INNES

SLATE106

Installation guide

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SLATE106-installation-guide-002A_en

Product information

The conception and specifications of the product may change without prior notice, and this applies to hardware, embedded software and this guide. Consumable items accessories may slightly differ than herein described as INNES is depending on the evolutions of its suppliers.
This document contains confidential information; it can't be disclosed to any third parties without prior written authorization of INNES.

Safety instructions

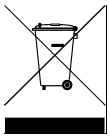
Please read carefully the following instructions before switching the product on:

- WARNING! Correct fitting and installation is of the utmost importance. Incorrect fitting and/or installation may result in personal injury or loss. INNES disclaims all liability, of whatever kind, if the product is assembled, fitted and/or installed in an incorrect manner.
- Do not use the product near a water supply.
- Do not pour anything on the product, like flammable liquids or material.
- Do not expose the product to direct sun, near a heating source or a dust nor vibrations.
- Do not obstruct holes, to be sure that air flows freely around the product.
- Switch off the product during a storm.
- Do not open the product in any circumstances.
- Keep this guide, preciously.

Safety instructions, guarantee terms

INNES products are eligible for a warranty to cover genuine manufacturing defect for 3 years.
Product failure occurring as the result of factors that do not constitute genuine manufacturing defect are not covered under the terms of the warranty and any repairs of this nature would be chargeable.
For example:
Inappropriate maintenance action, a non-authorized modification, a not specified environment utilization (see 'Safety instructions'), or if the product has been damaged after an impact, a fall, a bad manipulation or a storm consequence, an insufficient protection against heat, moisture or frost.

This warranty is non transferrable. In addition, any repairs carried out by non-authorized personnel will invalidate the warranty.



This symbol means that your end of life equipment must not be disposed of with household waste but must be deposited at a collection point for waste electrical and electronic equipment. This will benefit the environment. In this context, a system for collecting and recycling has been implemented by the European Union

1 Getting started

This installation guide explains how to install SLATE106 and its basic use.

1.1 Recommendations and warnings

Batteries:

- The SLATE106 is designed to work with 4x CR2430 batteries. Innes has chosen battery model having the best performance for SLATE106 using, please refer to batteries chapter for battery replacement model.
- Lifetime is estimated to 3 years with 4 daily display update with Bluetooth Low Energy synchronization with SMH300 device and a reference image. Lifetime can be affected in other usage case (in more or in less).
- In case of batteries replacement, change the 4 batteries at the same time.
- The batteries must be changed by a qualified person, who knows well the replacement procedure. Batteries must be recycled according to your country's regulations.
- Warranty does not cover the batteries.

1.2 Packing list

Articles	Model – function
Device	SLATE106
Batteries	4x CR2430 battery with plastic holder
Wall mount	Wall mount support
Screws	2x M2.5x25 screw
Adhesive	3M double-sided tape (W x H x D) : 65 x 19 x 0.5 mm

1.3 Installation

1.3.1 Batteries

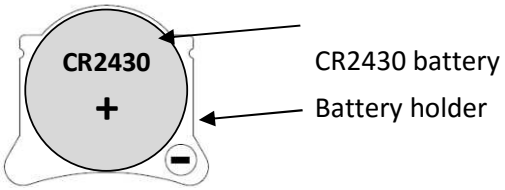
1.3.1.1 Specifications

SLATE106 are delivered with 4 CR2430 Lithium coin batteries. Below are the main characteristics, in case of replacement. Use the same reference to expect best lifetime, but equivalent reference may be used.

Type	CR2430
Nominal Voltage	3V
Typical Capacity	290mAh
Chemical System	Lithium Manganese Dioxide
Reference	2430/CR2430 VP-1 ENERGIZER LITHIUM [Energizer]

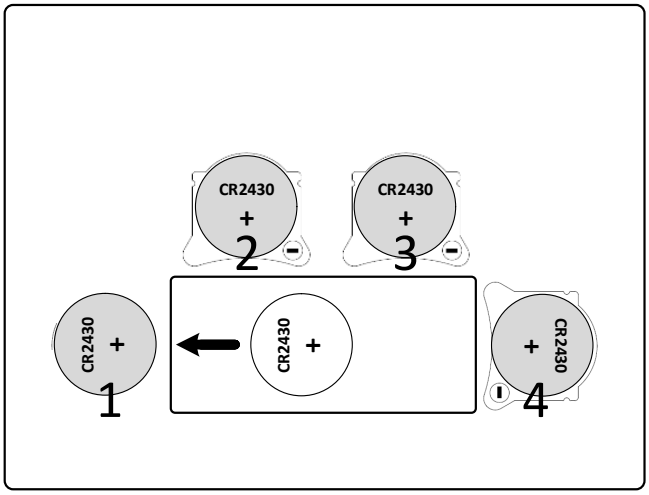
1.3.1.2 Installation

1. Place the SLATE106, with the back face to you.
2. Take the battery by keeping its white plastic holder:



(in case the battery is not delivered with its holder, call Innes support)

3. Glide the battery <u>with its holder</u> into its place (using your finger or a screwdriver to push the plastic of holder part) until you feel a clip, meaning that the battery is properly installed.

