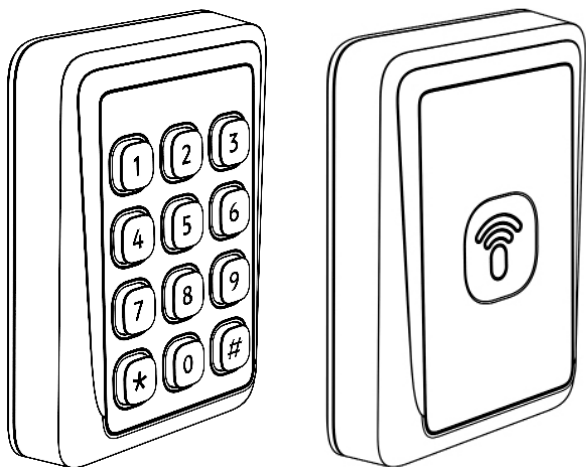







CIDRON



Installation guide






Cidron Standard Reader
Cidron Combi Reader

Cidron Standard (VG3) Reader - Technical specifications

Operating frequency	13,56MHz.
Reading technologies	<p>NFC/BLE, MIFARE CSN 4 byte, MIFARE CSN 7 byte, MIFARE Classic, MIFARE Plus, MIFARE DESFire 0.6, MIFARE DESFire EV1, MIFARE DESFire EV2**, MIFARE DESFire EV3**, MIFARE Random CSN and iCLASS CSN 8 byte. Also supports other ISO 14443 A/B* compatible cards.</p> <p><i>* Not all ISO14443 B cards have been implemented in the reader, please contact Seriline for more details on current status.</i></p> <p><i>**Application coding must be in accordance with EV1.</i></p> <p><i>MIFARE is a registered trademark of NXP B.V. and is used under license.</i></p>
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	<p>12 digit keypad in 4 rows of 3 keys in each row with configurable backlight in blue color. Control features On/Off/Auto indicators.</p> <p>Light intensity can be adjusted.</p>
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 break off protection and/or opening of the reader.
Operating temperature	<p>-40° – +70°C (With thermostat controlled embedded heater)</p> <p>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.</p>
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	    

Cidron Combi (VG3) Reader

- Technical specifications

Operating frequency	125KHz & 13,56MHz.
Reading technologies	<p>NFC/BLE, Electromarine EM4200, HID® Proximity, MIFARE CSN 4 byte, MIFARE CSN 7 byte, MIFARE Classic, MIFARE Plus, MIFARE DESFire 0.6, MIFARE DESFire EV1, MIFARE DESFire EV2**, MIFARE DESFire EV3**, MIFARE Random CSN and iCLASS CSN 8 byte. Also supports other ISO 14443 A/B* compatible cards.</p> <p><i>* Not all ISO14443 B cards have been implemented in the reader, please contact Seriline for more details on current status.</i></p> <p><i>**Application coding must be in accordance with EV1.</i></p> <p><i>MIFARE is a registered trademark of NXP B.V. and is used under license.</i></p>
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	<p>12 digit keypad in 4 rows of 3 keys in each row with configurable backlight in blue color. Control features On/Off/Auto indicators.</p> <p>Light intensity can be adjusted.</p>
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 break off protection and/or opening of the reader.
Operating temperature	<p>-40° – +70°C (With thermostat controlled embedded heater)</p> <p>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.</p>
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	    

