

ingenico
a Worldline brand

Compact Multiple Reader

Self/2000

Self/4000

Self/5000

Add - on Boxes



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Preliminary

These guidelines apply to all integrator and/or manufacturer partners to which the INGENICO Group supplies a product from its Self/x000 range.

Self/x000 range concerns the following products : Self/2000, Self/4000 and Self/5000.

Self Modular (Self/7000 & Self/8000) and Self/3000 have their own integration guide.

Self/x000 is a cashless payment solution comprising both hardware and software components, designed by the INGENICO Group (hereinafter “**INGENICO**”) to integrate payment functionality into self-service devices or terminals, such as vending machines, fuel pumps, ticket machines, kiosks, etc. (hereinafter the “**Terminal(s)**”).

Products in the Self/x000 range are only intended to be installed in Terminals by manufacturers or integrators responsible for the complete assembly of such devices (hereinafter the “**Partner(s)**”).

INGENICO Partners, who are qualified professionals specializing in their particular area of activity, have specific know-how and a high level of technical knowledge as regards integrating cashless payment solutions into their Terminals.

These guidelines are intended as a reminder of good practice and set out the rules applicable to all our Partners with regard to integrating Self/x000 into their Terminals.

1. Integrating Self/x000 into each Terminal

Partners bear sole responsibility for integrating each Self/x000 product into their Terminal and must comply

with:

- (i) local standards and regulations;
- (ii) (ii) the integration rules set out in this guide;
- (iii) the state of technology and current industry practices in effect in terms of design, manufacturing, integration, commissioning and maintenance of Terminals;
- (iv) good engineering practices, the highest quality criteria in effect in the profession and the corresponding standards.

In order to support its Partners in the integration process, INGENICO has introduced the following services (Partners are invited to contact their local INGENICO sales representative to find out more about the terms applicable to each service):

- (i) Partners carrying out their first Self/x000 integration must attend a technical training course run by technical experts to help them to comply with the requirements outlined above and strict integration rules;
- (ii) In addition, INGENICO can also offer a technical assistance service for Self/x000 integration and commissioning to any Partner who requests it.

In light of the information above, INGENICO cannot be held responsible for any Self/x000 integration that is not compliant with the criteria above, into a Terminal by one of its Partners.

2. Compliance of Self/x000 and the Terminal with the legislation/regulations in effect

2.1 Self/x000 compliance

Products in the Self/x000 range are designed by INGENICO to comply with the applicable international and/ or local standards in effect, particularly in environmental (CE, FCC, CSA, etc.) and security (EMV, PCI, etc.) terms.

Documents confirming compliance with these standards can be made available to INGENICO Partners on request. They can also be viewed directly on the websites of the official organizations that issue them (Bureau Veritas, PCI, etc.). If necessary, test reports can also be viewed, at the Partner's request only, at INGENICO's offices at the address shown.

2.2 Terminal compliance

As stated above, the Partner is responsible for the complete assembly of the Terminal, which will comprise other third-party components, materials and solutions (hereinafter the “**Components**”) as well as the cashless payment solution.

The Terminal assembled by the Partner must undergo subsequent checks in accordance with the local, European and/or international legislation/regulations applicable (hereinafter the “**Certification(s)**”).

For example, with regard to electromagnetic compatibility:

- **For the European Union:** commissioning and market release of the Terminal are subject to its receiving its CE declaration of compliance in accordance with 2014/53/EU RE Directive.

- **In the United States and Canada:** control and evaluation rules on the compliance of the Terminal have been implemented by the FCC (Federal Communications Commission) and IC (Industry Canada). It should be noted that the fact that the Self products and each of the Components in the Terminal are compliant with the applicable standards may not be sufficient to obtain the Certifications. For example, INGENICO is aware of the importance of the quality of design of the electrical circuit (e.g. input filtering) and cabling (including earthing of components) for compliance with rules on electrical radiation. In light of the above, INGENICO cannot be held responsible for any non-compliance of the Terminal of any kind. INGENICO's recommendations as outlined in these guidelines are intended to help with obtaining Certifications but may not be sufficient in themselves.

The scope of this document is to assist third party integrators when dealing with Ingenico Unattended products such as Self/2000. It offers all information needed for a successful integration of this products into unattended kiosk machines.

For any sales information please refer to your Ingenico contact into the region.

> Updates table

Version	Date	Nature of modifications	Author	Visa
0.1	29/04/2019	First Draft	R.DEVORNIQUE	
0.2	06/06/2019	Add Self/000X	R.DEVORNIQUE	
1.0	13/06/2019	Initial version	R.DEVORNIQUE	
2.0	05/09/2019	add Self/5000	R.DEVORNIQUE	
3.0	20/11/2019	add Self/4000	R.DEVORNIQUE	
4.0	24/12/2019	small typo	R.DEVORNIQUE	
5.0	02/03/2020	LLT Button indication	R.DEVORNIQUE	
6.0	13/08/2020	Update with lastest definition	R.DEVORNIQUE	
7.0	30/11/2020	Mounting recommendations for IP	R.DEVORNIQUE	
7.1	06/05/2021	Mounting précisions	R.DEVORNIQUE	
8.0	29/11/2021	Outdoor recommandations Self/0003 Add ON LLT LED management USB Key Dowload Mode	M.GOULON	

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1_General

1_1 Definition of acronyms

CVM	Cardholder Verification Method
EMC	Electro Magnetic Compatibility
EVA	European Vending Association
GND	Ground
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
LCD	Liquid Crystal Display
LLT	Local Loading Tool
MDB	Multi Drop Bus
RAM	Random Access Memory
RS232	Recommended Standard 232. A standard for serial binary communications
SAM	Secure Access Module – the chips storing the electronic cash register in a stored value scheme such as Moneo, Proton or VISA Cash.
SMA	SubMiniature version A
USB	Universal Serial Bus
CL	Contactless
EXE	EXEcutive protocol
VMC	Vending Machine Controller

1_2 Payment solution presentation

The Self/x000 Series is the new range of Ingenico unattended devices to offer payment into any kiosk through any segments (petrol, transport, vending, parking, etc.).
Self/Oxxx are add-on module to upgrade functionalities.

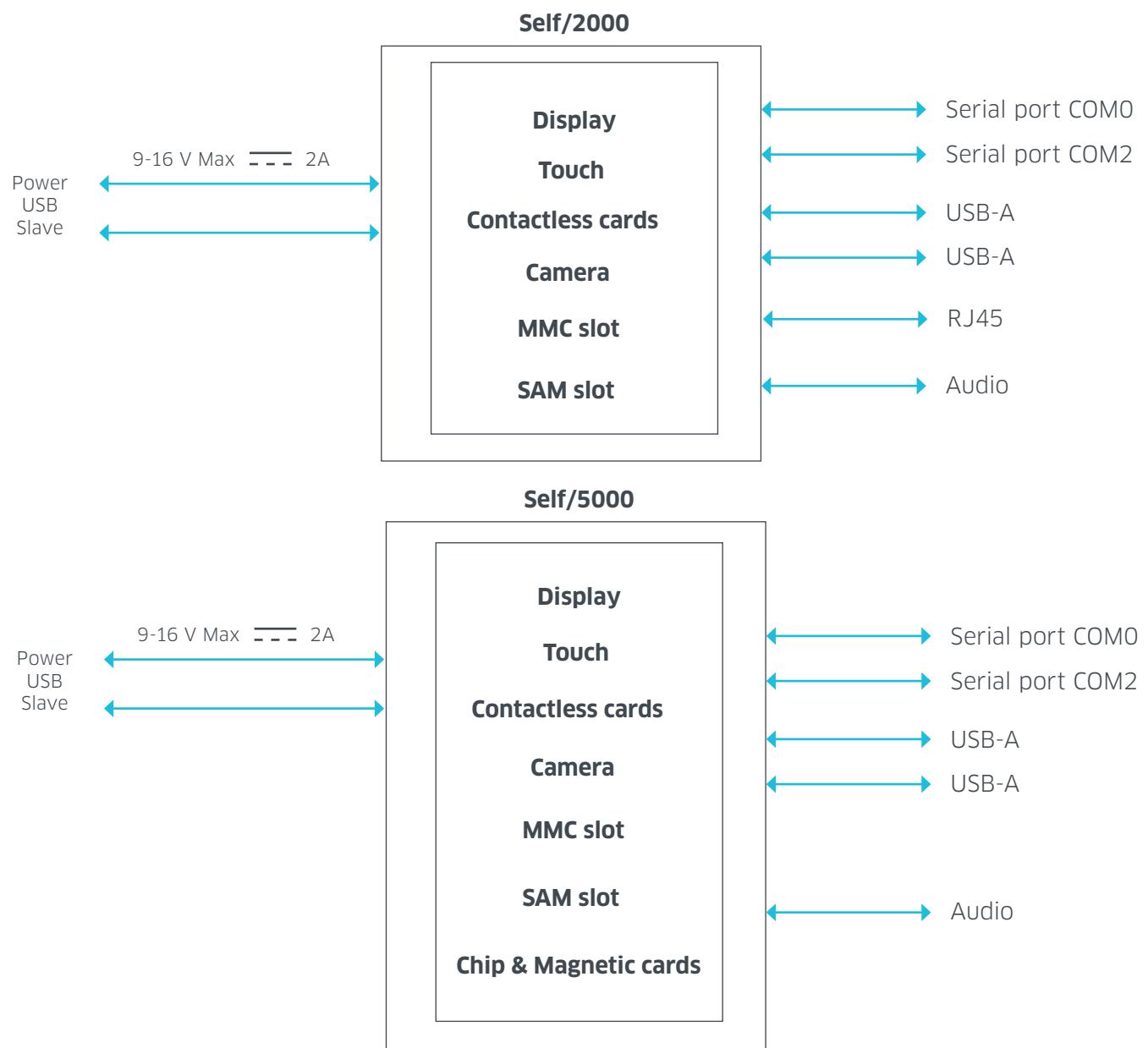
Self/2000 product is compact reader offering contactless card processing, keeping a “High tech” design.
Self/5000 product is compact reader offering contact, magnetic and contactless card processing.
Self/4000 product has the same card processing than Self/5000 with a conventional keyboard.

