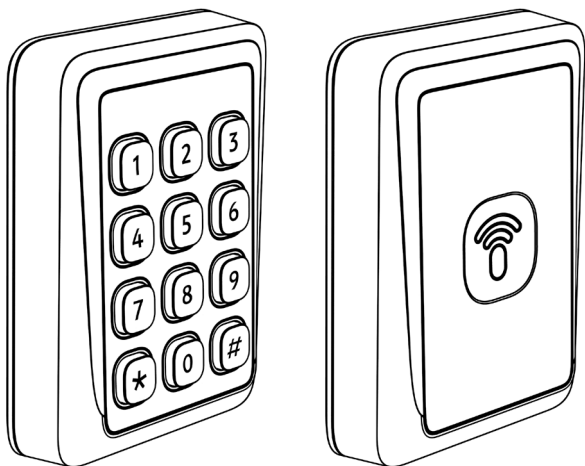


# CIDRON



## Installation guide

Cidron Standard Reader

Cidron Combi Reader

# Cidron Standard (VG3) Reader - Technical specifications

Operating frequency	13,56MHz.
Reading technologies	MIFARE® CSN 4 byte, MIFARE® CSN 7 byte, MIFARE® Classic, MIFARE® Plus 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 Serline AB for more details on current status.
Secure Access Module (SAM):	MIFARE SAM AV2, external SIM card connection slot.
Communication protocols	Wiegand, RS485 (OSDP 1, OSDP 2, including Secure channel), BLE.
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
Input/Output	4 input for LED and buzzer and 2 configurable General Purpose Input/Output (GPIO). The GPIO's are push/pull type which provides 5VDC as output when "high" on each respective GPIO connection pin.
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 (With thermostat controlled embedded heater) When installing readers in environments with extreme heat (above + 50°C) it is recommended to utilize the climate protection SC9901-V which provides additional shading to the reader.
Heater	Thermostat controlled embedded heater.
Operating humidity	0 – 95% RHNC (Relative Humidity No Condensation)
Ingress Protection Classification	IP65 require together with weather protection cover SC9901-T or SC9901-V.
Housing dimension	L=109mm, H=25mm, W=79mm
Configuration Methods	Configuration card, reader tool software or factory configured readers.
Compliances	FCC, CE

## 3

# Cidron Combi (VG3) Reader

## - Technical specifications

Operating frequency	125KHz & 13,56MHz.
Reading technologies	Electromarine EM4200, MIFARE® CSN 4 byte, MIFARE® CSN 7 byte, MIFARE® Classic, MIFARE® Plus 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 Serline AB for more details on current status.
Secure Access Module (SAM):	MIFARE SAM AV2, external SIM card connection slot.
Communication protocols	Wiegand, RS485 (OSDP 1, OSDP 2, including Secure channel), BLE.
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
Input/Output	4 input for LED and buzzer and 2 configurable General Purpose Input/Output (GPIO). The GPIO's are push/pull type which provides 5VDC as output when "high" on each respective GPIO connection pin..
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 (With thermostat controlled embedded heater) When installing readers in environments with extreme heat (above + 50°C) it is recommended to utilize the climate protection SC9901-V which provides additional shading to the reader.
Heater	Thermostat controlled embedded heater.
Operating humidity	0 – 95% RHNC (Relative Humidity No Condensation)
Ingress Protection Classification	IP65 require together with wether protection cover SC9901-T or SC9901-V.
Housing dimension	L=109mm, H=25mm, W=79mm
Configuration Methods	Configuration card, reader tool software or factory configured readers.
Compliances	FCC, CE

## 4

## Power Consumption

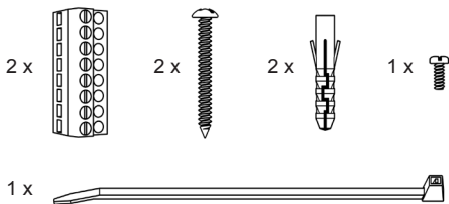
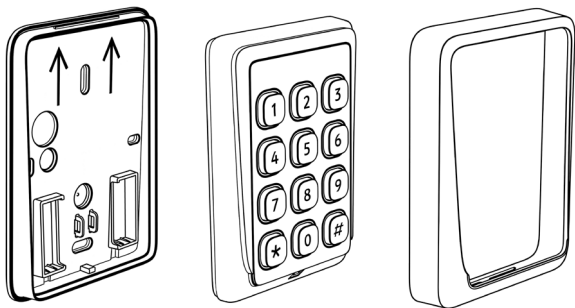
Model Feature	Brightness		Current draw (idle)	
	LED-Bar	Backlight	12VDC	24VDC
Model: Seriline AB Cidron	LED-Bar	Backlight	12VDC	24VDC
SC93100-MDEB	Low	Low	90 mA	47 mA
STD 13.56MHz/125KHz/2.4GHz with keypad	Medium	Low	90 mA	47 mA
SC93110-MDEB	Low	Low	90 mA	47 mA
STD 13.56MHz/125KHz/2.4GHz without keypad	Medium	Low	90 mA	47 mA
SC93200-MDB	Low	Low	34 mA	18 mA
SLIM 13.56MHz/2.4GHz with keypad	Medium	Low	34 mA	18 mA
SC93210-MDB	Low	Low	34 mA	18 mA
SLIM 13.56MHz/2.4GHz without keypad	Medium	Low	34 mA	18 mA