4

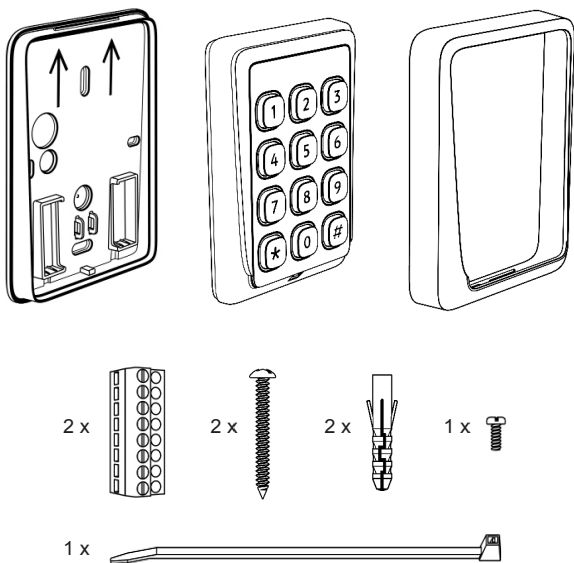
Power Consumption

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

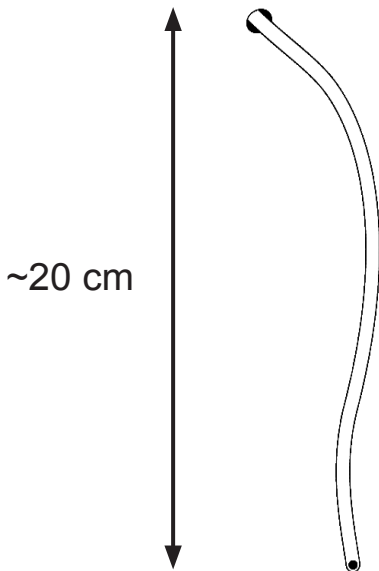


Package content:

- 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

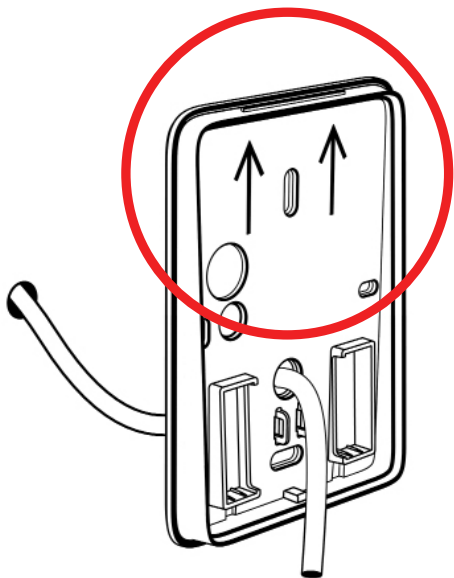
* Please note that all pictures in this manual are illustrations and do not represent the actual sizes and form of the components.

6

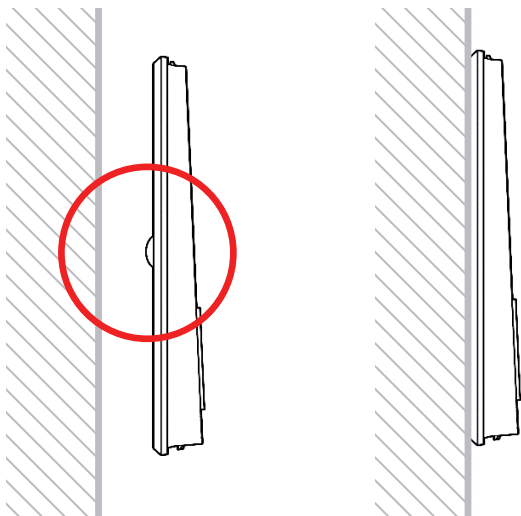


In order to facilitate installation a cable length of 20cm is recommended.

7

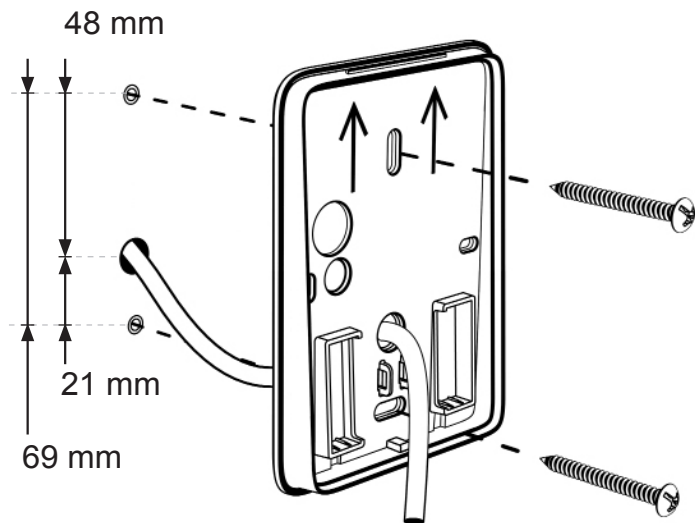


Ensure that the installation plate is fixed in the correct direction, i.e. the arrows pointing upwards.



