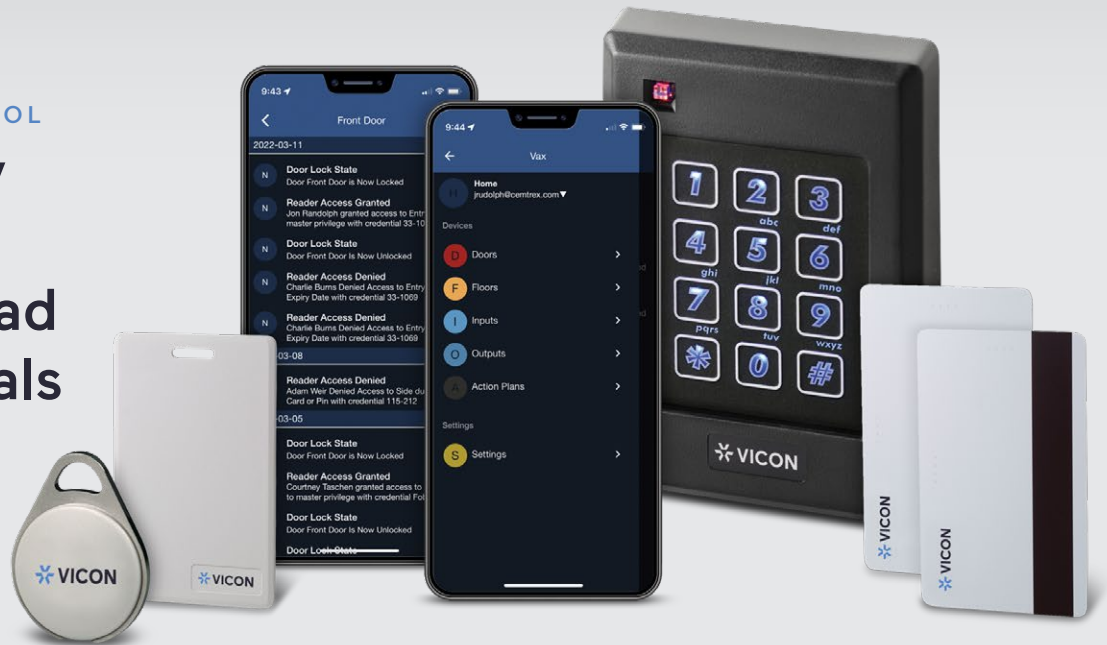




VICON ACCESS CONTROL

# Mobile-Ready Smartcard Reader/Keypad and Credentials



## Overview

The VAX-CSR-6.4 contactless smartcard reader functions both as a Bluetooth reader, using virtual card credentials on the mobile app, as well as a MIFARE compliant smartcard keypad-integrated reader that works with smartcards and 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.

Based on proven contactless digital radio frequency identification (RFID) technology, the readers interface with VAX system by complying with the Wiegand communication protocol or OSDP (Open Supervised Device Protocol), depending on the model ordered. 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). A variety of smartcard credentials are also available. Refer to the table below for details on all models.

## Product at a Glance

- ▶ Mobile-ready contactless smartcard reader
- ▶ Integrates reader and keypad
- ▶ Long read range (up to 15 ft)
- ▶ Models that support Wiegand or OSDP output interface
- ▶ Mounts to single gang box and flat surfaces
- ▶ Mobile credentials stored on smartphone (iPhone or Android) for Bluetooth communication with reader
- ▶ Variety of smartcard credentials available
- ▶ 13.56 MHz (contactless smartcard); 2,4 GHz (BLE)
- ▶ IP67 rated
- ▶ Powered by 8-14 VDC

## Specifications

### Mobile Reader

Model	VAX-CSR-6.4
Technology <sup>1</sup> :	Contactless smartcard and Bluetooth Low Energy (BLE)
Frequency:	13.56 MHz (contactless smartcard); 2.4 GHz (BLE)
Read Range <sup>5</sup> :	Mobile credentials: Up to 15 ft (4.6 m). Physical credentials: Up to 2 in. (51 mm).
Interface:	Wiegand (26-bit and custom formats), ABA Track II magnetic stripe (clock and data) or OSDP (Open Supervised Device Protocol), model dependent
Keypad Output:	Wiegand <sup>8</sup> or OSDP <sup>7</sup> (model dependent)
Audio Tone:	Beeper included standard
LED:	Four state standard (red, green, amber and off)
Technologies Supported:	Interoperable with CSN <sup>9</sup> (may include ISO 14443 compliant credentials and MIFARE® Classic 1k & 4k, MIFARE® DESFire® EV1 & EV2, MIFARE UltraLight® and MIFARE Plus®), and Sector (may include Delta Card Sector <sup>10</sup> , 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 <sup>11</sup> .
Voltage <sup>4</sup> :	+8 - 14 VDC; linear power supply recommended
Current:	175 mA typical @12 VDC
Cabling <sup>6</sup> :	24 AWG minimum, multi-conductor stranded with an overall foil shield (ex. Belden 9535 or similar)
Mounting <sup>2</sup> :	Single gang wall box and flat surfaces
Dimensions:	3.0 (W) x 4.6 (H) x 0.75 (D) in. (76 x 117 x 19 mm)
Color:	Black snap-on cover included
Environmental Installation:	Electronics sealed in weather- and tamper-resistant epoxy potting
Operating Temperature:	-40° F to 149° F (-40° C to 65° C)
Certifications:	FCC; ICC; CE; IP67 <sup>3</sup>

#### NOTES:

- Optimized for use with devices supporting BLE version 4.2 or higher.
- Spacer included standard for installations on metal. Depending on environment, additional spacing may be required.
- 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 smart phone, 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-CSR-6.4-OSDP).
- 8-Bit Burst or 26-bit Wiegand standard. For 4-Bit Burst and other options, please contact Vicon.
- 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.

### Mobile Credentials

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

## Specifications

### Contactless Smartcard Credentials

Model	VAX-CSM-2P/VAX-CSM-2S	VAX-CSC-2	VAX-CSK-2
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)		
Memory:	2K standard		
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:	2.1×3.4×0.03 in. (54×86×0.76 mm)	2.1×3.4×0.07 in. (54×86×1.8 mm)	1.9×1.5×0.28 in. (49×38×7 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)

## Ordering Information

Model Number	Description
VAX-CSR-6.4	MOBILE-READY CONTACTLESS SMARTCARD READER; integrated keypad; designed to be mounted to a single gang box or flat surfaces; long-range up to 15-ft reading range; Wiegand protocol
VAX-CSR-6.4-OSDP	MOBILE-READY CONTACTLESS SMARTCARD READER; integrated keypad; designed to be mounted to a single gang box or flat surfaces; long-range up to 15-ft reading range; OSDP protocol
<b>Credentials</b>	
VAX-BTC	MOBILE ACCESS CREDENTIAL; stored on iPhone or Android smartphone for communication with mobile-ready readers
VAX-CSM-2P	MOBILE ACCESS CREDENTIAL COMPOSITE SMARTCARD; high-security ISO-style; MIFARE DESFire EV2 compliant
VAX-CSM-2S	MOBILE ACCESS CREDENTIAL COMPOSITE SMARTCARD; high-security ISO-style with HiCo magnetic stripe; MIFARE DESFire EV2 compliant
VAX-CSC-2	MOBILE ACCESS CREDENTIAL CLAMSHELL SMARTCARD; high-security; MIFARE DESFire EV2 compliant
VAX-CSK-2	MOBILE ACCESS CREDENTIAL FOB SMARTCARD; high-security key tag style; MIFARE DESFire EV2 compliant

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