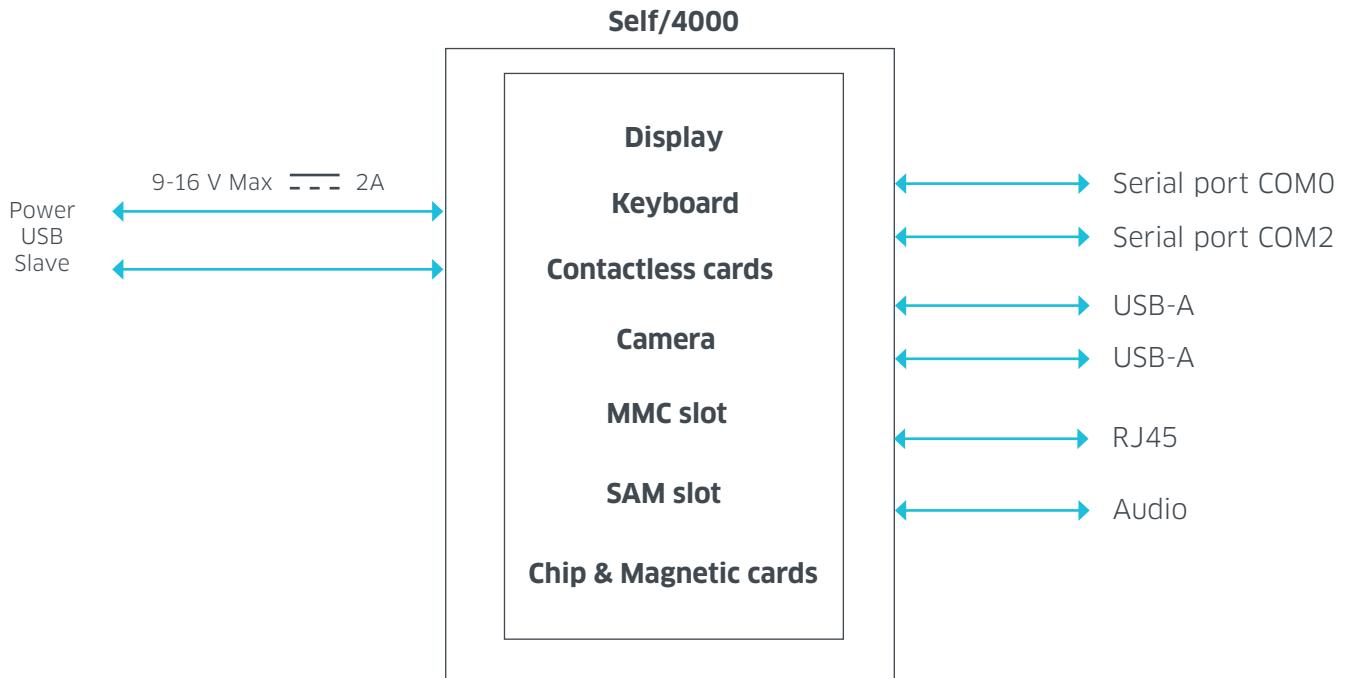
These compact devices are designed to fit everywhere, thanks to an easy installation mounted by the front and/or the rear, respectful of EVA EPS (Standard door module).
Usage can be indoor or outdoor, resisting to harsh environment.

Self/x000 is also written Self/x000 (CL) to highlight the contactless capability.

The Self/x000 series is the next generation of Ingenico leveraging of experience from previous product ranges, i9500 series, CAD30 series or iSELF series, to renew your experience of unattended payment.

1_2_1 Connectivity and communications diagrams



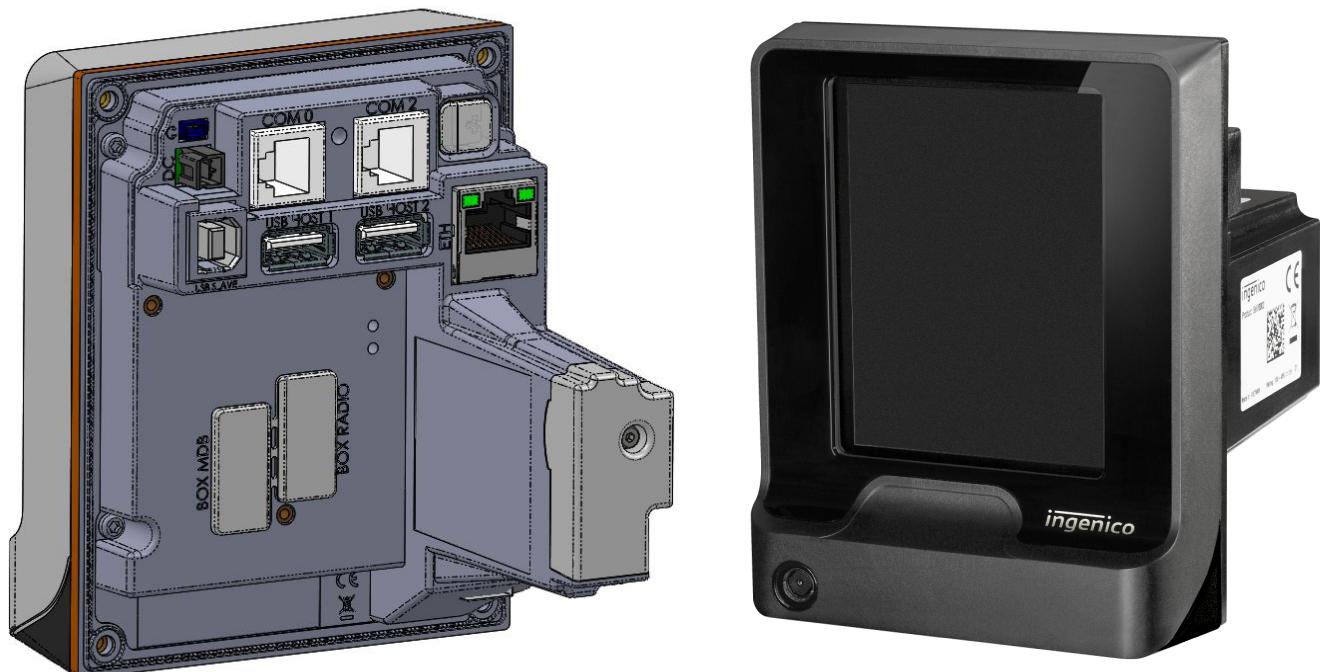


1_2_2 Services

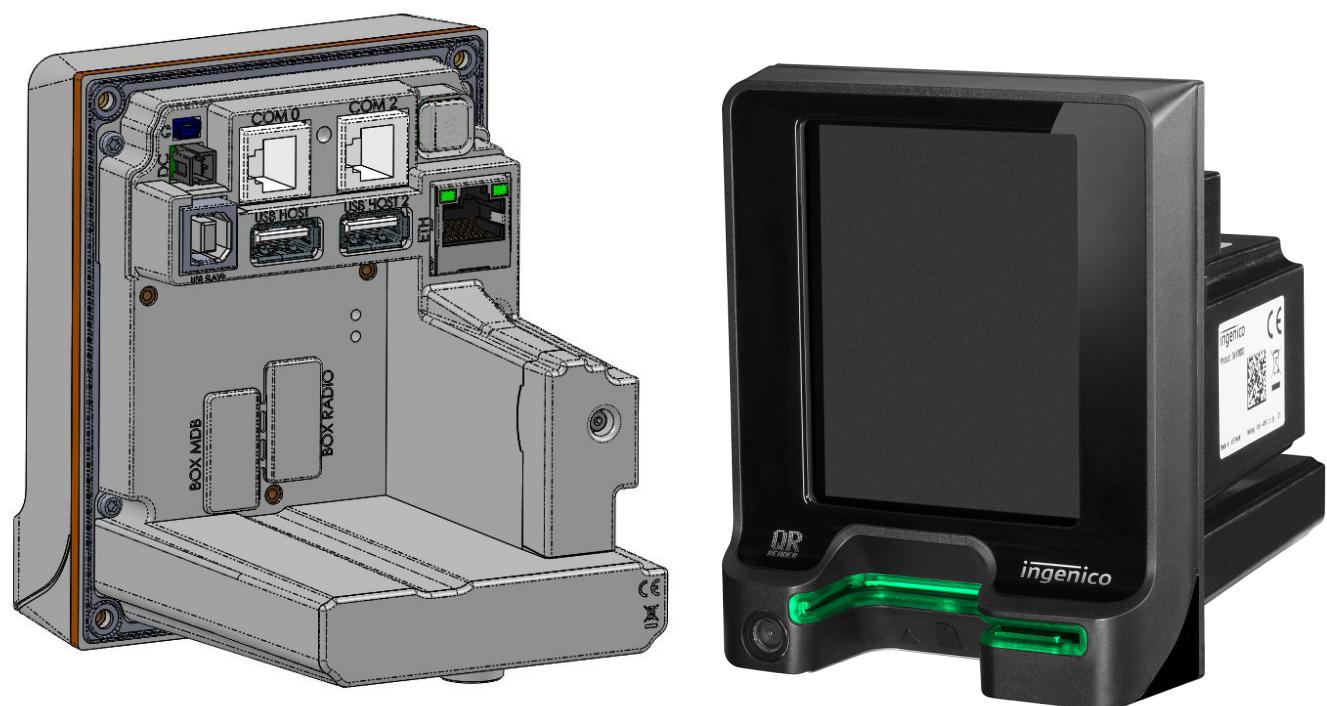
Training	Installation and exploitation Software OEMC development (days) EMV Level 2 package (2 days) Development workstation SDK
Support	Hot-line support Technical assistance
After-Sales Service	Fixed cost repair of iSelf Series products
Downloading server centre	User licence Installation User training Hot-line support Technical assistance
Softwares / Licences	User licence for local loading tool, LLT User licence for applications software Licence for software signature tool, SAT Licence for "EMV Level 2 package " Licence for TCP/IP ...