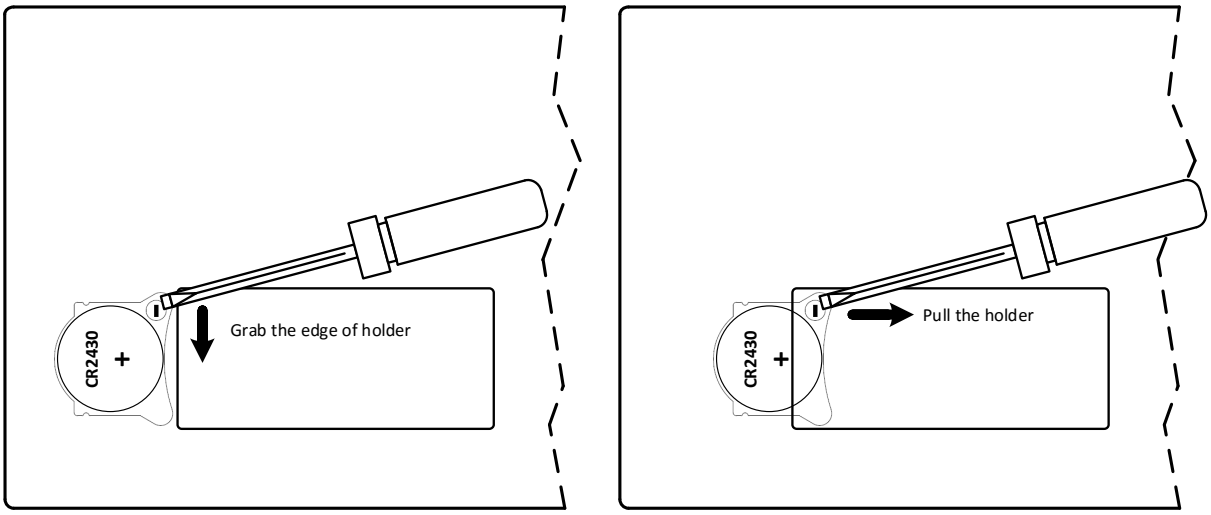


4. Repeat step 2 & 3 for each battery by following the specific orientation for each place like shown above.

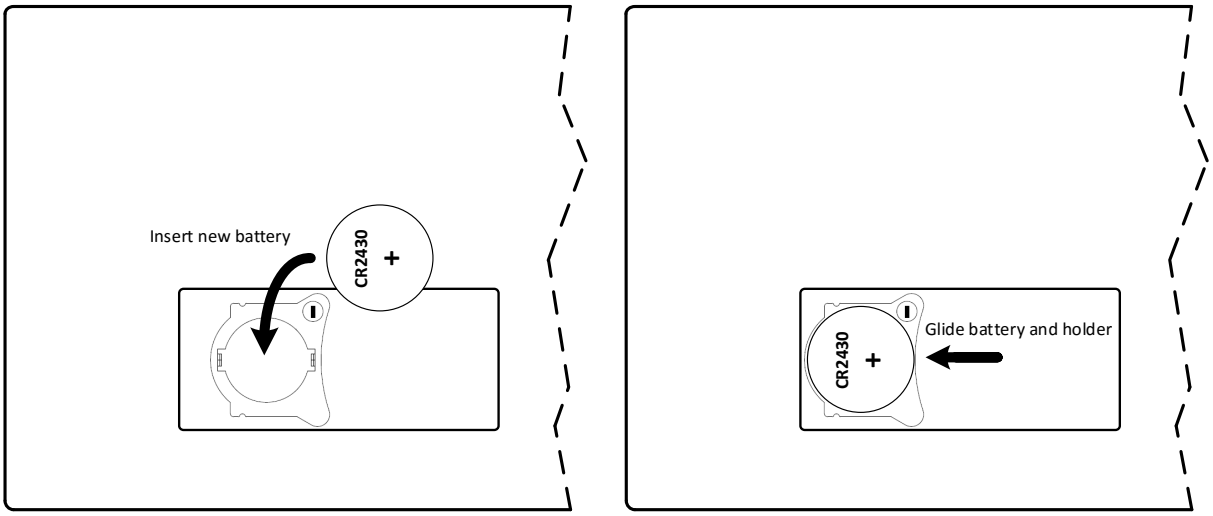
Once installed, the batteries are all hidden.