The above values are excluding heater consumption which is variable and depending on configuration settings. Default value is 220 mA at 12VDC but can be configured in 20 mA intervals from minimum 120 mA to maximum 300 mA. When the heater is set in automatic mode, the heater will be activated when the internal temperature of the reader is below +1°C, the heater will automatically deactivate when the internal temperature exceeds +5°C.

Depending on the heater consumption setting the time it will take for the reader to exceed +5°C will vary- a higher power consumption setting will reduce the time required to heat the reader.

Current draw (idle) is defined as reader connected to power, no LED's lit, buzzer is not sounding and no reading of credential or key pressing is processed by the reader. Current draw (peak) is defined as reader powered with both backlight and LED frame lit (Yellow), buzzer is sounding and reader is reading a credential while simultaneously a key pressing is processed.

# 5

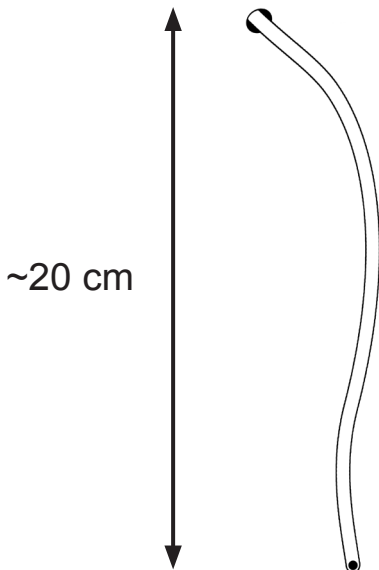


## Package content:

- 1pc Installation plate
- 1pc Reader module with front plate
- 1pc Front cover
- 2pcs Terminal connector (8-pin)
- 2pcs Installation screws
- 2pcs Screw plugs
- 1pc Cable strip
- 1pc Fixing screw
- 1pc Quick installation guide

\* Please note that all pictures in this manual are illustrations and do not represent the actual sizes and form of the components.

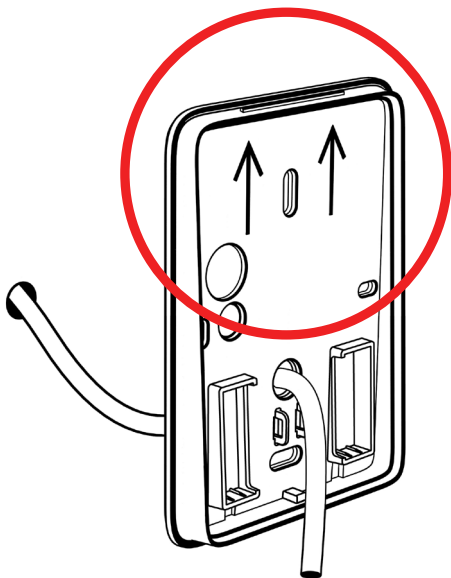
# 6



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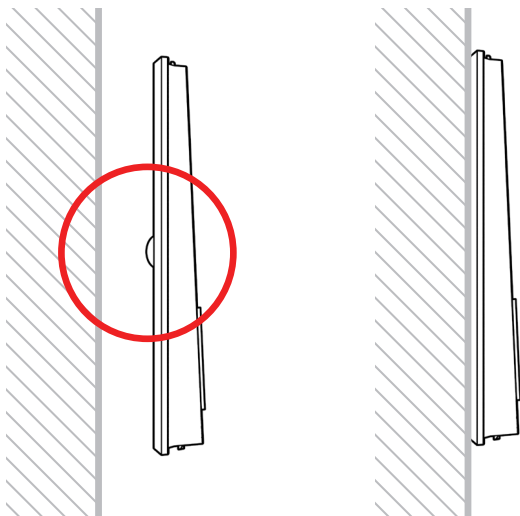
In order to facilitate installation a cable length of 20cm is recommended.