1_3 Description of modules

1_3_1 Self/2000 product views



1_3_2 Self/5000 product views



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1_3_3 Self/4000 product views

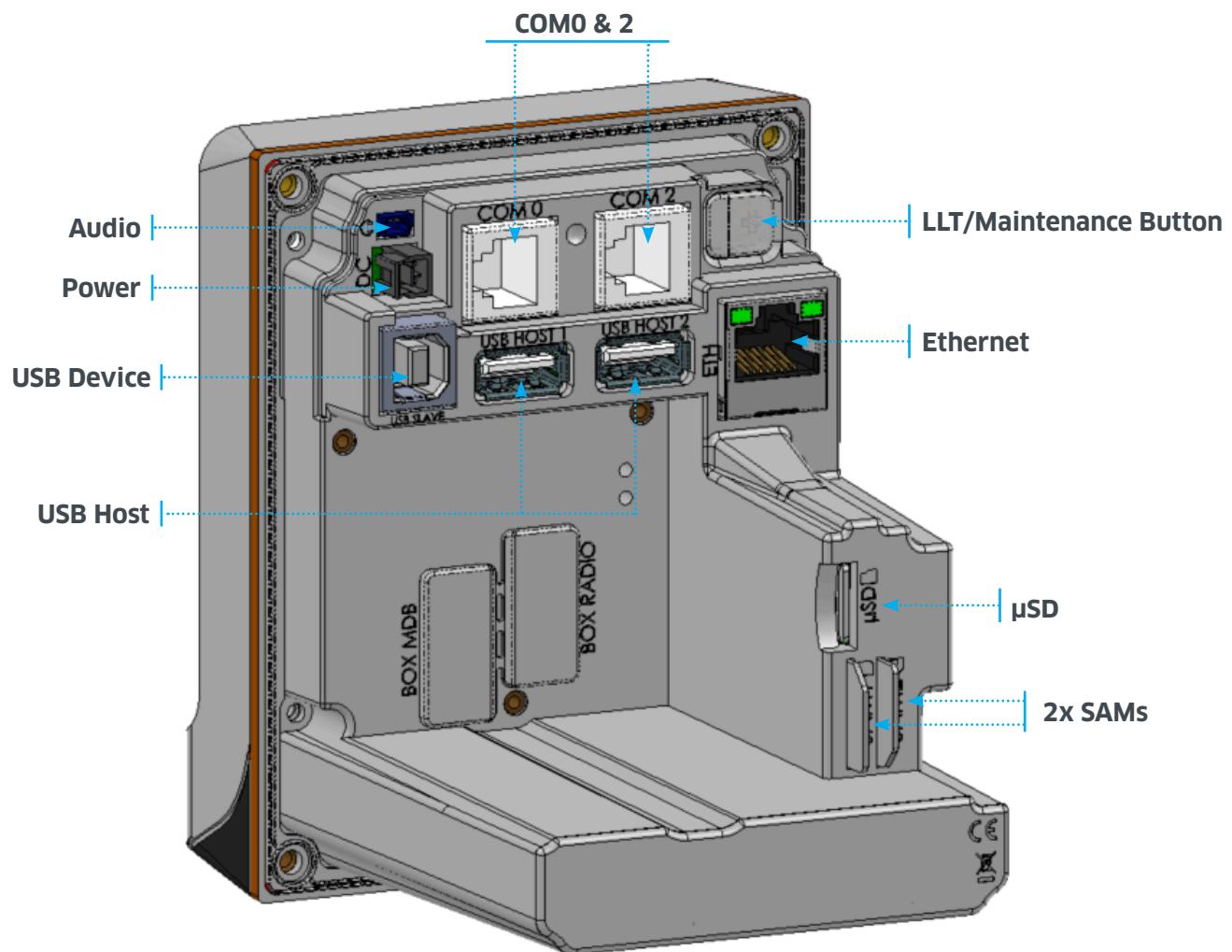


1_3_4 Technical Hardware characteristics

Mass	Self/2000 : 340g Self/5000 : 443g Self/4000 : 392g
Dimensions	107 x 85 x 110 mm (height x width x depth)
Power Supply	9V - 16 V --- 2A
Platform	Tetra
Memory	512 MB SDRAM and 512 MB Flash
Link	2x USB host (USB-A) 1x USB device(USB-B) 2x RS232 (RJ11) 1x Ethernet (RJ45) 2x Add-on BOX connection
Functionality Self/2000	Contactless cards reader 3,26" graphic display (240*320)+ Touch Camera - (OPTION w/o Camera on self/2000) Buzzer Audio connector output 1x Maintenance Button 1x µSD 2x SAM Wake-up mechanism on RS232 connectors

Functionality Self/5000	Contactless cards reader 3,26" graphic display (240*320)+ Touch Camera - Buzzer - Audio connector output 1x Maintenance Button 1x µSD 2x SAM Wake-up mechanism on RS232 connectors Hybrid cardreader(magnetic & chip)
Functionality Self/4000	Contactless cards reader 2,27" backlit, landscape mode (640*240) 16 keys, backlit keys Camera - Buzzer - Audio connector output 1x Maintenance Button 1x µSD 2x SAM Wake-up mechanism on RS232 connectors Hybrid cardreader(magnetic & chip)

1_3_5 Output connectors description



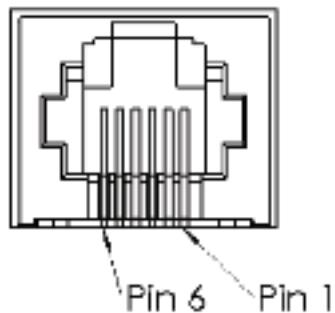
1_3_5_1 USB device

The device uses type B USB cable.
Cable length should not exceed 5m.

1_3_5_2 COM0 and COM2 links

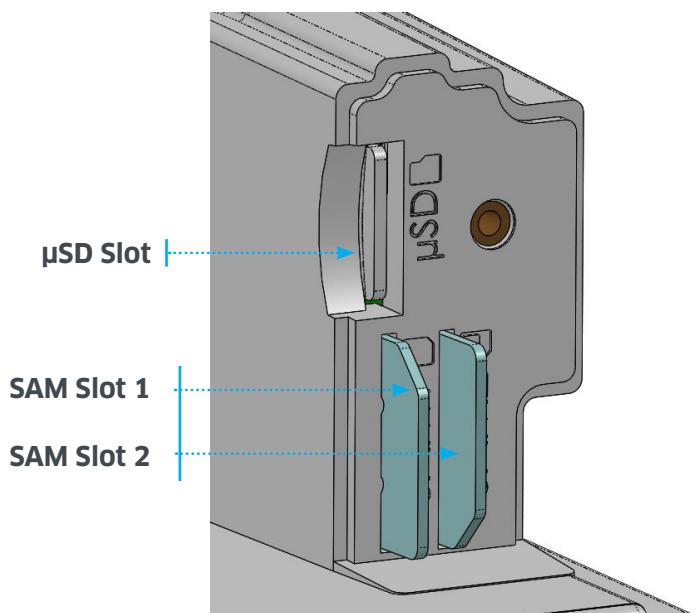
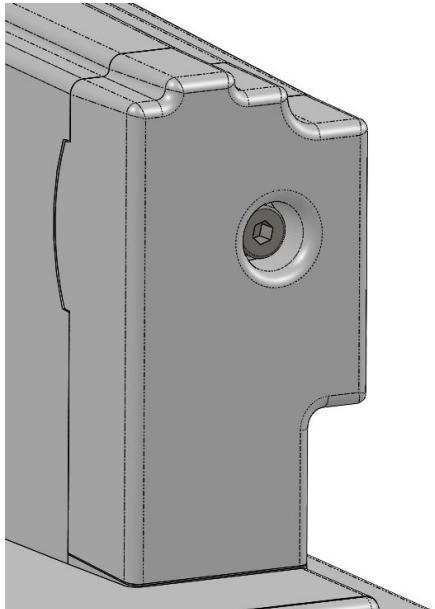
The device can be connected to serial port COM0 or COM2.
The connector type is RJ11.

Pin N°	Function
1	GND
2	Wake-up
3	RXD
4	TXD
5	CTS
6	RTS



1_3_6 SAM & µSD Installation

1. Disconnect the device from cable power supply.
2. Remove (unscrew) protective plastic part.
3. Insert the SAM cards in SAM slot 1 and /or slot 2. Take care about the corner angle location.
4. SD card in µSD slot, following picture symbol.
5. Replace protective plastic part, screws using torque : 0,8mN



1_3_7 Buzzer

The buzzer is controlled by application. The frequency depends of software.

1_3_8 Contactless LEDs & Contactless Logo

Contactless LEDs & Contactless Logo are displayed on the screen. Except on Self/4000, CLess Logo is located between display and keypad.

1_3_9 Touch (Self/2000 & Self/5000)

Device has a full touch on the screen.

Based on context, the application can display buttons or numeric keyboard.

1_3_10 Keyboard (Self/4000)

Device has a mechanical keyboard.

10 x digit key, 4 x function key (Correction/valid, Cancel, reserved) and 2 contextual keys (*, #, or, up/down).

1_3_11 Maintenance Button and LED

The device has a maintenance button at the back.

- To enter LLT mode, press the button at power up or at restart, until the red LED lights on.
- To enter Maintenance mode, press the button at power up or at restart, until the red LED starts blinking.
- To restart the product, press the maitenance button until 3 red flash then release; a blue flash appears. Restart the process until 3 red flash. The device should display "Reset in Progress" and restart.

NB : When Device is in exploitation mode and fully started, the LED is fix green if all is working well. Other LED configurations in exploitation mode highlight an issue.

1_3_12 Audio output

The Audio ouput is coming from a Mono Class D PWM Amplifier which can be connected to a 4 or 8 ohms speaker with a signal level going up to 3.3V.

1_3_13 Hybrid card reader

On front face the device has a backlit card entrance for Chip & magnetic card. The color of card entrance can be customized by software.



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1_4 Professional installation requirement

Ingenico only sells its products, to qualified partners and integrators. They are in charge of professionally resell, integrate, and install these products inside complete solution for end customers. These end customers solution can be:

- Petrol station.
- Ticketing kiosk (Airline tickets, cinema, transport, etc.).
- Vending machine operator.
- Parking kiosk (On / off street).
- Other.

Thus, the general public cannot purchase Ingenico hardware or software.

Partners, resellers, and Integrators must have qualified electronics engineers to be able to install or integrate our products. Furthermore, they must follow a specific technical training conducted by Ingenico technical experts.

In addition installation must follow Ingenico recommendations, as describe in this document, in order to respect:

- Local regulations for Electrical Safety and Radio emission levels.
- Ferrite beam installation if any.

Our field support & maintenance engineers are available for follow up.

1_5 Wake-up function

1_5_1 Wake-up mechanism

Device is designed to save power thanks to a “stand-by mode”.