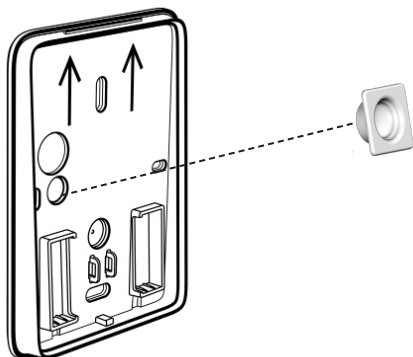
Ensure that the area behind the tamper switch bulb of the installation plate is flat, to be able to push the bulb for correct tamper alarm functionality. If it is not flat enough, you will find accessories in this manual that will assist with improving this functionality.

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.



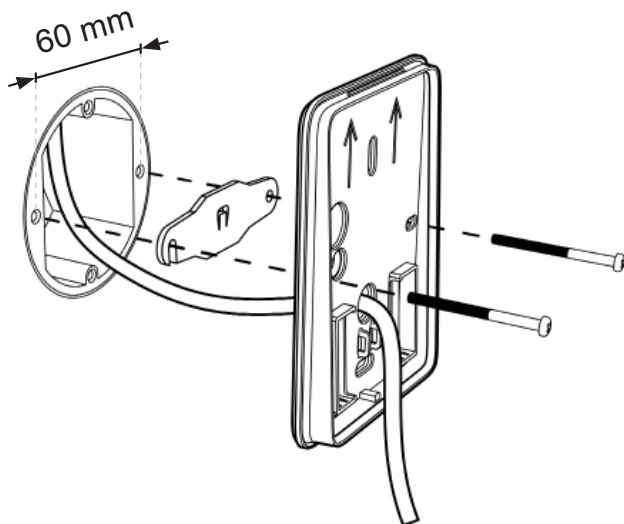
Options for tamper alarm protection

The readers support both break off protection from the wall together with an opening protection of the reader, to give extended protection for the installation.

If needed its possible to disable the break off protection with the red tray in the accessory bag.

1. Install the backing plate on the wall with the supplied screws.
2. Assemble the tamper alarm switch tray as shown in the picture.
3. Remove the spring from the reader tamper alarm switch.
4. Assemble the reader. Tamper alarm will be in normal state as long as the reader is assembled. If the reader is disassembled the tamper alarm is activated.

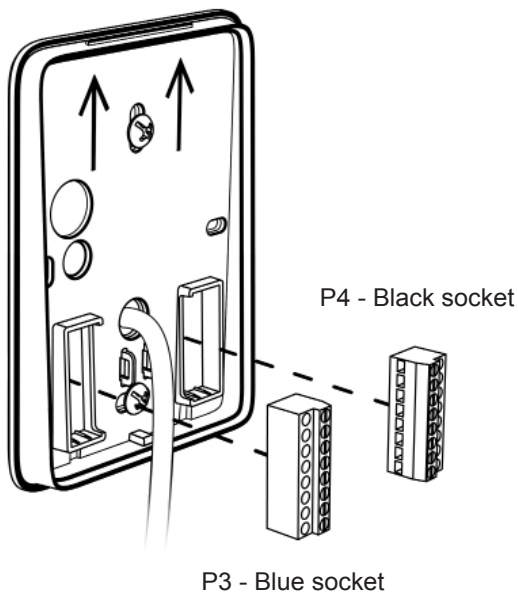
Note that it is very important to remove the spring when the tamper switch tray is used or otherwise you risk damaging the tamper alarm switch.



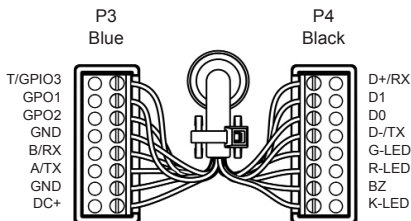
Installation box tamper switch
bracket, part no: SC9189-RF

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.