7



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Ensure that the installation plate is fixed in the correct direction, i.e. the arrows pointing upwards.

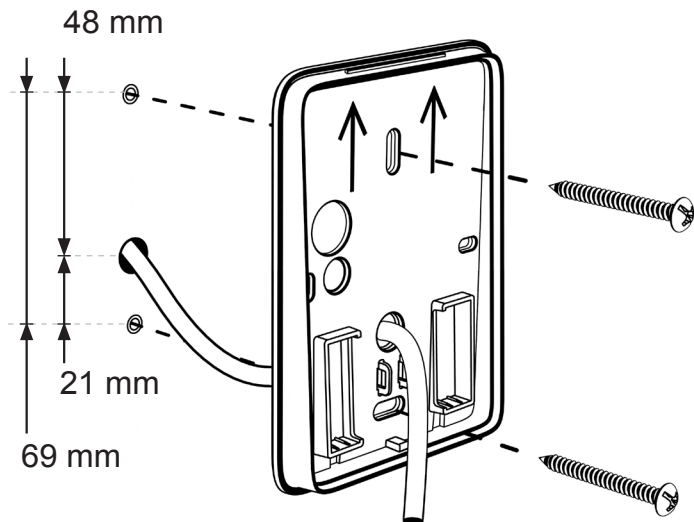


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Ensure that the area behind the tamper switch bulb of the installation plate is flat, to be able to push the bulb for correct tamper alarm functionality. If it is not flat enough, you will find accessories in this manual that will assist with improving this functionality.



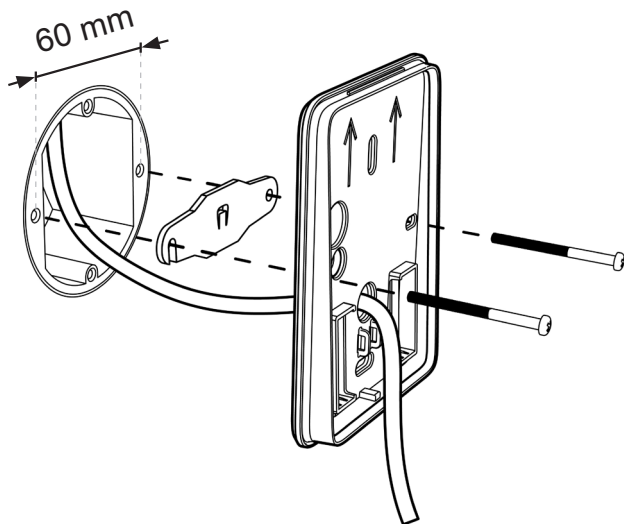
# 9



When installing directly to wall or door, use the recommended vertically aligned holes (as picture describes). If using other screws than the ones supplied with the reader, make sure to use a flat headed screw with a maximum height of 2.8 mm and a maximum diameter of 7.8 mm on the screw head.

Make sure not to tighten the screws too hard as doing so will deform and skew the installation plate. This may affect the tamper switch functionality of the reader. Countersunk screws should never be used.

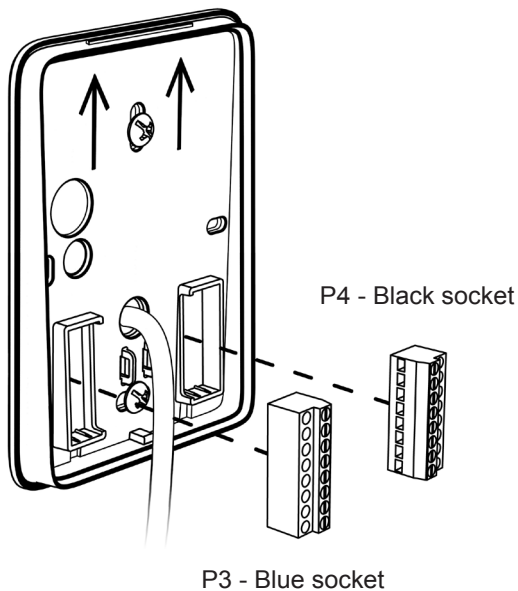
# 10



Installation box tamper switch  
bracket, part no: SC9189-RF

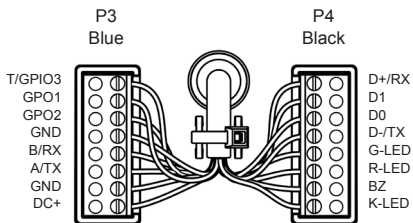
When installing reader on a installation box, use the recommended horizontally aligned holes (as picture describes). If the tamper switch functionality should be used a installation box tamper switch bracket must be installed between the reader and the installation box.