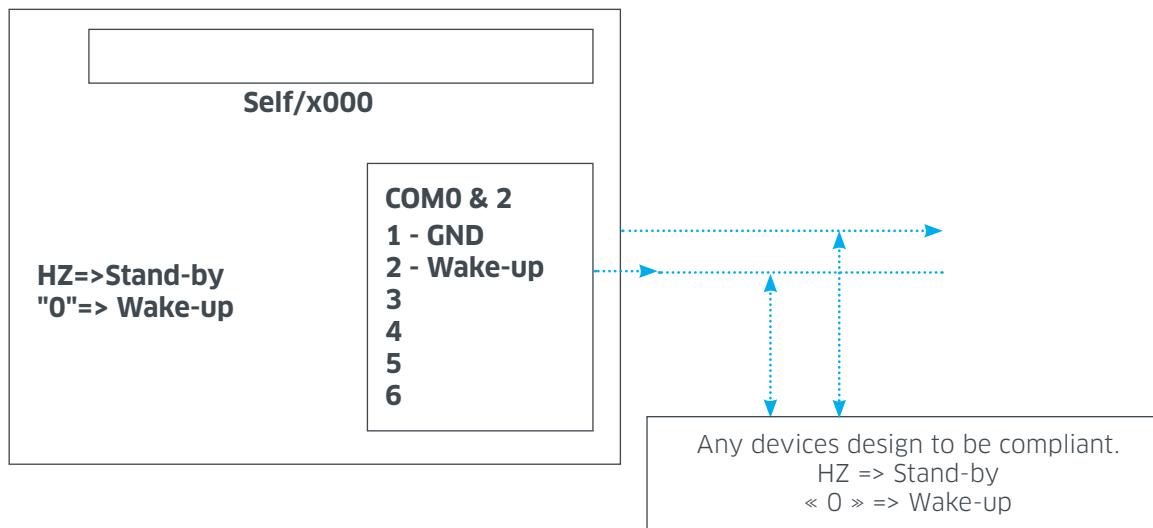
If the stand-by mode is used, use Wake-up mechanism:

- with Pin 2 of COM0 or COM2 link.

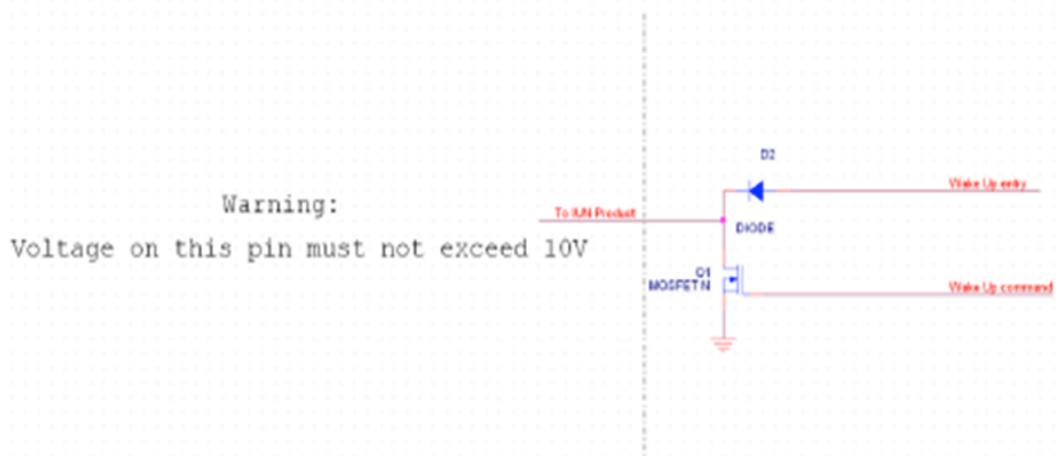
Wake-up pin state	
HZ (high impedance)	Stand-by authorized
Drive to "0"	Wake-up / Stand-by unauthorized

The Wake-up pin is drive to “0” by the one asking the wake-up.

It could be driven by Self/x000 or any devices designed to be compliant (Host device...).



1_5_2 Recommended circuit implementation



The wake up pin must be high Impedance. Do not connect directly any voltage on this pin. The devices are 10 volts tolerant on this pin but it is recommended to be High impedance. The voltage on this pin must not exceed 10 volts in any case. As the pin is high impedance in stand by mode, any current leakage can wake up the product so please be careful to choose component with ultralow leakage current for wake up circuit.

2_Main accessories

For complete description of Ingenico Accessories, please refer to iUN accessories catalog.

3_Self/x000 series software

3_1 Generality

Self/x000 are secure payment products built around Telium 3, the Ingenico Secure Processor. This processor is designed to manage two separate worlds :

- A Trusted World which control the sensitive peripherals.
- A Normal World which is used to run the customers payment application.

The communication between these two worlds is under the supervision of the Trusted World.

3_2 LLT Button indicator

To enter a mode. Press the button until the indicator corresponding the function you want appears. Then release it.

Fix red	LLT mode
Blinking red	Maintenance Mode
Fix Green	Production Mode
Blinking purple	reserved for R&D
Fix purple	reserved for R&D

3_3 Software Local Loading

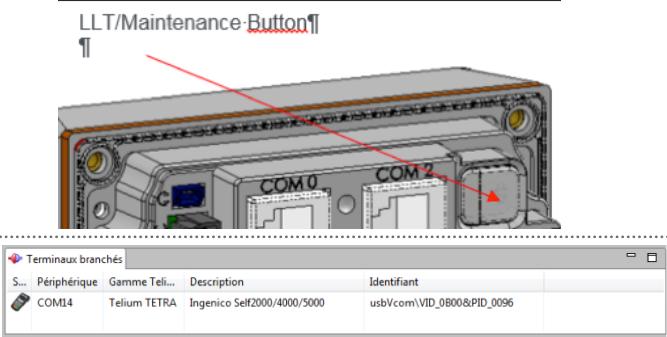
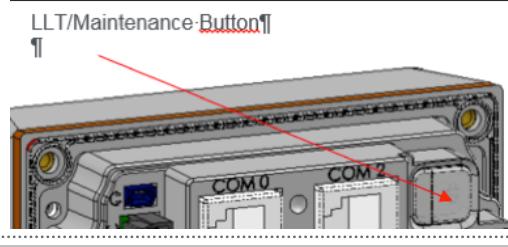
3_3_1 LLT Mode

Software can be loaded in the products by the use of the Local Loading Tool (LLT).

The LLT is formed by:

- A PC running with Windows 10, Windows 8.1, Windows 8, Windows 7 or Windows Vista (Windows XP is no more supported for security reason).
- A USB cable,
- The Ingenico Local Loading Software (Version 5.5 must be used at least with Self/x000 products).

Local loading procedure on Self/x000

1_ Launch the LLT software on the PC	Local Loading Tool
2_ Switch off the product	
3_ Connect the PC to the slave USB connector	
4_ Press the LLT Button	
5_ Switch on the product	
6_ When the LED near the button becomes fix red, release the button	
7_ Wait for the apparition of "COMxx Self/x000/..." on LLT Screen	
8_ Click on the COMx... To enable connection between the product and the PC.	
9_ Refer to the instruction given in the "LLT User's Guide v5" to load the software.	

3_3_2 USB key mode

« SOFTWARE AUTOLOAD with USB key»

While running in exploitation mode, by plugging a USB key which contains a “**TELIUM3**” folder, the files listed in a catalogue file can be loaded in the Self product.

Be careful : The USB key must be plugged in when the Self product is started and ready.

It is possible to create sub folders.

A menu is displayed on device screen to select the dedicated catalog to load.

Only **catalogues files** are listed.

These catalogues created can be tested with LLT.

When all files are loaded the Self product restarts.

4_ Requirements for product installation

Note: It is required to use ESD-protective clothing while handling these devices .

4_1 Security requirement

Your device fulfils current applicable PCI PTS security requirements.

To help integration a specific pin shield is available in accessories catalog.

Upon receipt of your terminal you should check for signs of tampering of the equipment. It is strongly advised that these checks are performed regularly after receipt. You should check, for example: that the keypad is firmly in place; that there is no evidence of unusual wires that have been connected to any ports on your terminal or associated equipment, the chip card reader or any other part of your terminal. Such checks would provide warning of any unauthorised modifications to your terminal, and other suspicious behaviour of individuals that have access to your terminal. Your terminal detects any "tampered state". In this state the terminal will repeatedly flash the message "Irruption!" and further use of the terminal will not be possible. If you observe the "Irruption!" message, you should contact the terminal helpdesk immediately.

You are strongly advised to ensure that privileged access to your terminal is only granted to staff that have been independently verified as being trustworthy.

The terminal must never be put in or left at a location where it could be stolen or replaced by another device.

You are strongly advised to perform regular checks on the chip card reader. No commissioning is required for self/x000 range, thanks to PCI PTS5.x.

4_2 Kiosk mechanical requirements

The kiosk panel can be metallic or plastic.

The kiosk panel thickness must be between 2 mm and 5 mm. This is very important for Contactless performance.

The kiosk panel can be coated with painting but grounding of Self/x000 modules must be insured.

The kiosk panel surface used to mount the product should be planar.

With a metallic kiosk panel thickness more than 5mm or with metal parts near the antenna, the performance might not be correct.

4_3 General installation recommendations

Installation requirements:

- Ensure that you have enough free space for installation, operational and maintenance needs.
- Be aware of the safety regulations.
- Product must be mounted vertically(preferred) and at appropriate height.
- Carefully consider the ergonomic aspects and the local acts or recommendations concerning disabled and visually impaired people.
- See environmental specification and especially in case of very cold or humid weather, take steps to ensure that the internal temperature is at least -20 °C.
- Don't hesitate to contact our support team for advices and validation of planned integration.

Indoor use:

- Is possible without restriction.
- Vertical installation is recommended but installation with angle from vertical is possible due to lack of rain indoor (no more than 35°) for better ergonomic.
- Confidentiality when entering the PIN code must be preserved.

Outdoor use:

- Outdoor use is possible subject to some precautions. The integration must respect:
 - The terminal waterproofing, especially for Self/4000 & Self/5000 (hybrid card reader).
 - The screen readability under direct sunlight, especially for Self/2000 & Self/5000 (capacitive touch screen).
 - The confidentiality when entering the PIN code (Self/2000, Self/4000, Self/5000).

Mechanical integration into the kiosk:

- Vertical integration is recommended (better protection against rain and sunlight).
- Maximum angle from vertical **for indoor environment**: +35° for Self/2000 & /4000 & /5000.
- **All Self/4000 and Self/5000 used in outdoor environment have to be fitted vertically : 0 degree angle.**

Protection against the rain/water:

- Add a visor or install the terminal in a recess.
- Connect the water drainage pipes. Evacuate the water by gravity in the bottom of the kiosk without any direct contact with other devices.
- Vertical integration mandatory for Self/4000 and Self/5000 to prevent water from accumulating in the reader.

Protection against the sun light:

- Add a visor or install the terminal in a recess.
- The more vertically the product is installed, the easier it is to protect against the sun and rain.

Protection from prying eyes:

- We don't provide Pin shield as accessory.
- Side protections against prying eyes is the responsibility of the kiosk integrator:
 - Integration into a recess or side protective vents recommended.
 - Keep a minimum of 2cm on each side of the terminal - think about large smartphone's use.