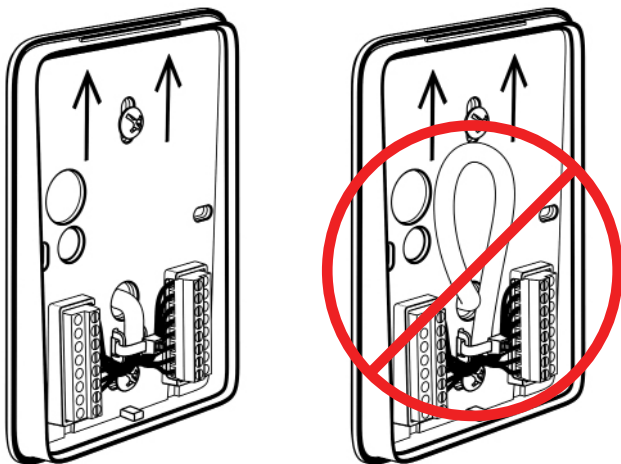
Make sure to place the terminal connectors with the fastening screws facing towards you.



	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	-

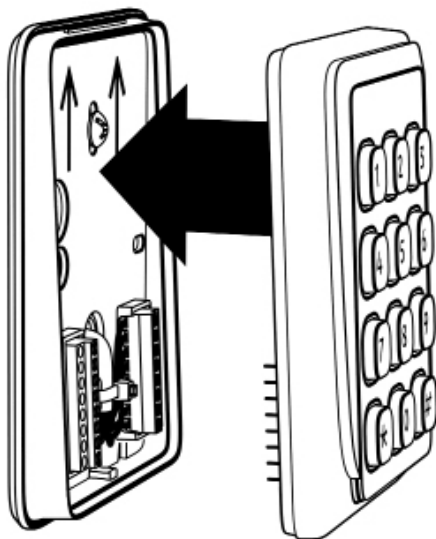
Notes:

1. Maximum wiegand cable length is 150 meters and requires a high quality shielded cable with minimum AWG18 dimension ($\approx 0.8231\text{mm}^2$) 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.

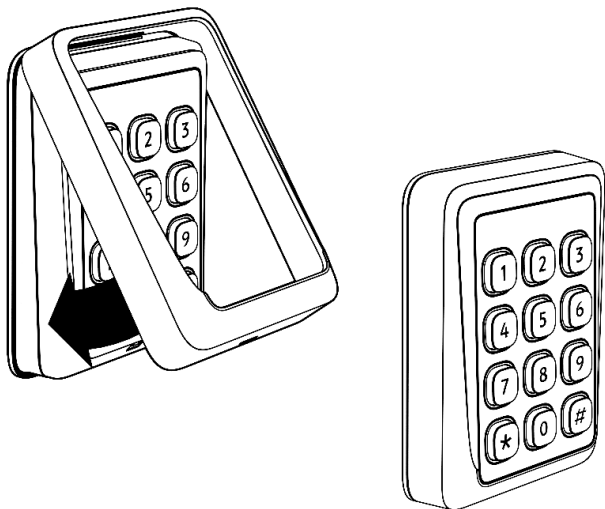


Make sure no excess connection cable is left in between the reader module and the installation plate.

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.

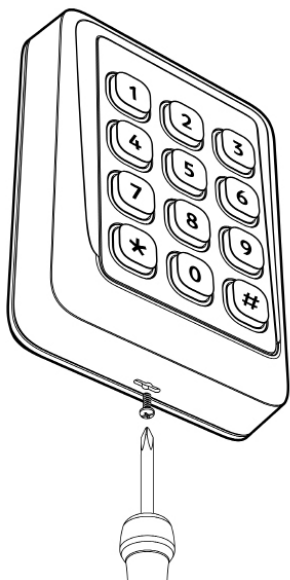


When installing the reader to the mounting plate ensure that the reader pin header contact perfectly aligns with the terminal connector block.

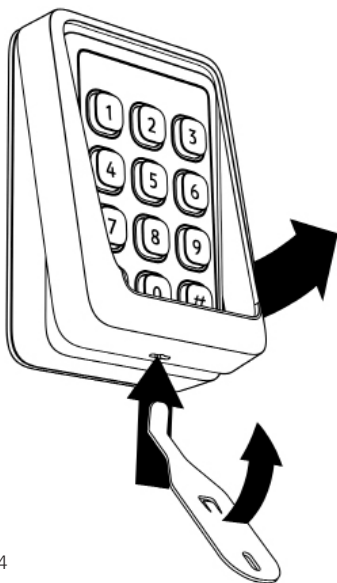


Mount the front cover as per the image above and make sure it is fitted correctly.

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.