Utilize screws supplied with the installation box but make sure to use a screw and possible also washer with a maximum height of 2.8 mm and a maximum diameter of 7.8 mm.



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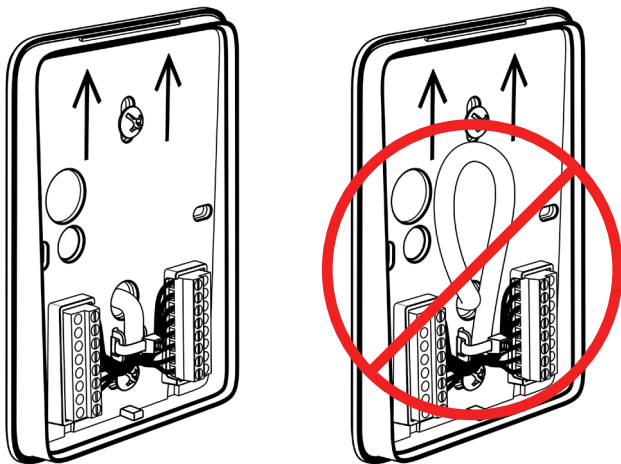
Make sure to place the terminal connectors with the fastening screws facing towards you.



	PIN	Description	Wiegand	RS485/ OSDP
P3 - Blue	T/GPIO3	Tamper output	x	x
	GPO1	General purpose I/O	x	x
	GPO2	General purpose I/O	x	x
	GND	Ground	x	x
	B/RX	RS485 -	x	x
	A/TX	RS485 +	x	x
	GND	Power supply	x	x
	DC+	Power supply 9-30 VDC	x	x
P4 - Black	D+/RX	Card Present/RS485+(reserve)	x	-
	D1	Wiegand D1/CLK	x	-
	D0	Wiegand D0/DATA	x	-
	D-/TX	RS485-(reserve)	x	-
	G-LED	Green LED control	x	-
	R-LED	Red LED control	x	-
	BZ	Buzzer control	x	-
	K-LED	External Keypad LED control	x	-

#### Notes:

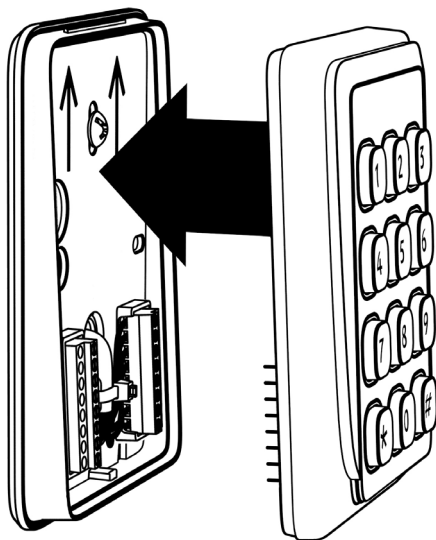
1. Maximum wiegand cable length is 150 meters and requires a high quality shielded cable with minimum AWG18 dimension ( $=0.8231\text{mm}^2$ ) in an environment free from electrical noise. A cable with smaller dimension or an installation environment with electrical disturbances will reduce the maximum cable length.
2. Wiegand & Clock/Data requires dedicated wires for external control of Green LED, Red LED, Buzzer and Keypad backlight.
3. When utilizing the GPI/O's, each respective GPI/O1 or GPI/O2 must be connected to each respective pin and also to GND. The general purpose input/output will only be activated if so applied in the reader configuration.
4. RS 485/OSDP requires twisted pair cable.



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Make sure no excess connection cable is left in between the reader module and the installation plate.