1.3.1.3 Replacement

1. Remove each battery with holder, using a little slotted screwdriver. Grab and then pull the edge of the plastic holder, remove the old battery from the holder.



2. Insert the new battery with the positive side facing up. Glide the battery with holder into place using your finger or screwdriver pushing into the plastic of holder part: you must feel a clip when the battery is installed.



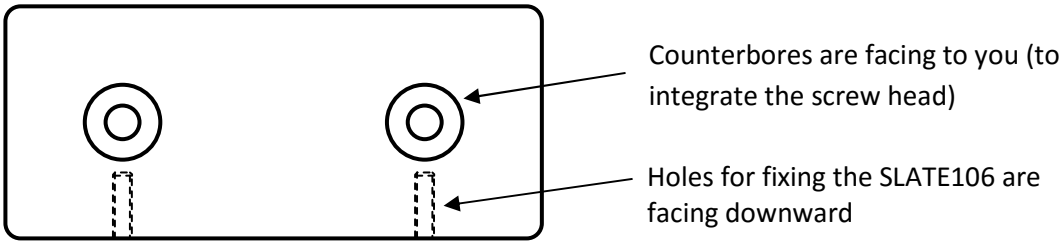
3. Repeat operation 1 and 2 for each battery.

1.3.2 Wall mount

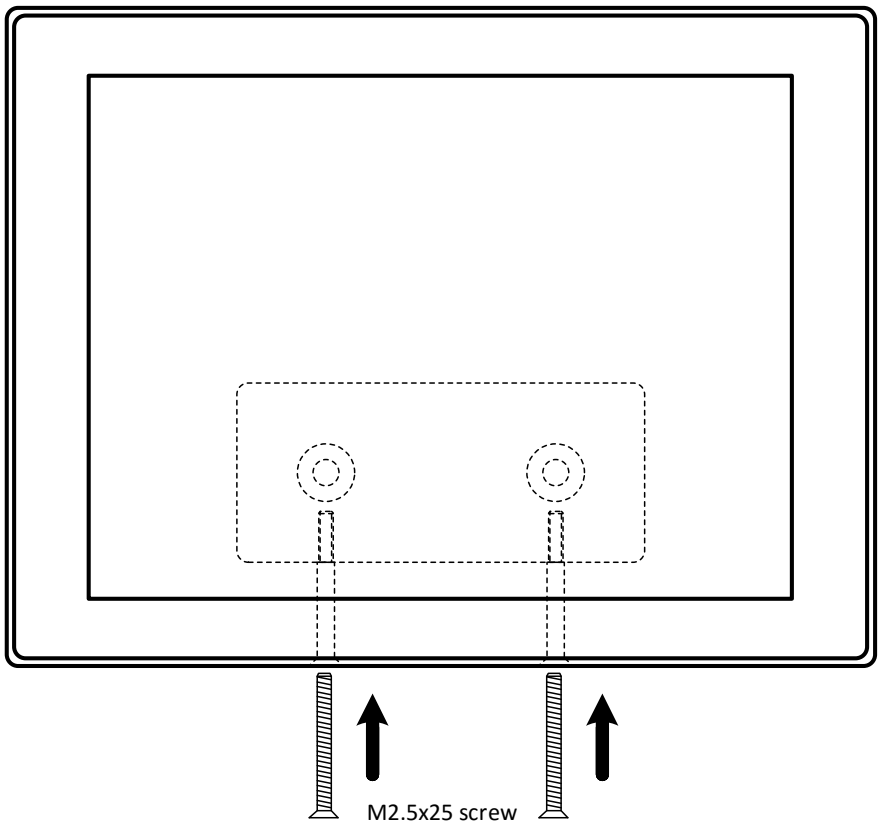
SLATE106 must be used indoor and can be installed using provided wall mount.

This support can be fixed using screws (not delivered with product and dependent on your wall type) or using provided double-sided tape (more particularly for mounting on special surface like glass).