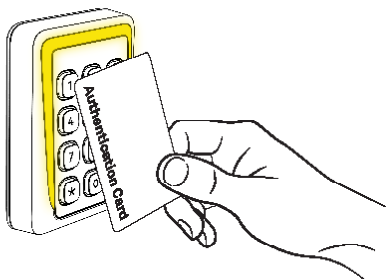
To secure the front cover to the reader use the supplied fixing screw and fix it into the installation plate through the front cover.



Cidron tool, part no: SC9914

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.

19 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

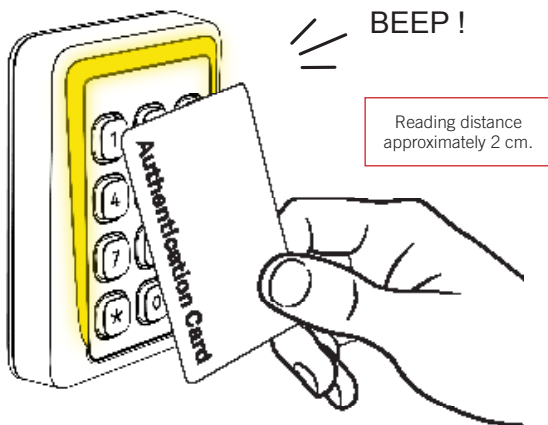


Resetting the
OSDP secure
channel.

see page: 22

20

Setting the reader in programming mode



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.

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Configuring the reader



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.

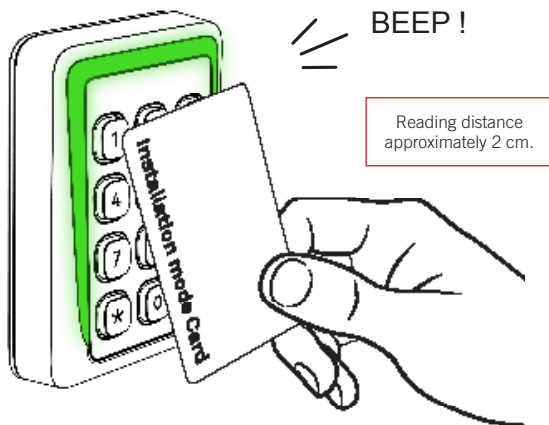


1: Set the reader in programming mode, see page: 19

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.

23

Resetting the OSDP secure channel.

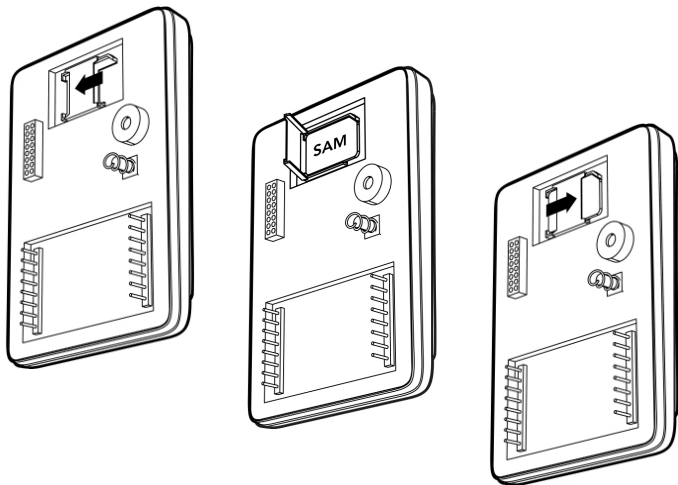


1: Set the reader in programming mode, see page: 19

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.

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Installing Secure Access Module



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

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.