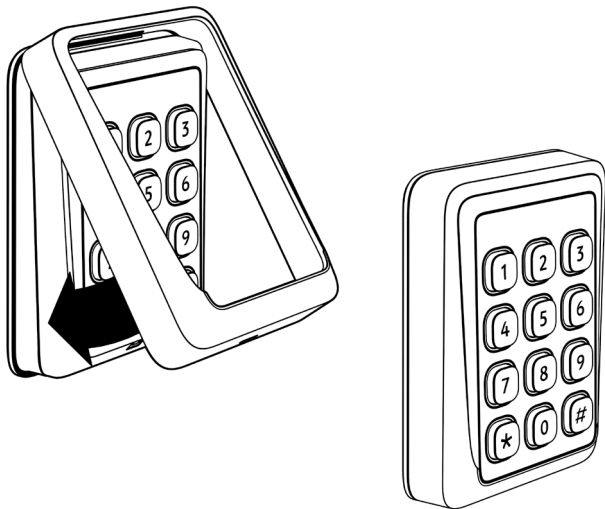
Use the enclosed cable strip to fix the cable in the cord grip. It is recommended to connect the the wires to the terminal connectors before tightening the cable strip.



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When installing the reader to the mounting plate ensure that the reader pin header contact perfectly aligns with the terminal connector block.

# 15

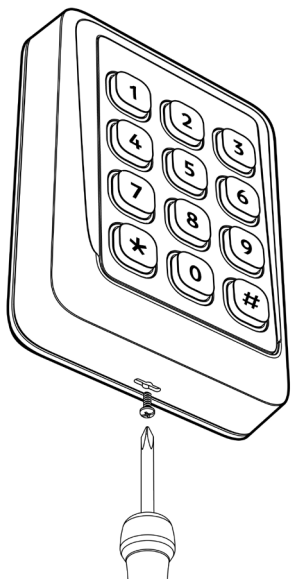


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Mount the front cover as per the image above and make sure it is fitted correctly.

In order to do so, align and fit the top snap fastening, apply and maintain pressure on the top of the front cover while sliding the front cover over the bottom snap fastening.

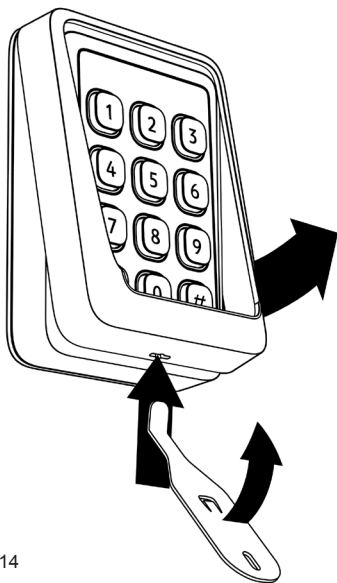
# 16



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To secure the front cover to the reader use the supplied fixing screw and fix it into the installation plate through the front cover.



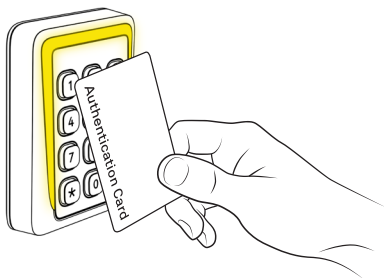


Cidron tool, part no: SC9914

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To open the reader, first remove the fixing screw and then detach the front cover from the installation plate by inserting the tip of the tool into the slot at the bottom of the front cover and move the tool upwards. This will release the front cover without damaging the front cover and/or the installation plate.

# 18 Overview, programming of reader



Setting the reader in programming mode

see page: 19



Configuring the reader

see page: 20



Changing authentication card

see page: 21



Resetting the OSDP secure channel.

see page: 22

# 19

## Setting the reader in programming mode



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In order to set the reader in programming mode, present the valid "Authentication Card" to the reader as shown. The reader will beep and start blinking yellow to indicate that it is now in programming mode.

The Reader is in programming mode for 10 seconds. If no other programming card is presented within this time, the reader will return to normal mode. When a reader leaves programming mode it is indicated by a blinking red LED and a beep.

# 20 Configuring the reader



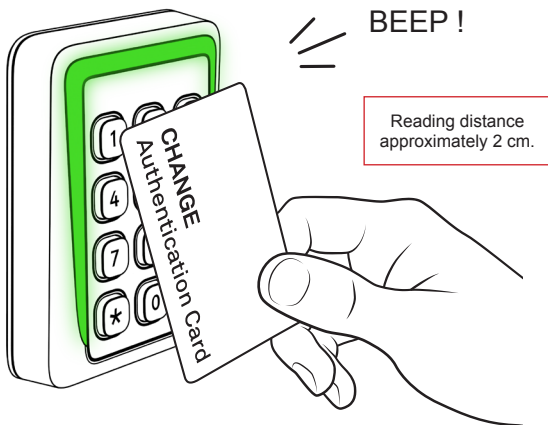
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1: Set the reader in programming mode, see page: 19

2: Present the "Configuration Card" to the reader as shown. Keep the card within reading distance until the reader beeps and blinks in green. The reader is now programmed and ready for use according to the configuration settings on the configuration card.

