mA peak @12 VDC
Cabling ⁶ :	24 AWG minimum, multi-conductor stranded with an overall foil shield (ex. Belden 9535 or similar)
Mounting:	Mullions, including metal door and window frames, single gangbox and flat surfaces
Certifications:	FCC; ICC; CE; UL Standard 294/ULC 60839-11-1 ² (Wiegand models tested); IP67 ³

NOTES:

- Optimized for use with devices supporting BLE version 4.2 or higher.
- Carrying the ETL Label and tested by Intertek, conforms to UL Standard 294 and ULC Standard 60839-11-1. Only Wiegand models have been evaluated.
- Independently tested and verified by Intertek.
- Linear power supplies are recommended for best operation.
- Using VAX-DC1-1 Smartcard with 12 VDC at the reader. Other credentials may be less. Read ranges are further subject to the type of smarhtone, as well as the manner in which it is used, covers or external batteries affixed, as well as the installation and its environment.
- For example, Belden 9535 or similar, supporting the five conductors comprising the physical layer of the Wiegand interface (power, ground, data 0, data 1, and/or beeper and LED). Alternatively, Belden 9539 or similar, for all reader functions. Shielded, twisted pair (Belden 8723 or similar) for OSDP. Contact your access control system manufacturer for their specific requirements.
- OSDP readers are independent models and need to be appended with the suffix "-OSDP" when ordering (Example: VAX-CR-35L-OSDP).
- CSN = Card Serial Number.
- Examples include, but are not limited to, VAX-DC1-1 and VAX-DK1-3.
- Conekt Mobile Access Credentials are intended to be supported by the current and preceding versions of Apple[®] iOS and standard compliant Google Android[™] mobile operating software (OS). Custom OS variants may result in a loss of functionality.

Specifications

Contactless Smartcard Credentials

Model	VAX-CSM-2PV	VAX-CSC-2V	VAX-CSK-2V
Technology:	Smartcard		
Technologies Supported:	MIFARE DESFire EV2		
Frequency:	Excitation (13.56 MHz)		
Read Range:	Up to 2.25 in. (57 mm)	Up to 2.25 in. (57 mm)	Up to 1 in. (25 mm)
Formats:	Wiegand (26-bit and custom formats), ABA Track II magnetic stripe (clock and data)		
Operation:	Passive (no battery)		
Marking:	Date code and ID		
Type:	ISO style	Clamshell style	Fob style (key tag)
Slot Punch:	Vertical and horizontal indicators	Standard vertical slot	Built-in eyelet
Imaging:	Supports dye sublimation imaging	Use a glossy adhesive overlay for color dye sublimation printing or print directly on card	N/A
Color:	Glossy white	White	Gray
Dimensions:	2.1x3.4x0.03 in. (54x86x0.76 mm)	2.1x3.4x0.07 in. (54x86x1.8 mm)	1.9x1.5x0.28 in. (49x38x7 mm)
Operating Temperature:	-31° F to 122° F (-35° C to 50° C)	-40° F to 158° F (-40° C to 70° C)	-40° F to 158° F (-40° C to 70° C)

Mobile Credentials

Model	VAX-BTC
Technology:	Bluetooth Low Energy (BLE)
Frequency:	2.4 GHz
Read Range:	With VAX-CR-35L: Up to 15 ft (4.6 m)
Formats:	Wiegand (26-bit and custom formats) and ABA Track II magnetic stripe (clock and data)
Operation:	iPhone or Android-based smartphones
Marking:	Date code and ID; matching internal and external sequential coding standard

Ordering Information

Model Number	Description
VAX-CR-35L	MOBILE-READY CONTACTLESS SMARTCARD READER; designed to be mounted to door or window frames (mullion), single gangbox or flat surface; long-range up to 15-ft reading range
VAX-CR-35L-OSDP	MOBILE-READY CONTACTLESS SMARTCARD READER; designed to be mounted to door or window frames (mullion), single gangbox or flat surface; long-range up to 15-ft reading range
Credentials and Cards	
VAX-BTC	MOBILE ACCESS CREDENTIAL; stored on smartphone for communication with mobile-ready readers
VAX-CSM-2PV	MOBILE ACCESS CREDENTIAL COMPOSITE SMARTCARD; high-security ISO-style; MIFARE DESFire EV2
VAX-CSC-2V	MOBILE ACCESS CREDENTIAL CLAMSHELL SMARTCARD; high-security; MIFARE DESFire EV2
VAX-CSK-2V	MOBILE ACCESS CREDENTIAL FOB SMARTCARD; high-security key tag style; MIFARE DESFire EV2

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