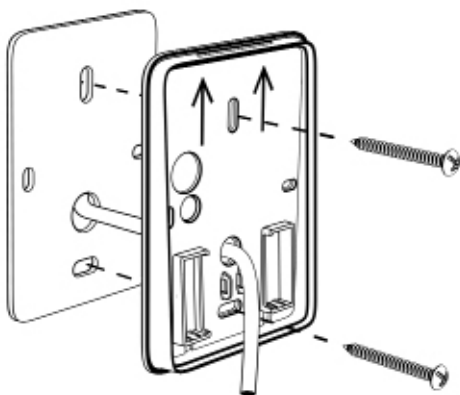
CIDRON

Accessories

Cidron Standard Reader
Cidron Combi Reader

26

Stainless-steel spacer plate

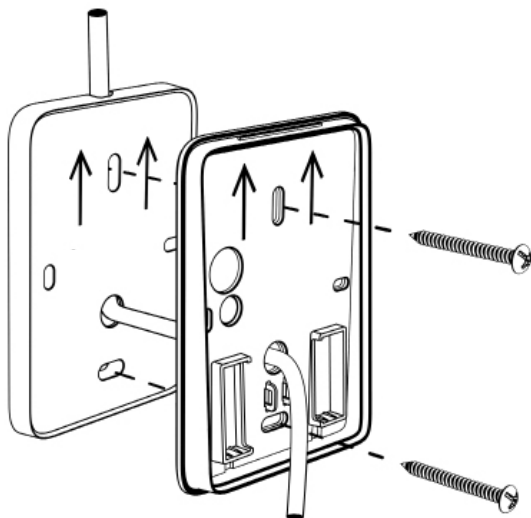


Spacer plate Std/Combi: SC9915

To ensure full function of the tamper switch in the Cidron reader, the spacer plate should be mounted behind the Cidron card reader's back plate on uneven wall installations

The acid resistant stainless-steel spacer plate can be used to ensure full function of the tamper switch in the Cidron reader, the spacer plate should be mounted behind the Cidron card reader's back plate on uneven wall installations or similar.

Distance plate, standard

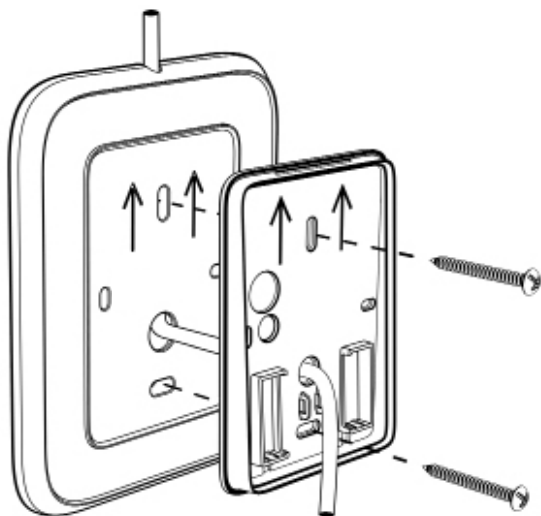


Matte black, part no: SC9191-S

Matte white, part no: SC9191-V

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.

Distance plate, large



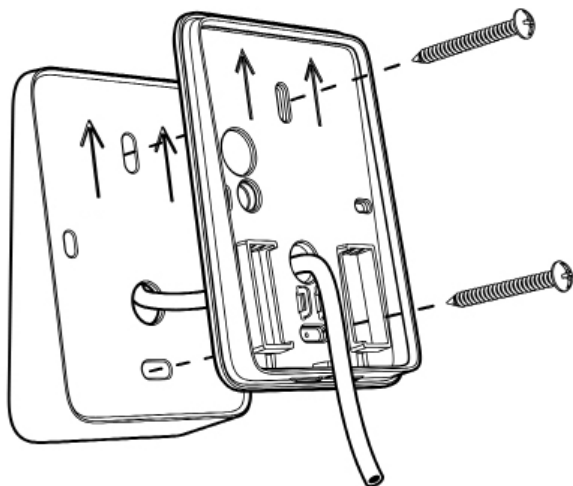
Matte black, part no: SC9197-S

Matte white, part no: SC9197-V

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.