# 21

## Changing authentication card



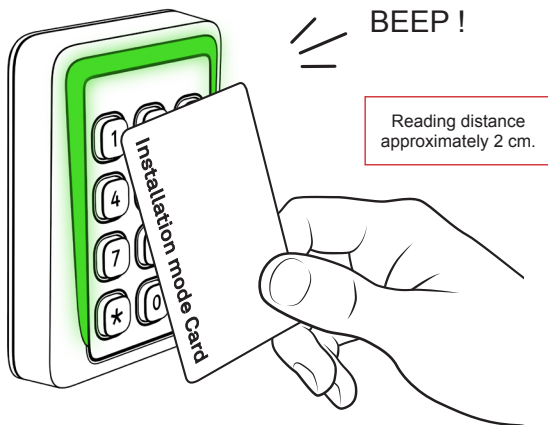
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1: Set the reader in programming mode, see page: 19

2: Present the "CHANGE Authentication Card" to the reader as shown. Keep the card within reading distance until the reader beeps and blinks in green. The reader is now reprogrammed to only be set in programming mode by the new "Authentication Card". The old "Authentication Card" is no longer authorized to set the reader in programming mode.

# 22

## Resetting the OSDP secure channel.

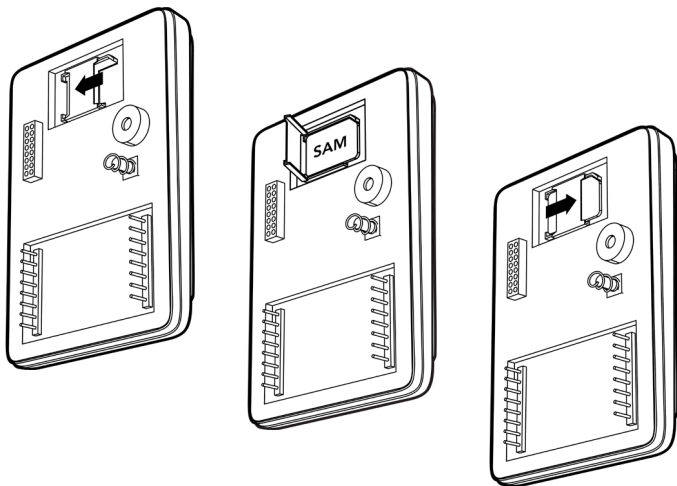


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1: Set the reader in programming mode, see page: 19

2: Present the "OSDP Installation mode Card" to the reader as shown. Keep the card within reading distance until the reader beeps and blinks in green. The reader has now reset the secure channel encryption keys to installation mode.

# 23 Installing Secure Access Module



MIFARE® SAM AV2 (SIM Card)  
Software ISLOG SAM Manager.

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In order to install the SAM into the reader open the SAM socket by unlocking and opening the lid. Then place the SAM into the socket lock it into place by closing the lid and sliding it into locked position.

# CIDRON

## Accessories

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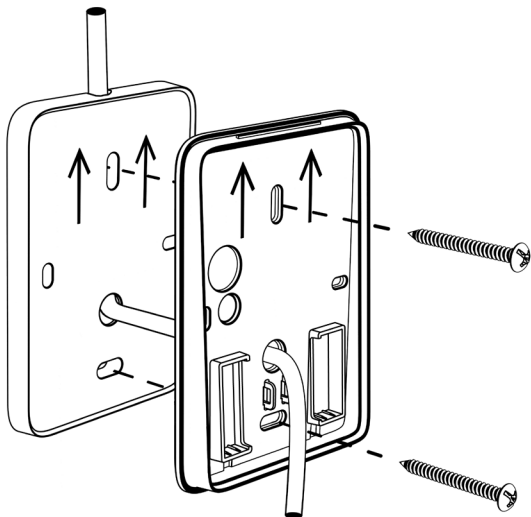
Cidron Standard Reader  
Cidron Combi Reader