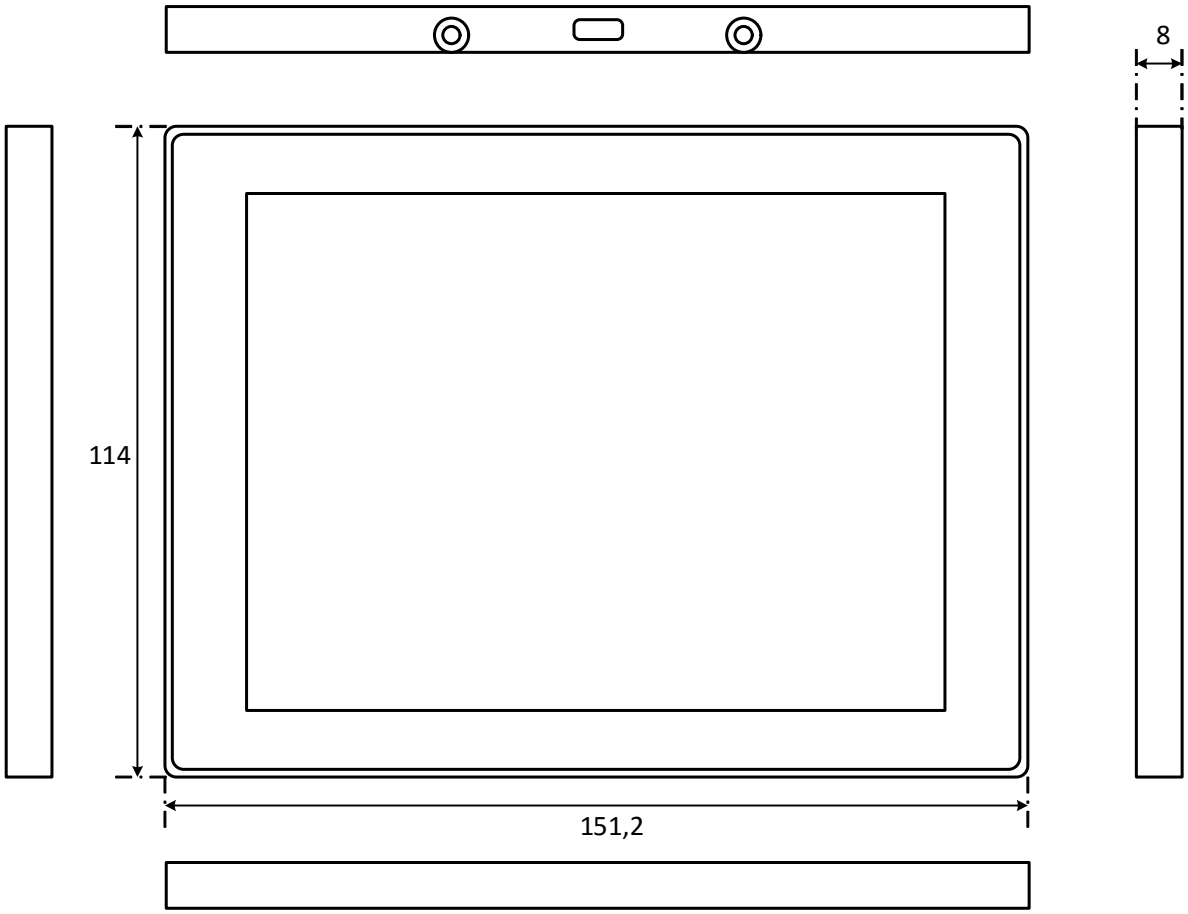
1. Fix the wall mount using the drill pattern document (ref 'DS-SLATE106DRP-A.pdf', available on the website http://www.innes.pro/fr/support/index.php?SLATE106/PictureFrame and on the CD-ROM delivered with SMH300) for a correct positioning of the support. Be careful that wall mount is on the right orientation:

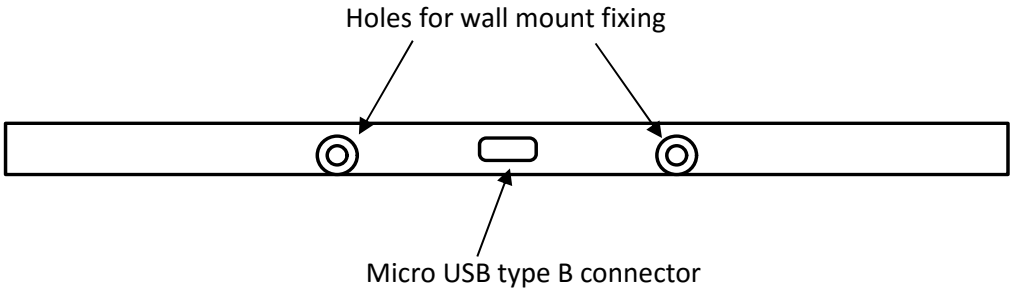


2. Once the wall support is fixed with screw or adhesive, place SLATE106 face to the support and insert the SLATE106 into it. Hold the SLATE106 into place and put the 2 M2.5x25 screws provided using a little slotted screwdriver.