5_Procedure for product installation

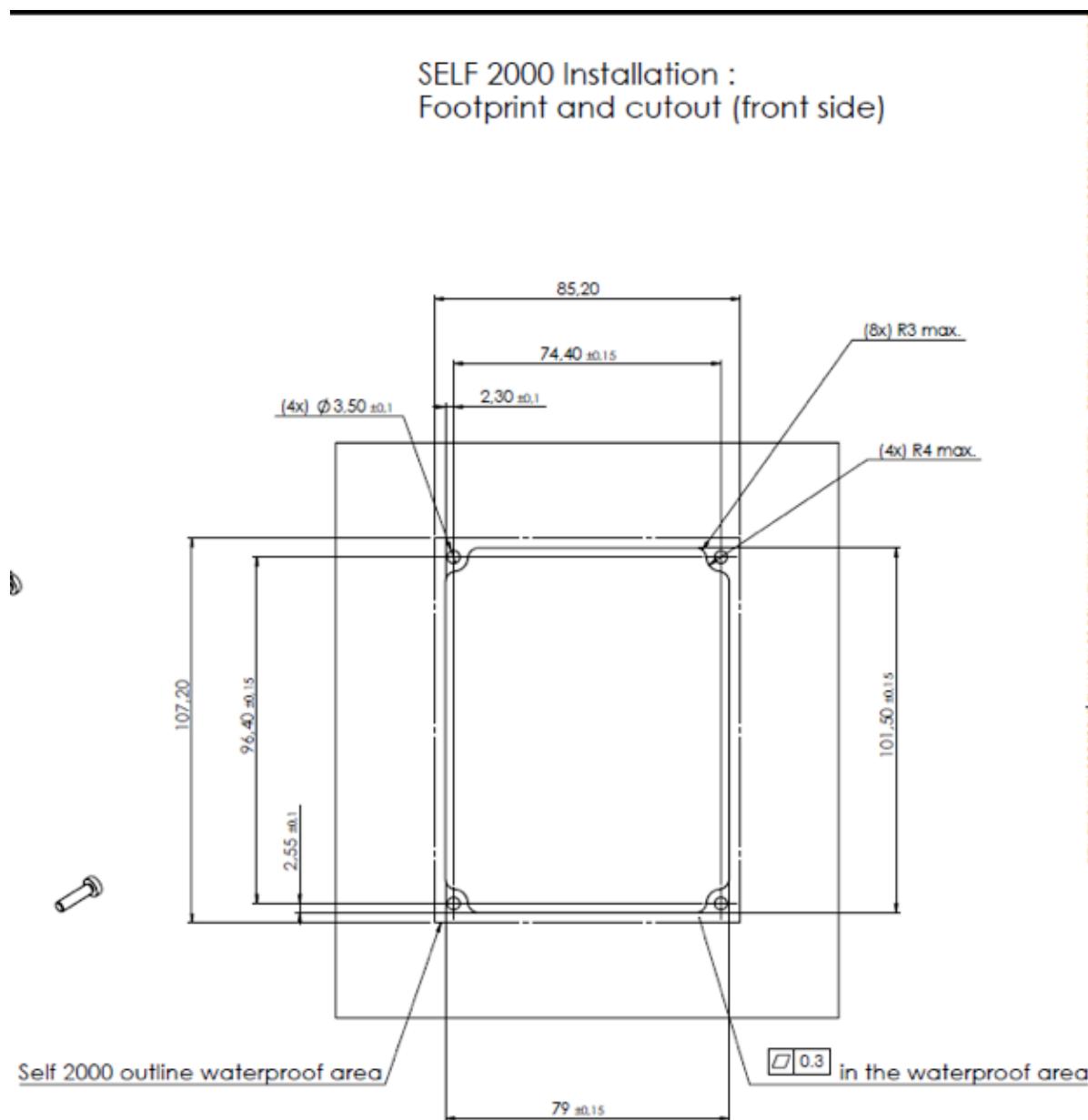
The label with PCI Hardware Version Number must be visible once the device is installed.

The centerline of operating controls or input and output components shall be located above 400 mm from the floor.

5_1 Product mounted on kiosk panel

5_1_1 Kiosk Preparation

Products can be mounted directly on kiosk panel. It requires a cut out in the kiosk to the dimensions detailed in the diagram below (all dimensions are in millimeters).

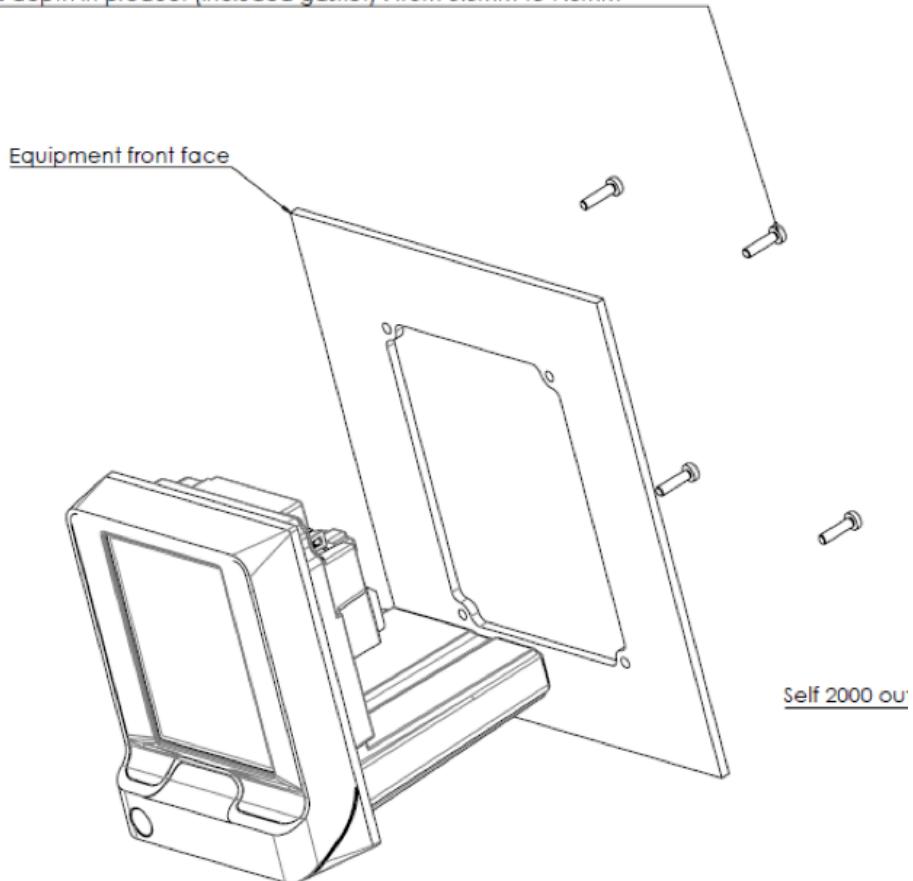


5_1_2 Installing the product

Screw the 4 screws M3 with a 1 N.m +- 0,2 torque. It is recommended to use washers.

MOUNTING BY FRONT

M3 screw (x4)
Length of screw = 8mm(+0/-1mm) + thickness of the equipment front face
Thread depth in product (included gasket) : from 3.5mm to 9.5mm



CAUTION

It is important that the device footprint surface on the kiosk must be flat and cleared of any holes and burrs to prevent from dust and water penetration in the kiosk. (IP65 standard). Rubber at the rear of the product guarantees waterproofness between kiosk panel and product. 3D step files are also available upon request.

5_2 Product mounted on EVA plate

5_2_1 installing the product

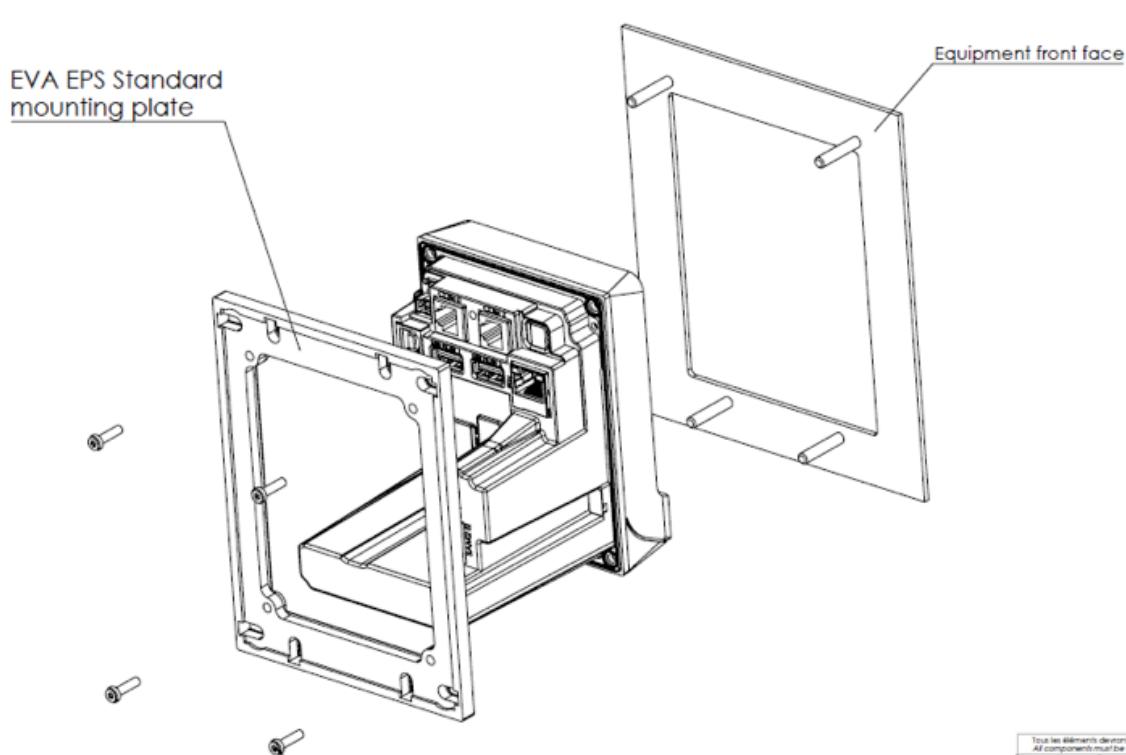
It requires a cut out in the kiosk to the EVA EPS Standard door module dimensions. Fixing must be done by 4 M4x12 welded studs. Device requires standards hexagonal nuts for integration into a kiosk. Torque value used: 1 N.m +- 0,2.

Product can be mounted on custom EVA plate. EVA plate is provided by INGENICO. Screw the 4 nuts M3 with a 1 N.m +- 0,2 torque. It is recommended to use washers.