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# 25

## Distance plate, standard



Matte black, part no: SC9191-S

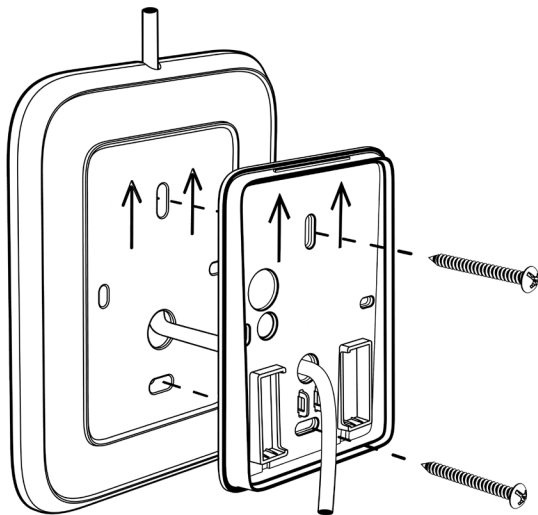
Matte white, part no: SC9191-V

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The distance plate can be used for example when installing readers in environments where the installation surface is uneven or/and external wiring at the same side as the reader. Can also be used when mounting readers over installation boxes.

# 26

## Distance plate, large



Matte black, part no: SC9197-S

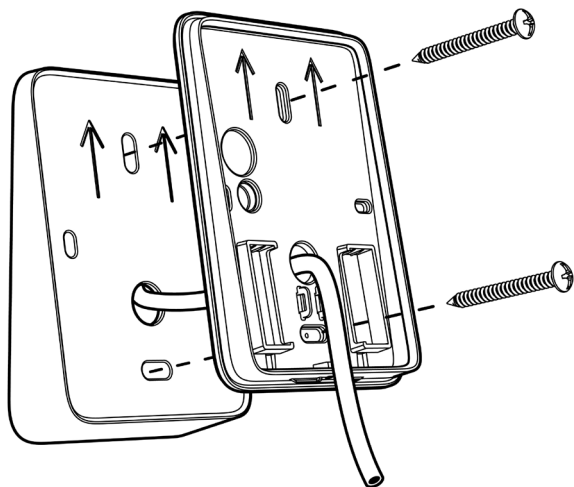
Matte white, part no: SC9197-V

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Used to install readers on an area where additional cover is needed to hide old installation holes or on uneven surfaces. Can also be used with external wiring on the same side as the reader.

# 27

## Distance plate, angled 10°



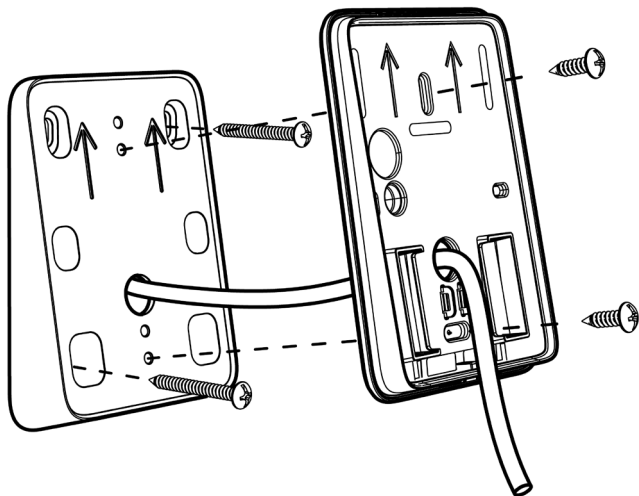
Matte white, part no: SC9193-V

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Used to increase accessibility as well as visibility of the keypad.

# 28

## Distance plate, angled 10°



\* Screws and screw plugs included with accessory.

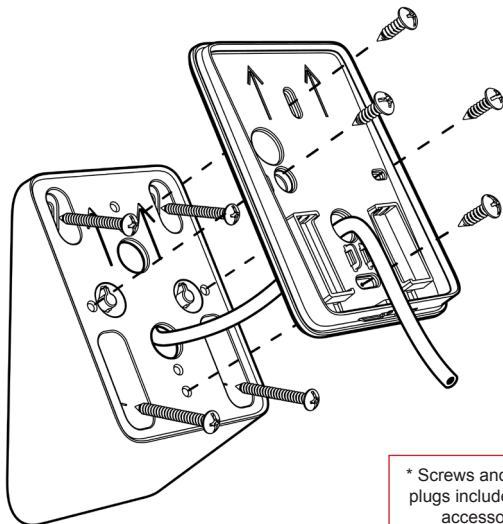
Matte black, part no: SC9193-S2

Used to increase accessibility as well as visibility of the keypad. Using the horizontally aligned fixing points also allows for installation box fixing of the reader.

Note: As the reader is fixed to the distance plate and no tamper-pin connects the tamper-switch to the installation surface the break-off tamper indication is not functional with the distance plate, angled 10°. However, if the reader body is removed from the installation plate the tamper alarm will still be activated if so configured in the reader tool.