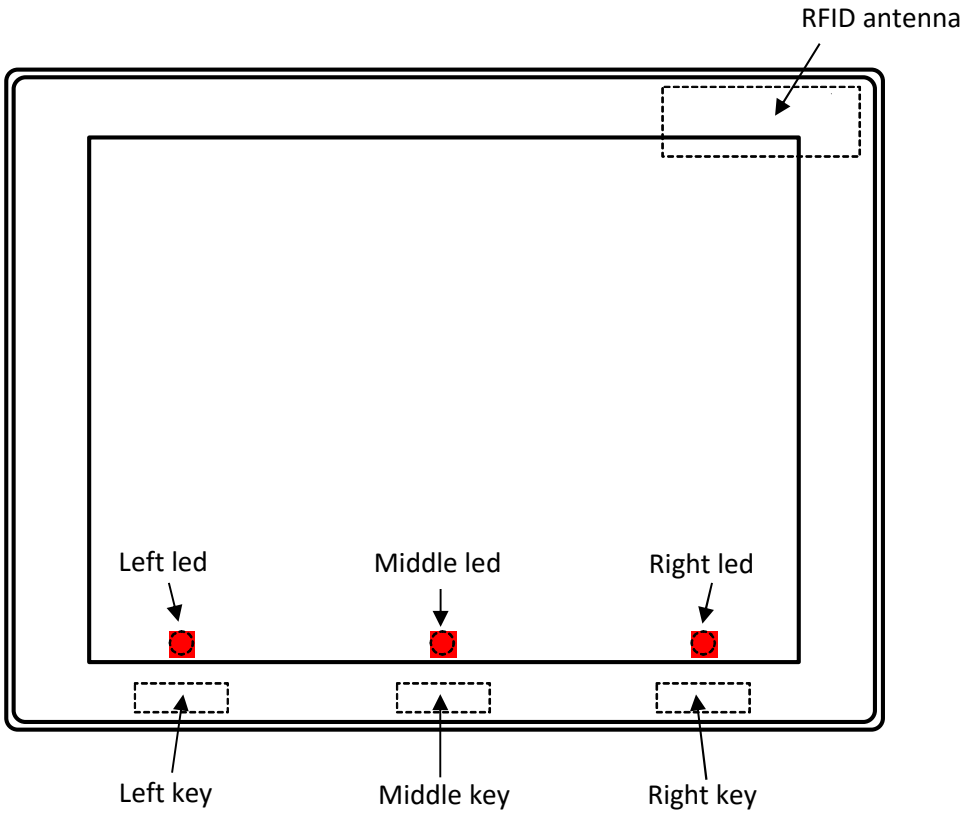
1.4 Block diagram





1.5 Peripherals positioning

SLATE106 integrated 3 touch sensing keys and 3 red leds to provide interactivity and information return. There is also RFID communication, please find below location of each peripheral:

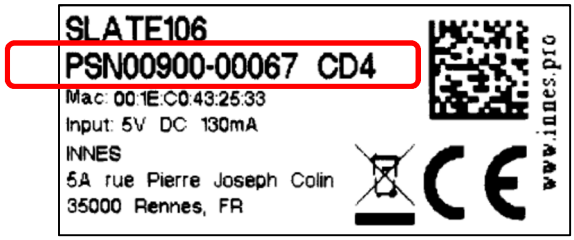


2 Identification with serial number

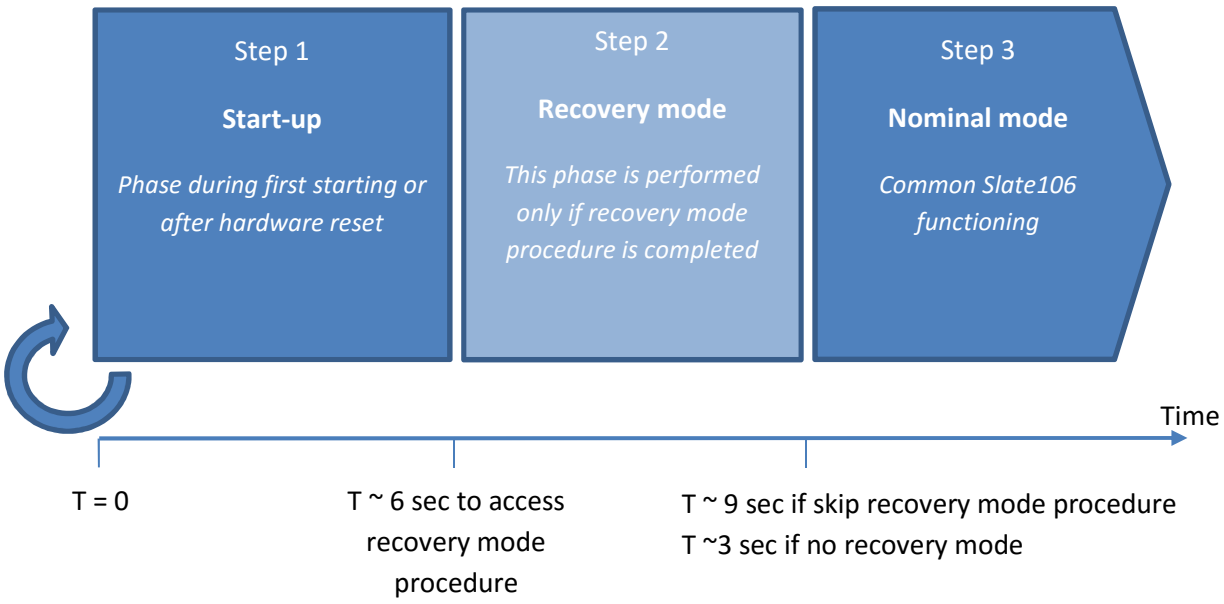
The SLATE106 integrates proprietary Innes software.