CAUTION

It is required by safety regulation that EVA plate must be permanently connected to GND

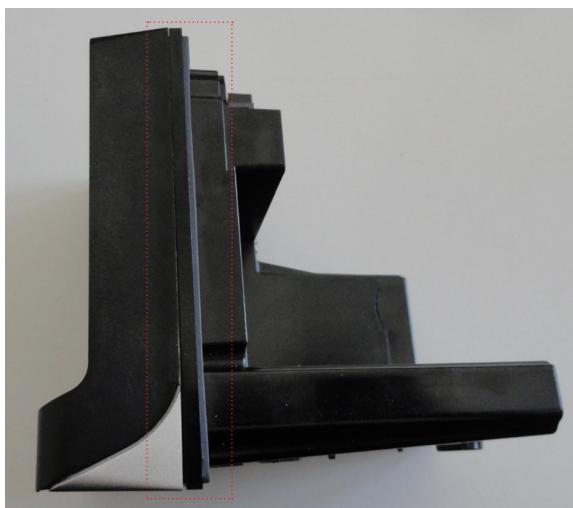


CAUTION

It is important that the device footprint surface on the kiosk must be flat and cleared of any holes and burrs to prevent from dust and water penetration in the kiosk. (IP65 standard). Rubber at the rear of the product guarantees waterproofness between EVA plate and product. Waterproofness between EVA plate and kiosk panel should be guaranteed by the rubber on EVA plate. 3D step files are also available upon request.

5_3 Product gasket

To ensure IP ratings, it is necessary to have the gasket correctly assembled.



CAUTION

IP rating is related to front face only
Self/2000 : IP65
Self/5000 & Self/4000 : IP44

5_4 Evacuation pipe

This accessories is delivered for Self/5000 and Self/4000 to guide water inside the kiosk.
We suggest to use a "Y" adapter fitting for both tubes.



CAUTION

IP rating is related to front face only
Self/2000 : IP65
Self/5000 & Self/4000 : IP44

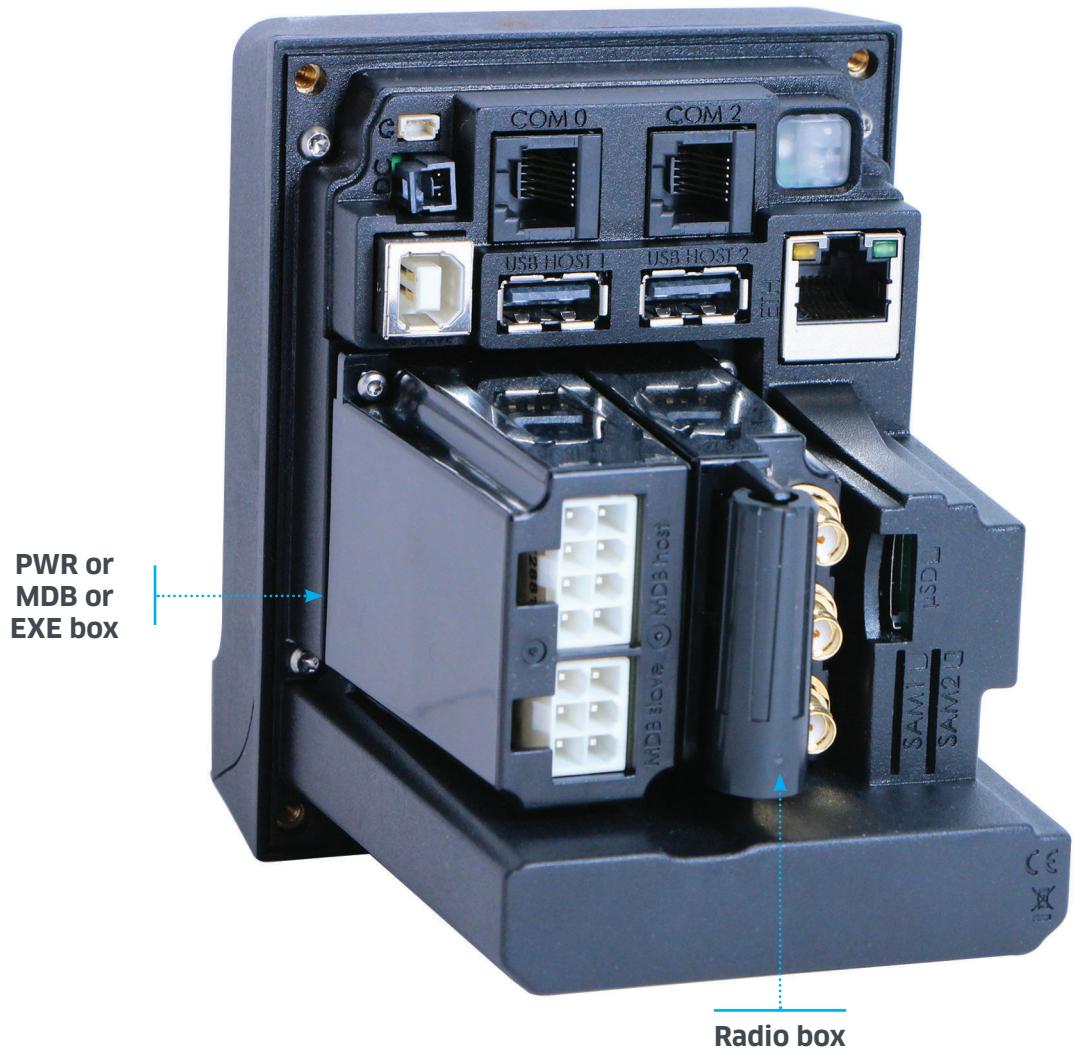
6_Add-on Boxes

Self/x000 range product can be upgraded by 3 types of add-on boxes:

The first one is dedicated to power only.

The second one is dedicated to MDB_EXE features: full MDB or full master or...

The third one is dedicated to communication. Depending on the reference it is possible to have Bluetooth and/or Radio link (3G/4G EU/US/AUS standard).

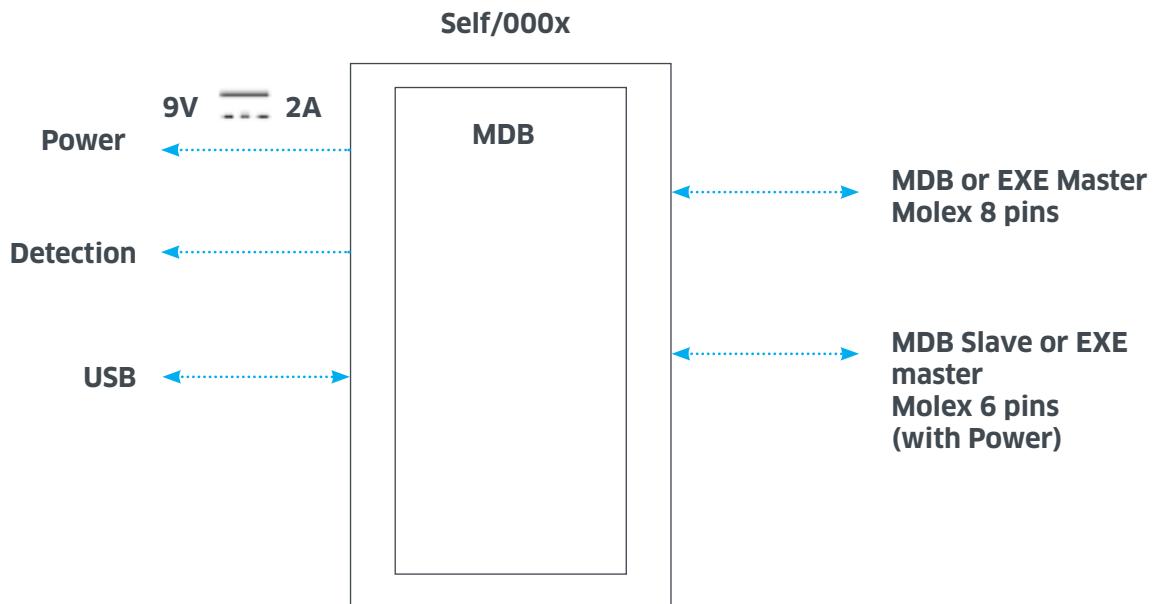


6_1 Self/000x – MDB_EXE box

6_1_1 Description

- Self/0001 (PWR) only allows Self/x000 product to be powered by MDB power supply 10-45V on 6 points Molex connector.
- Self/0002 (Master_Slave) has the same features as Self/0001 and also allows Self/x000 to communicate on MDB or EXE links.
- Self/0003 (Double Master) has the same features as Self/0001 and also allows Self/x000 to communicate on MDB or EXE links.

6_1_2 Connectivity and communications diagrams



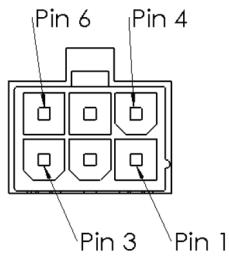
6_1_3 Connector pin out.

6_1_3_1 6 points

The connector type is MDB 6 pins (Mini®Fit series 87827 (MOLEX)).

- Self/0002 device can be connected by MDB_EXE slave.
- Self/0003 device can be connected by MDB_EXE master.
- Self/0002 or Self/0003 are powered by 6 points connectors by power supply 10 to 45V DC.
- Check value on product label.

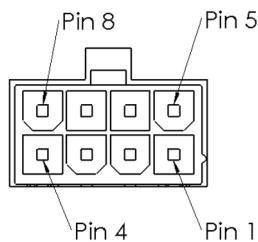
Pin N°	Function
1	Vin
2	GND
3	NC
4	Slave_RXD
5	Slave_TXD
6	Slave_COMMUN



6_1_3_2 Master 8 points

The connector type is MDB_EXE master 8 pins (Mini - Fit series 87827 (MOLEX)). Self/0002 or Self/0003 device can be connected by MDB_EXE master.

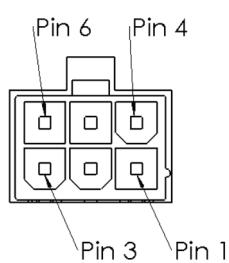
Pin N°	Function
1	NC
2	NC
3	NC
4	NC
5	Master_RXD
6	ISO_GND
7	Master_TXD
8	ISO_GND



Self/0002 or Self/0003 are powered on the 6 points connector by power supply 10 to 45V DC or 9 to 16V directly on device (Check values on product label).

6_1_3_3 Power.

Pin N°	Function
1	Vin
2	GND
3	NC
4	NC
5	NC
6	NC



Self/0001 device allows to deliver power from 10V to 45DC to Self/x000. The connector type is PWR 6 pins (Mini - Fit series 87827 (MOLEX)).