# 29

## Distance plate, angled 33°



\* Screws and screw plugs included with accessory.

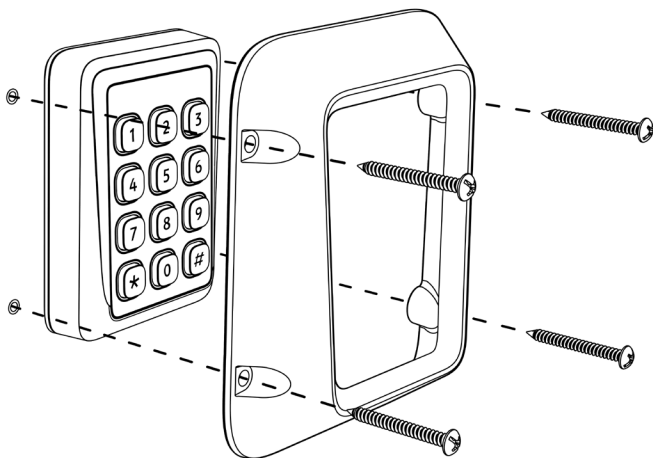
Matte black, part no: SC9192-S

Used to increase accessibility as well as visibility of the keypad. Recommended height is 900mm (center of reader) above the ground/floor.

Note: The reader can also be installed turned around 180 degrees for use on speed gates or tabletop readers, for instance.

# 30

## Vandalization protection



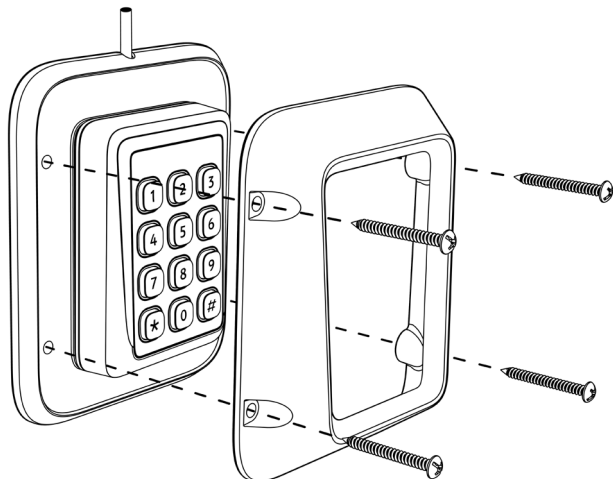
Matte black, part no: SC9180-S

\* Screws and screw plugs included with accessory.

The vandalization protection is an accessory that shields the reader and helps it withstand violence by absorbing and redirecting external forces away from the reader. Can be retro-fitted to already installed readers.

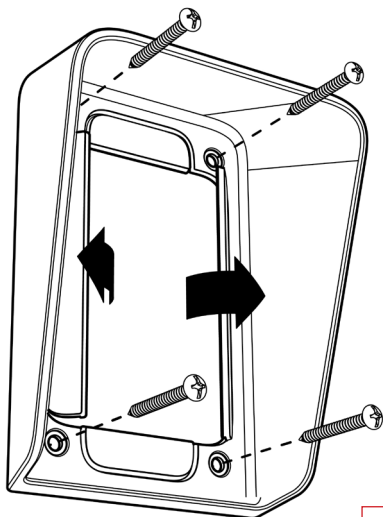
# 31

## Distance plate, large + Vandalization protection



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A recommended combination when external wiring is needed together with the vandalization protection. Can also be used for covering up old installation holes.



\* Screws and screw plugs included with accessory.

Transparent, part no: SC9901-T  
White, part no: SC9901-V

The transparent version SC9901-T is recommended to use for increased protection from rain and snow while still providing great visibility and accessibility in a slender format.

When installing readers in intense sunny conditions, the white version SC9901-V is recommended to use as a shading accessory to provide an environment for the reader without direct intense sunlight. In these conditions, it is also recommended to use white readers.

SC9901-V can also be used as PIN-privacy protection and/or increased climate protection.

When installing the climate- & privacy protection, use a pair of pliers to remove the plastic break-off parts to fit your reader model.



# 33

## Cleaning instructions

Use compressed air in between the buttons to remove dust and dirt and after that Isopropyl alcohol can be used with a piece of fabric to rub in between the buttons and the reader exterior.

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The Cidron readerfamily are intended for; Sale to professional security companies and installation by experienced security professionals. Seriline AB can not provide assurance that any entity or person buying or obtaining the product is properly experienced or trained to correctly install security related products including card readers.

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## **SWEDEN**

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