A stamp permits to identify the device.

Note: In case technical support is requested, the serial number (starting with 'PSN') could be required to go ahead on technical analysis:



3 Different device phases at start-up



4 LED behavior

Leds behavior depending on SLATE106 phases:

	Leds behavior	Information
Step 1 Start-up	Off	Nominal: no important user information to return
	3 leds blinking 1 time	Start-up
	Left led blinking 5 times	Phase 1 to enter in recovery mode (*1)
	Right led blinking 5 times	Phase 2 to enter in recovery mode (*1)
	Left led blinking	Release in progress. The duration of the release process depends on the size of the release, and is around 1minute.
	3 leds blinking 1 time slowly	There is no valid software on Slate: going into sleep mode, and then in recovery mode when an USB cable will be connected
	3 leds blinking continuously and slowly	Error (*2)
Step 2 Recovery Mode	Left and right leds turn on	Recovery mode activated
	Middle led blinking	File copying in USB on Slate
	3 leds blinking continuously and slowly	Error (*2)
Step 3 Nominal mode	Off	Nominal: no important user information to return
	Left and right leds blinking 1 time	Enter in nominal mode
	3 leds blinking continuously and slowly	Error (*2)

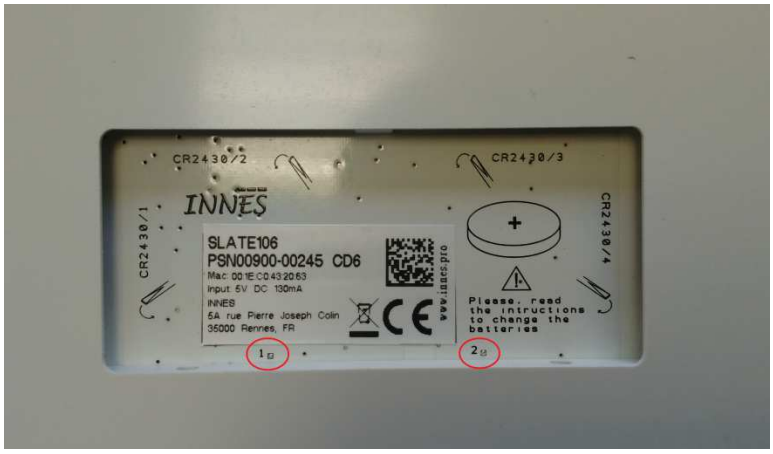
(*1) Phases to enter in recovery mode exist only if a USB cable is connected.
(*2) Error condition has 2 behaviors: 1) If USB cable is connected, the 3 leds blinks slowly – when the cable is removed, the SLATE106 reboots. 2) If no USB cable is connected, SLATE106 reboots. If the problem persists, contact INNES technical support.

5 Hardware reset

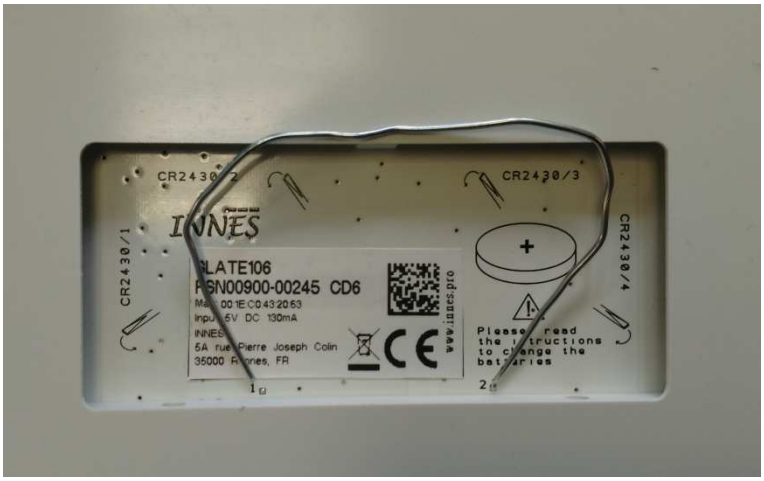
In case of software failure, a hardware reset can be performed. To do this:

1. Remove SLATE106 from the wall mount.
2. Place the SLATE106, with the back face to you.
3. Use a paperclip and do a short circuit between ‘1’ and ‘2’ pins.
4. Turn around the SLATE106; you should see the entering in nominal mode (led left and right blink one time). SLATE106 is reset successfully.

Position of pins ‘1’ and ‘2’:



Short circuit with a paperclip:



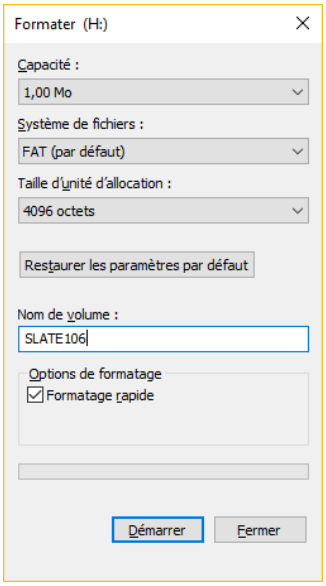
6 Recovery mode

Recovery mode allows (re)installation of a new SLATE106 software. Be aware that in recovery mode, the file system will be erased, and will have to be formatted by the user.

To perform this operation you need:

- SLATE106 removed from its wall mount
- Micro USB type B to USB cable (like standard charging smartphone cable)
- Paperclip
- A computer to link the SLATE106

1. Place the SLATE106, with the back face to you.
2. Connect USB cable between computer and SLATE106.
3. Use a paperclip and do a short circuit between 1 and 2 pins.
4. Turn around the SLATE106, the 3 leds will blink (you may don't have time to see this blinking).
5. Few seconds after, left led blinks 5 times ➔ press left key after blinking (you have 2 seconds to perform this operation, otherwise software is launched normally and you should return to step 3 to reach recovery mode).
6. After the left key is pressed, right led blinks 5 times ➔ press right key after blinking (you have 2 seconds to perform this operation, otherwise software is launch and you should return to step 3 to reach recovery mode).
7. Left and right leds are turned on, you are now in recovery mode. The file system is automatically erased.
8. Mass storage should be detected on your computer, and ask for a format operation:



Select only FAT file system for SLATE106.

9. Once format is done, your volume should appear like a mass storage and you can now copy a new firmware on SLATE106, or anything else, and eject the mass storage.

7 Pictureframe application

SLATE106 with Pictureframe application can be used in 3 ways:

- With a central hub, like SMH300
- With spe desktop software
- With spe mobile software.

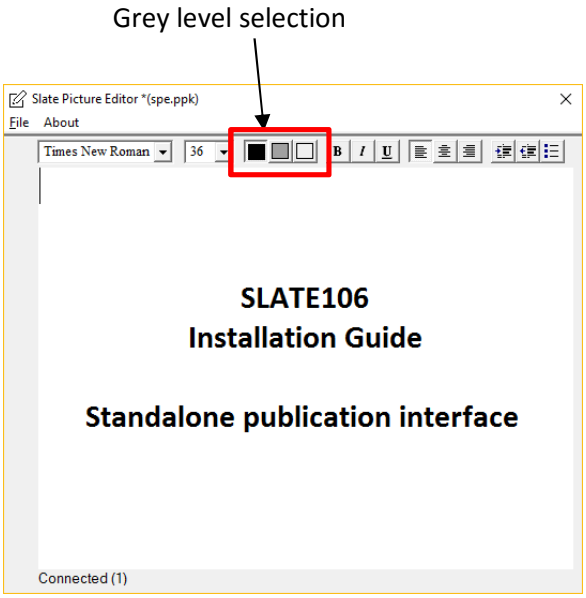
7.1 Spe desktop

Spe desktop permits to use a SLATE106 with a MS-Windows PC. In this case, the SLATE106 doesn't need the batteries. Spe desktop is installed into the SLATE106, and can be downloaded from http://www.innes.pro/fr/support/index.php?Slate106/SPE_Desktop.

For that, you need:

- a SLATE106
- a Micro USB type B to USB cable (like standard charging smartphone cable)
- A MS-Windows PC to link the SLATE106.