29

Distance plate, angled 10°

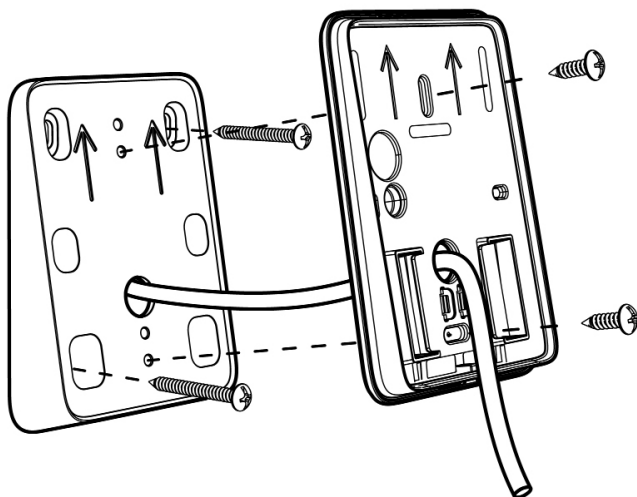


Matte white, part no: SC9193-V

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

30

Distance plate, angled 10°



Matte black, part no: SC9193-S2

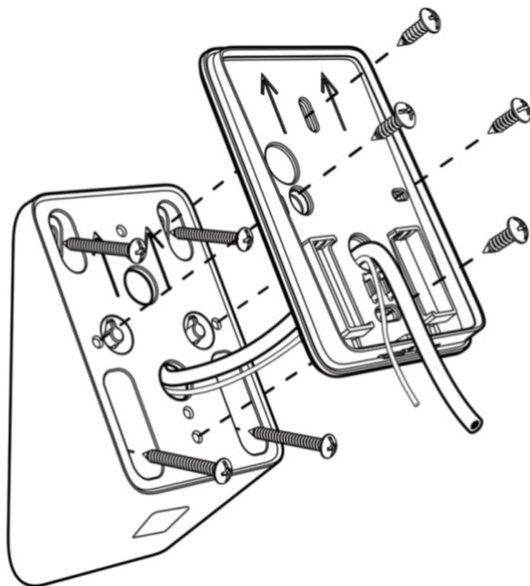
* Screws and screw
plugs included with
accessory.

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.

31

Distance plate, angled 33° with QR code reader module.

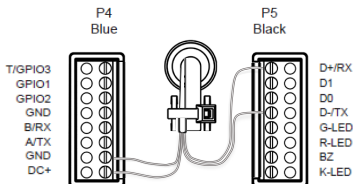


Matte black, part no: SC9192-SQ

* Screws and screw
plugs included with
accessory.

From the QR code reader there are four wires, power and communication to be connected at the readers terminal blocks.

	PIN	Connection cable QR code module
P4 - Blue	T/GPIO3	
	GPIO1	
	GPIO2	
	GND	
	B/RX	
	A/TX	
	GND	
	DC+	Black wire GND Red wire DC+
P5 - Black	D+/RX	Green wire D+/RX
	D1	
	D0	
	D-/TX	White wire D-/TX
	G-LED	
	R-LED	
	BZ	
	K-LED	



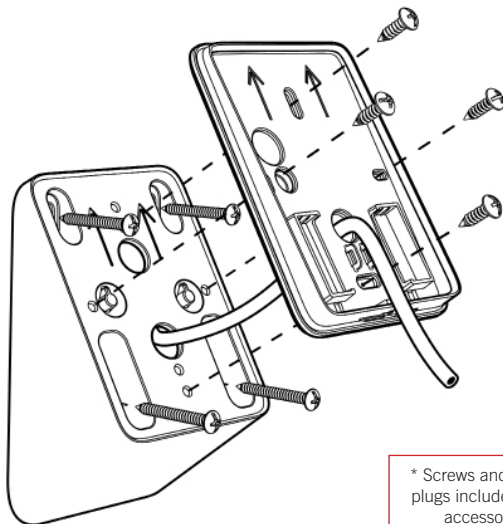
Technical data QR code module

Sensor Resolution	640 horizontal X480 vertical pixels
Illumination	White LED
Aiming	None
Symbologies	QR Code, Micro QR, PDF417 Code 128, Code 39, Codabar, Interleaved 2 of 5, ITF-6, ITF-14 ISBN, Code 93, UCC/EAN-128, GS1 Databar, Matrix 2 of 5, Code 11, Industrial 2 of 5, Plessey, MSI-Plessey
Resolution	>3mil
Typical Depth of Field	(QR 10mil) 35mm - 80mm
Min. Symbol Contrast	25%
Scan Angel	Roll: 360°, Pitch: ±60°, Skew ±60°
Field of View	Horizontal 42°, Vertical 31.5°
Operating Voltage	9 - 30VDC
Power Consumption	Current draw (Idle mode) 40 mA @ 12 VDC, 23mA @ 24 VDC
Operating Temperature	-20°C ~ +55°C
Humidity	5% ~ 95% (non condensing)
Ambient Light	0~100.000 LUX

Note that the connected VG3 reader must be running on Firmware 3.82.08 or higher to use the QR module as an accessory. Older firmware versions of VG3 readers will not detect the QR code reader. Settings can be done with Cidron Reader Tool 6.5.0.7 or higher.