6_1_4 Compatibility Table

Self/0002 : Master 8 points & Slave 6 points

	8 points	6 points	UCM Parameters Files
MDB Slave	NC	VMC Data + Vin	UCM_SELFxxxx_10.par
MDB Master	Peripheral Data	Vin	UCM_SELFxxxx_80.par
MDB Master & MDB Slave	Peripheral Data	VMC Data + Vin	UCM_SELFxxxx_90.par
Simple EXE	VMC Data	Vin	UCM_SELFxxxx_21.par
Double EXE	VMC Data	Coiner Data + Vin	UCM_SELFxxxx_20.par

Self/0003 : Master 8 points & Master 6 points

	8 points	6 points	UCM Parameters Files
MDB Master	Peripheral Data	Vin	UCM_SELFxxxx_80.par
MDB Master	NC	Peripheral Data + Vin	UCM_SELFxxxx_81.par
Simple EXE	VMC Data	Vin	UCM_SELFxxxx_21.par
Simple EXE	NC	VMC Data + Vin	UCM_SELFxxxx_23.par
Simple EXE & MDB Master	Peripheral Data	VMC Data + Vin	UCM_SELFxxxx_31.par
Simple EXE & MDB Master	VMC Data	Peripheral Data + Vin	UCM_SELFxxxx_30.par

Self/0003 device is differentiated to Self/0002 by using yellow labels.

6_2 Self/Oxxx – Radio Box

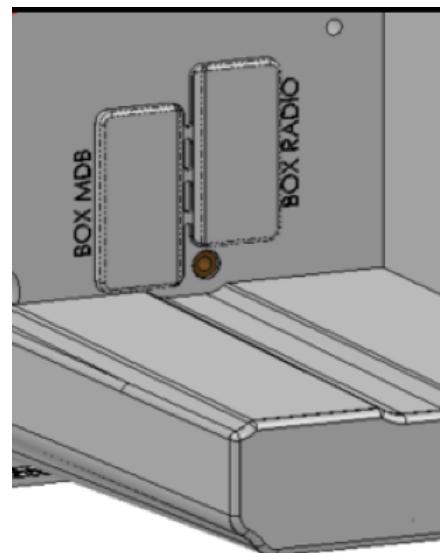
6_2_1 Description

- Self/OWBR:
 - ‘W’: type of radio : 0 none / 2:2G / 3:3G / 4:4G.
 - ‘B’ : 0 none / 5: BT.
 - ‘R’ : used if W #0 for radio localization 0: Europe / 1: North America / 2: Australia.
- When plugged the module is identified by the parameters written in internal EEPROM.

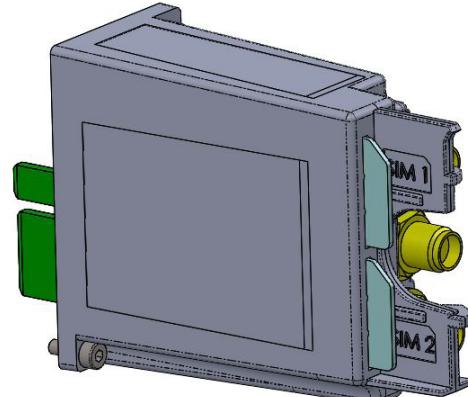
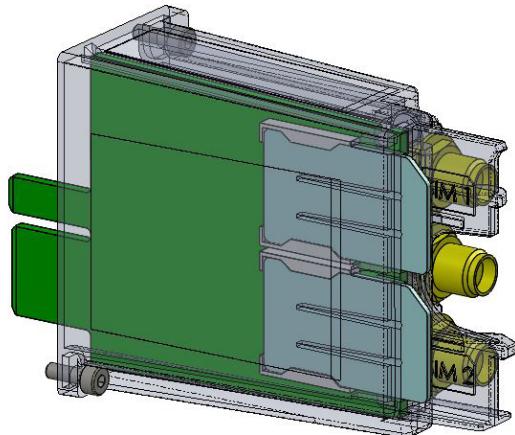
6_3 Installation

6_3_1 Box mounting

- Power off the product.
- Remove the relevant cap from the rear casing.
- Insert the add-on box.
 - Slot1 for MDB or PWR box.
 - Slot2 for Radio box.
- Screw the two screws using torque : 0,8mN.

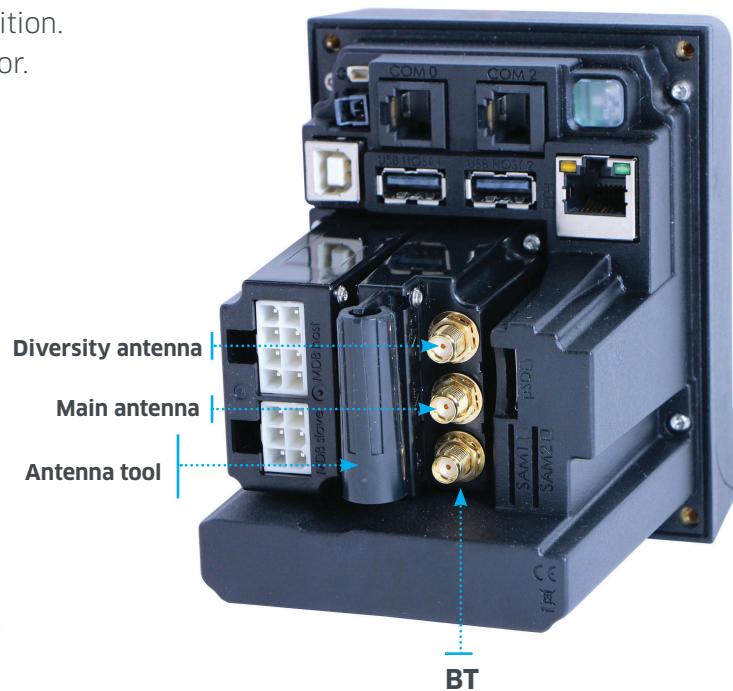


6_3_2 SIM insertion



6_3_3 Antenna mounting

- Remove the antenna tool from the rest position.
- Screw the antenna on the relevant connector.
- Replace the antenna tool.



CAUTION

For Compliance with FCC, IC and Regulations.

- Concerning Bluetooth Antenna, the antenna gain, including cable loss, must not exceed the limit 0.56dBi for 2,4Ghz.
- Concerning 4G Cellular antennas the antenna gain, including cable loss, must not exceed the limit 2.15dBi.

Example:

GCWPUKS-SMA from RF Solutions (ref RS component 146-3504).
GC-654 BGa/MGa from Giga Concept.
6000450 Antenna Mimo AirCard, from Netgear.

7_Maintenance

7_1 Configuration

The device supplied to you has operational configuration loaded.

In factory, software is loaded into product as well as parameter definition files.

The parameter definition file of the UCMC component is used, in particular, to determine the platform and the type of protocol.

To change configuration, you must load a new parameter definition file (supplied by Ingenico).

This operation can be performed using the LLT or a USB key.

For more information concerning configuration, contact Ingenico Technical Support.

7_2 Operating life

Minimum operating life of 5 years.

8_Cleaning instructions

The external front face of the contactless reader should be carefully cleaned on a regular basis.

The goal is to keep the display and the touch free of dirt and solvents.

First of all, unplug all the wires from the terminal during this operation.

Good rules for proper cleaning of the terminal are :

- Use a soft cloth that is very slightly soaked with soapy water to clean the outside of the terminal.
- The glass has special surface treatment but must be carefully clean.
- Do not clean the electrical connections.
- Do not use in any case, solvents, detergents or abrasive products : Those materials might damage the plastic or electrical contacts.
- Avoid also the use of pressurized liquids.
- Avoid exposing the terminal to the direct rays of the sun.

9_Disassembling the products according to WEEE directive

9_1 End-of-life disassembly instructions

This document is intended for treatment and recycling facilities. It provides the basic instructions for the disassembly of Ingenico products to remove components and materials requiring selective treatment, as defined by EU directive 2012/19/EU, Waste Electrical and Electronic Equipment (WEEE).

Ce document est destiné aux installations de traitement et de recyclage. Il fournit les instructions de base pour le démontage de produits Ingenico afin de retirer les composants et matériaux nécessitant un traitement sélectif, tel que défini par la directive européenne 2012/19/EU, sur les Déchets d'Equipements Electriques et Electroniques (DEEE).

9_1_1 Models and descriptions/modèles et description

Products covered by this disassembly instructions.

Produits concernés par ces instructions de démontage.

Product Name Nom du produit	Product Description Description du produit	Product mass (g) Masse du produit (g)
Self/2000	Unattended Compact reader	340 g
Self/5000	Unattended Compact reader	443 g
Self/4000	Unattended Compact reader	392 g

9_1_2 Components and materials requiring selective treatment / Composants et matériaux nécessitant un traitement sélectif

The following components and materials, if present in the Ingenico product(s), have to be removed and selectively treated.

Les composants et matériaux suivants, si présents dans le(s) produit(s) Ingenico, doivent être retirés et faire l'objet d'un traitement sélectif.

Components and materials Composants et matériaux	Quantity included in product(s) Quantité contenue dans le(s) produit(s)
Capacitors containing Polychlorinated biphenyls (PCB) Condensateurs contenant du polychlorobiphényle (PCB)	0
Components containing Mercury, such as switches or backlighting lamps) Composants contenant du mercure, tels que les interrupteurs ou les lampes à rétroéclairage	0
Batteries Piles et accumulateurs	1
Printed circuit boards greater than 10 cm² Cartes de circuits imprimés de plus de 10 cm ²	3 Self/2000 5 Self/5000 et Self/4000
Toner cartridges Cartouches de toner	0
Plastic containing brominated flame retardants Matières plastiques contenant des retardateurs de flamme bromés	0
Asbestos waste and components which contain asbestos Déchets d'amiante et composants contenant de l'amiante	0

Cathode ray tubes Tubes cathodiques	0
Chlorofluorocarbons (CFC), Hydrochlorofluorocarbons (HCFC) or Hydro-fluorocarbons (HFC), Hydrocarbons (HC) Chlorofluorocarbones (CFC), hydrochlorofluorocarbone (HCFC) ou hydrofluorocarbone (HFC), hydrocarbures (HC)	0
Gas discharge lamps Lampes à décharge	
Liquid crystal displays (LCD) of a surface greater than 100 cm² and all those back-lighted with gas discharge lamps Écrans à cristaux liquides (LCD) d'une surface supérieure à 100 cm ² et tous les écrans rétroéclairés par des lampes à décharge	0
External electric cables Câbles électriques extérieurs	0
Components containing refractory ceramic fibres Composants contenant des fibres céramiques réfractaires	0
Components containing radioactive substances Composants contenant des substances radioactives	0
Electrolyte capacitors measuring greater 2,5 cm in diameter or height Condensateurs électrolytiques mesurant plus de 2,5 cm de diamètre ou de hauteur	0

9_1_3 Self/2000 product disassembly process / Processus de démontage du produit Self/2000

Basic steps to remove components and materials previously identified and requiring selective treatment.

