

# Cidron Combi Reader

The Cidron reader family's compatibility with secure RFID-technologies incorporated in a robust, yet timeless design, makes them ideally suited for both indoor- and outdoor installations in all kinds of physical access control applications.



Cidron Combi is a reader operating on both 125kHz and 13.56MHz which makes it ideal to use where several card populations with different RFID-technologies and/or frequencies should be used at the same time. The Cidron Combi allows for controlled upgrading of legacy RFID-technologies utilizing 125kHz to a secure RFID technology such as MIFARE® DESFire® EV1 which operates on 13,56MHz and allows for AES128 encrypted communication between credential and reader. Cidron Combi supports reading of 13,56MHz technologies, for instance, MIFARE Classic®, MIFARE Plus® sector and MIFARE DESFire EV1 application combined with 125kHz technologies such as Electromarine (EM4200) and HID® Proximity compatible cards.

Cidron Combi features a contact card socket which is designed to read Secure Access Module's (SAM's) embedded on a SIM-card sized contact chip. Cidron Combi is compatible with MIFARE® SAM AV2 which gives the possibility to further increase the security of storing encryption keys (Evaluation Assurance Level, EAL 5+) and also allows for diversification of encryption keys. Using diversified keys means that each card in the card population will have its own unique encryption key and not share the same encryption key across the whole card population.

backlit keys that is configurable to always be on, off or in auto mode which means that when a card is presented to the reader or a key is pressed the keypad will light up. The version without keypad has a symbol at the front of the reader which will be lit when a card is presented to a reader configured to auto mode.

The substantial LED frame provides visual indications to the user, the LED frame can indicate green, red or yellow. There is also an embedded buzzer that can be used for audible indications. The LED frame, backlight and buzzer can all be configured to indicate different operations and events using sound or light to communicate with the user. The indications can also be activated by external controls by using general purpose input/output's (GPI/O's), for instance an individual reader can be configured to light up the LED frame in green or red by the fire alarm system depending on which GPI/O the fire alarm system is connected to.

The Cidron family also includes a range of key fobs with the same design factor and purpose built-in accessories that facilitates installation, assist in complying with legislation and protects the reader from external factors. The Cidron Combi is designed for surface mounting but can also be fitted to standard European installation boxes.

The Cidron Combi is available both with- and without keypad. The version with keypad has

With the array of communication protocols available in the Cidron reader it makes it



PS VG2.1.0.

extremely versatile and can be installed in most physical access control systems without any additional plug-in modules. The Open Supervised Device Protocol, OSDP™ is a bidirectional communication protocol developed by SIA (Security Industry

Association) which provides continuous monitoring of the reader but if applied it also enables AES128 encrypted communication between the reader and the controller. This so called "Secure Channel" is available in Cidron readers.

## Technical specifications

**Operating frequency:** 125kHz & 13,56MHz.

**Reading technologies:** Electromarine EM4200. HID® Proximity. MIFARE CSN 4 byte, MIFARE CSN 7 byte, MIFARE Classic, MIFARE Plus, MIFARE DESFire 0.6 and MIFARE DESFire EV1. Also supports other ISO 14443 A/B\* compatible cards.

*\*Not all ISO14443 B cards have been implemented in the reader, please contact Nexus for more details on current status. MIFARE is a registered trademark of NXP B.V. and is used under license.*

**Secure Access Module (SAM):** MIFARE SAM AV2, external SIM card connection slot.

**Communication protocols:** Wiegand, Clock/Data, OSDP 1, OSDP 2 (including Secure channel), RS232 and RS485.

**Reading output format:** 24-1024 (excluding parity bits)

**Keypad output format:** Wiegand 4bit, Wiegand 8bit (Dorado), Wiegand 26bit, OSDP ASCII format.

**Keypad:** 12 digit keypad in 4 rows of 3 keys in each row with configurable backlight in blue color. Control features On/Off/Auto indicators. Light intensity can be adjusted.

**Indicators:** LED, Green, Red and Yellow (Bi-color). Backlight in blue color. Buzzer.

**Power supply:** 9 – 30VDC

**Current consumption:** 24VDC idle mode with heater inactive 40 mA\*\* 12VDC, idle mode with heater inactive 50 mA\*\*

*\*\*Current consumption differs depending on functionality used and can also be limited in the reader configuration, please consult the Cidron Combi full installation guide for current consumption before dimensioning power supply.*

**Input/Output:** 4 input for LED and buzzer and 2 configurable input/output.

**Tamper alarm:** Built-in mechanical tamper switch which allows for indication both break off protection and opening of the reader.

**Operating temperature:** -40° – +70°C

**Heater:** Thermostat controlled embedded heater.

**Operating humidity:** 0 – 95% RHNC (Relative Humidity No Condensation)

**Ingress Protection Classification:** IP 65

**Housing dimensions:** L=109mm, H=25mm, W=79mm

**Configuration Methods:** Configuration card, reader tool software or factory configured readers.

## Cidron RFID Readers

Cidron Standard 13.56MHz with keypad, matte black  
Cidron Standard 13.56MHz with keypad, matte white  
Cidron Standard 13.56MHz with keypad, glossy black  
Cidron Standard 13.56MHz with keypad, glossy white  
Cidron Standard 13.56MHz without keypad, matte black  
Cidron Standard 13.56MHz without keypad, matte white  
Cidron Standard 13.56MHz without keypad, glossy black  
Cidron Standard 13.56MHz without keypad, glossy white

### Part No.

SC9100-MDE-VDI27-S  
SC9100-MDE-VDI27-V  
SC9100-MDE-MP-S  
SC9100-MDE-MP-V  
SC9110-MDE-VDI27-S  
SC9110-MDE-VDI27-V  
SC9110-MDE-MP-S  
SC9110-MDE-MP- V