33

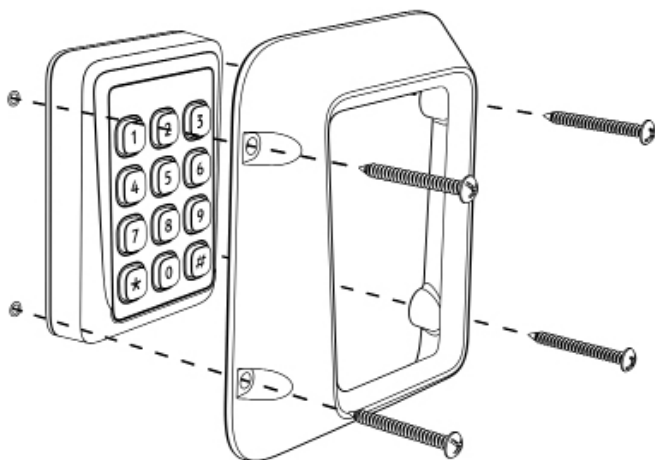
Distance plate, angled 33°



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.



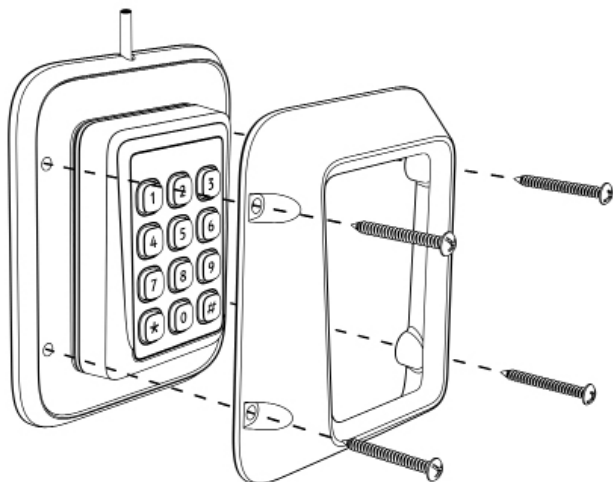
Matte black, part no: SC9180-S

* Screws and screw plugs included with accessory.

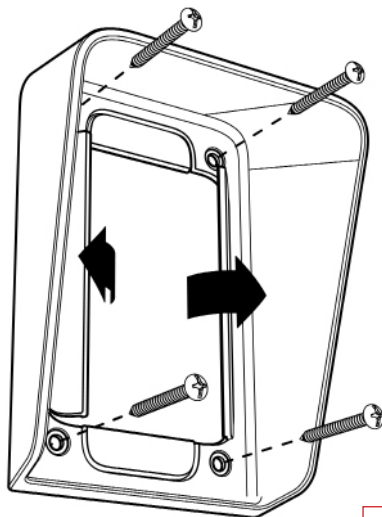
The vandalization protection is an accessory that shields the reader and helps it withstand violence by absorbing and redirecting external forces away from the reader. Can be retro-fitted to already installed readers.

35

Distance plate, large + Vandalization protection



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

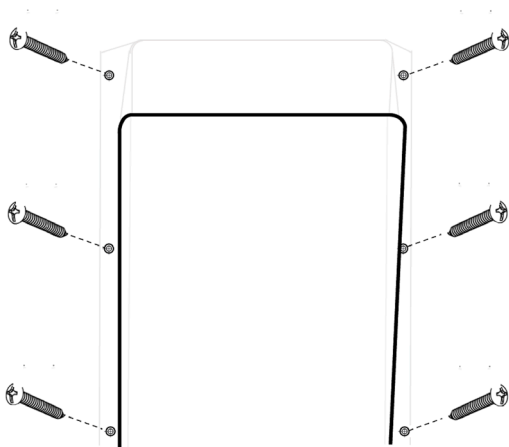
The transparent version SC9901-T is recommended to use for increased protection from rain and snow while still providing great visibility and accessibility in a slender format.

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.

37 Wide Climate protection



Wide Climate protection
Transparent, part no: SC9901-TW

The transparent version SC9901-TW is recommended to use for increased protection from rain and snow while still providing great visibility and accessibility in a slender format. The Wide version can be used together with vandalism protection, the 33° angled distance plate and the QR code module.

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.

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.

SWEDEN

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