Etapes de base pour retirer les composants et matériaux précédemment identifiés et nécessitant un traitement sélectif.

Step Etape	Product disassembly process Processus de démontage du produit
1	Remove the 4 screws of the back face of the terminal - remove the bottom case of the terminal / Retirez les 4 vis de la face arrière du terminal - retirer le fond du boîtier du terminal
2	Disconnect Connector Board from the electronic main board Déconnecter la carte Connexion de la carte électronique principale
3	Remove the spacer from the connector board Retirer le support carte de la carte connexion
4	Disconnect the battery from the electronic main board Déconnecter la pile de la carte électronique principale

Step <i>Etape</i>	Product disassembly process <i>Processus de démontage du produit</i>
5	Remove the SAM board from the main electronic board Déconnecter la carte SAM de la carte électronique principale
6	Remove the button battery from SAM electronic board Oter la pile bouton de la carte SAM
7	Remove the screws of the camera card board and disconnect the ribbon cable Retirer la vis de la carte caméra et déconnecter le flex.
8	Disconnect the antenna ribbon cable and remove the two last screws Déconnecter la nappe antenne et ôter les deux dernières vis
9	Remove the main board disconnecting the touch panel board. Retirer la carte principale en déconnectant la carte écran tactile
10	Disconnect the ribbons cables from touch panel board Déconnecter des deux nappes du circuit électronique écran tactile
11	Remove the 6 screws of the support touch panel and remove it Retirer les 6 vis du support écran tactile et le retirer
12	Remove the whole touch screen (slide it through the antenna) Retirer l'écran tactile en le faisant glisser au travers de l'antenne
13	Remove antenna and screen gasket Retirer l'antenne ainsi-que le joint écran.
14	Remove the screw from camera support and remove it Retirer la vis du support camera et enlever le sous ensemble.
15	Remove the camera sensor from the camera support and camera gasket. Retirer la camera de son support et du joint d'étanchéité.

9_1_4 Self/5000 product disassembly process / Processus de démontage du produit Self/5000

Basic steps to remove components and materials previously identified and requiring selective treatment.

Etapes de base pour retirer les composants et matériaux précédemment identifiés et nécessitant un traitement sélectif.

Step <i>Etape</i>	Product disassembly process <i>Processus de démontage du produit</i>
1	Remove the 4 screws of the back face of the terminal – remove the bottom case of the terminal / Retirez les 4 vis de la face arrière du terminal - retirer le fond du boîtier du terminal
2	Disconnect Connector Board from the electronic main board Déconnecter la carte Connexion de la carte électronique principale
3	Remove the spacer from the connector board Retirer le support carte de la carte connexion
4	Disconnect the battery from the electronic main board Déconnecter la pile de la carte électronique principale
5	Remove the SAM board from the main electronic board Déconnecter la carte SAM de la carte électronique principale
6	Remove the button battery from SAM electronic board Oter la pile bouton de la carte SAM
7	Remove the screws of the camera card board, disconnect the ribbon cable and unstick the FPC from reader PCB / Retirer la vis de la carte caméra, déconnecter le flex et décoller le flex du PCB lecteur
8	Disconnect the antenna ribbon cable and remove the two last screws Déconnecter la nappe antenne et ôter les deux dernières vis
9	Remove the main board disconnecting the touch panel board and the reader. Retirer la carte principale en déconnectant la carte écran tactile ainsi que le sous ensemble lecteur.
10	Disconnect the ribbons cables from touch panel board Déconnecter des deux nappes du circuit électronique écran tactile
11	Remove the 6 screws of the support touch panel and remove it as well as light guide Retirer les 6 vis du support écran tactile et le retirer ainsi que le guide optique
12	Remove the whole touch screen (slide it through the antenna) Retirer l'écran tactile en le faisant glisser au travers de l'antenne
13	Remove antenna and screen gasket Retirer l'antenne ainsi-que le joint écran.
14	Remove the screw from camera support and remove it Retirer la vis du support camera et enlever le sous ensemble.
15	Remove the camera sensor from the camera support and camera gasket. Retirer la camera de son support et du joint d'étanchéité.

Step <i>Etape</i>	Product disassembly process <i>Processus de démontage du produit</i>
16	Remove the magnetic head <i>Enlever la tête magnétique.</i>
17	Disconnect and remove the flex LED <i>Déconnecter et ôter le flex LED</i>
18	Remove the 6 screws ans separate all parts. <i>Devisser les 6 vis et séparer tous les éléments..</i>

9_1_5 Self/4000 product disassembly process / Processus de démontage du produit Self/4000

Basic steps to remove components and materials previously identified and requiring selective treatment.
Etapes de base pour retirer les composants et matériaux précédemment identifiés et nécessitant un traitement sélectif.

Step <i>Etape</i>	Product disassembly process <i>Processus de démontage du produit</i>
1	Remove the 4 screws of the back face of the terminal - remove the bottom case of the terminal. <i>/ Retirez les 4 vis de la face arrière du terminal - retirer le fond du boîtier du terminal.</i>
2	Disconnect Connector Board from the electronic main board. <i>Déconnecter la carte Connexion de la carte électronique principale.</i>
3	Remove the spacer from the connector board. <i>Retirer le support carte de la carte connexion.</i>
4	Disconnect the battery from the electronic main board. <i>Déconnecter la pile de la carte électronique principale.</i>
5	Remove the SAM board from the main electronic board. <i>Déconnecter la carte SAM de la carte électronique principale.</i>
6	Remove the button battery from SAM electronic board. <i>Oter la pile bouton de la carte SAM.</i>
7	Remove the screws of the camera card board, disconnect the ribbon cable and unstick the FPC from reader PCB. <i>/Retirer la vis de la carte caméra, déconnecter le flex et décoller le flex du PCB lecteur.</i>
8	Disconnect the antenna ribbon cable. <i>Déconnecter la nappe antenne.</i>
9	Remove the main board and the reader, disconnect them. <i>Retirer la carte principale et le sous ensemble lecteur, les déconnecter.</i>

Step <i>Etape</i>	Product disassembly process <i>Processus de démontage du produit</i>
10	Disconnect the keyboard from the main board. Déconnecter le clavier de la carte principale.
11	Remove the display support and foam display and disconnect the display. Retirer le support écran, son joint et déconnecter l'écran.
12	Remove the keyboard light guide and the rubber keyboard. Retirer le guide lumière du clavier et la membrane du clavier.
13	Remove the 6 screws of front lens and card entrance light guide. Retirer les 6 vis de la vitre devant et le guide lumière de l'entrée carte.
14	Remove the card entrance light guide. Retirer le guide lumière de l'entrée carte.
15	Remove the magnetic head. Enlever la tête magnétique.
16	Disconnect and remove the flex LED. Déconnecter et ôter le flex LED.
17	Remove the 6 screws and separate all parts. Devisser les 6 vis et séparer tous les éléments..

10_standars

10_1 Electrical consumptions

10_1_1 Self/2000 - Self/5000 - Self/4000

- Max power supply :
 - **16Vdc**
- Back up battery life
 - **1 storage year + 7 years in field at 45 days/year storage rate (25°C)**

10_1_2 Self/0001 & Self/0002 & Self/0003

- Max power supply :
 - **10-45V --- 2A**

● SEAMLESS PAYMENT

10_2 Temperature and humidity

► Operating & Storage conditions :

- Operation conditions :
 - Relative humidity: 85% non-condensing at 40°C.
 - Operational temperature range: -20 °C to +65 °C.
 - Functional temperature range: -20 °C to +70 °C.
- Storage conditions :
 - 85% non condensing at 55°C.
 - External temperature range: -20 °C to +70 °C.

*65°C is a maximum using temperature for user safety (IEC 60950). The product is operational up to 70°C with no tampering issue.

10_3 Environmental specification continued

► Average Power device waiting for host solicitation :

- Storage conditions :
 - Front face shock resistance : IK09.
 - Vibrations resistance :
 - NF EN 60068-2-6 and the below conditions (10 tests sequences per axis) :
 - From 5Hz to 9Hz with 3,3mm amplitude.
 - From 9Hz to 200Hz with 10m/s² acceleration.
 - From 200Hz to 500Hz with 15m/s² acceleration.
 - Endurance 30 mn on each resonance frequency.
 - Bumps resistance :
 - NF EN 60068-2-29. E
 - Each direction, 500 drops 1/2 sinus 25g - 6ms
 - Natural events :
 - Water and dust resistant IP65 (Self/2000 front face only); IP44 (front face only) (Self/5000 and Self/4000).
 - Degradation specification :
 - Vandal resistant.
 - Certified anti-tamper and attack resistant.
 - Drop :
 - 1,2m on concrete (TBC)

10_4 CE marking

CE standard compliance marking certifies that the product stipulated below:

Conforms with the relevant Union harmonisation legislation: RE Directive 2014/53/EU and Ro HS Directive 2011/65/EU with amendment (EU) 2015/863

10_5 IC Statements

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication. Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante. "This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions : (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. This device complies with ISED radiation exposure limits set forth for general population. This device must not be collocated or operating in conjunction with any other antenna or transmitter. Ce présent équipement est conforme aux limites d'exigences d'exposition RF. Cet équipement ne doit pas être installé à proximité ou être utilisé en conjonction avec un autre transmetteur ou antenne.

10_6 Fcc Statements

FCC standard compliance marking certifies that the product stipulated below :

Self/2000, Self/5000, Self/4000, Self/045x

Conforms to the following harmonized standards : part 15 of the FCC rules

This class (B) digital apparatus complies with industry Canada License-exempt RSS standard(s) Information to users: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception which can be determined by turning the equipment off and on, the user is encouraged to try to correct interference by one or more of the following measures :

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC radiation exposure limits set forth for general population. This device must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

10_7 Environment (WEEE, Batteries and Packaging)

This product is labelled in accordance with European Directives 2012/19/EU concerning Waste Electrical and Electronic Equipment (WEEE) and 2006/66/EC concerning Batteries and Accumulators. Those provisions are requiring producers and manufacturers to become liable for take-back, treatment and recycling upon end of life of equipment and batteries.



The associated symbol means that WEEE and waste batteries must not be thrown away but collected separately and recycled.

Ingenico ensures that efficient collection and recycling schemes are set-up for WEEE and batteries according to the local regulation of your country. Please contact your retailers for more detailed information about the compliance solution in place for disposing of your old product and used batteries.

Packaging waste must also be collected separately to assure a proper disposal and recycling.

Please note that proper recycling of the electrical and electronic equipment and waste batteries will ensure safety of human health and environment.



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