1. Connect USB cable between computer and SLATE106.
2. Wait SLATE106 mounting as a mass storage and execute 'spe.exe' from SLATE106.
3. Edit your text on spe desktop software like any text editor: changing size, font… You can also select grey level on interface (black, dark grey, light grey).
4. Use special fonts to add icons.
5. When finished, use 'Save to Slate' under the 'File' menu, your content should be displayed on SLATE106, and your picture is saved as 'spe.ppk' on your SLATE106.
6. The SLATE106 will remount as a mass storage, until the USB cable is connected.



8 RFID/NFC

SLATE106 is designed with RFID/NFC interface allowing reading 2 technologies cards:

- RFID
- NFC

The only supported frequency is 13.56MHz.

Table below show common card used, last column indicate compatibility or not with SLATE106.

Tag type	Modulation frequency (MHz)	Brand (Manufacturer)	Standard applicable	Data rate (kbps)	SLATE106 support ?
NFC type A	13.56	**Mifare** UltraLight* (NXP)	ISO 14443 typeA	106*, 212, 424	YES*
NFC type A	13.56	**Mifare** UltraLight C (NXP)	ISO 14443 typeA	106, 212, 424	YES
NFC type A	13.56	**Mifare** 1K/4K EV1* & mini ** (NXP)	ISO 14443 typeA	106*, 212, 424	YES*
NFC type A	13.56	**Mifare Plus** 2K/4K S/X ** (NXP)	ISO 14443 typeA	106, 212, 424	YES
NFC type A	13.56	**Mifare** DESFire D40 / EV1 2K/4K*/8K (NXP)	ISO 14443 typeA	106*, 212, 424	YES*
NFC type A	13.56	**Mifare** NTAG203*	ISO 14443 typeA	106*	YES*
NFC type A	13.56	**Jewel** (Innovision),	ISO 14443 typeA	106*	YES*
NFC type A	13.56	**Topaz 512** (BCM512)	ISO 14443 typeA	106*	YES*
NFC type A	13.56	**Kovio** (Kovio)	ISO 14443 typeA	106	TBD
NFC type A	13.56	**SLE66** (Infineon), **SmartMx** (NXP)	ISO 14443 typeA	106	TBD
NFC type B	13.56	Cartes de transport (Innovatron), **Calypso**	ISO 14443 typeB	106	YES
NFC type B	13.56	**Micropass** (Inside), **Vault** (Inside), **16RF** (ST), **SLE66** (Infineon)	ISO 14443 typeB	106	TBD
NFC type F	13.56	**Felica** (Sony)	JIS 6319, ISO 18092	212, 424	YES
RFID type V	13.56	**iclass** (Hid), **Icode** (NXP), **Tag-it** (TI), **LR** (ST)	ISO 15693	-	NO
RFID LF	125 KHz	**Hitag** (NXP), 125KHz **Prox** (HID)	ISO 18000-2, ISO11784/11785/ 14223	-	NO

** Configurations validated by INNES*

*** Don't totally respect ISO14443A standard*

9 Technical specifications

Type	Specifications
Processor	CPU: STM32
Peripherals	1x micro USB2.0 device 3x touch sensing keys 3x red LEDs
Storage	Internal Flash Memory : 1MB
Operating System	Innes proprietary embedded software
Software compatibility	ScreenComposer with SignMeeting or SignDoor, with SMH300 device Spe (Simple Picture Editor), desktop or mobile version
Constructor	Innes
Display	Electronic paper 6" with 4 grey level Resolution: 800x600 pixels
WPAN	Bluetooth Low Energy version 4.1 Frequency band: 2.402 to 2.480 GHz RF TX Power: +7.5 dBm
RFID/NFC Interface	Modulation 13.56 MHz (refer to the corresponding chapter)
Power supply	4x CR2430 Lithium batteries or USB power 5V with micro USB cable
Batteries lifetime	3 years with 4 daily display update, use with a central hub
Environment	Working temperature: +0°C to +45°C Operating air moisture: Below 80°C Storage temperature : -20°C to +60°C Storage air moisture: Below 85%
Dimensions (W x H x D)	151,2 x 114 x 8 mm (SLATE106) 71 x 31 (wall mount support)
Weight	203g (SLATE106+wall mount support + batteries)
Conformity	Conformity with the following European directives: - RE 2014/53/UE - RE 2014/53/UE The following standards have been applied: - Health and Safety: o EN 50364: 2010 o EN 62479: 2010 o EN 62368-1: 2014 - Electromagnetic compatibility: o EN 55024: 2011 o EN 55032: 2015 o EN 301489-1 V1.9.2 o EN 301489-3 V1.6.1 o EN 301489-17 V2.2.1 - Radio equipment: o EN 300328 V2.1.1 o EN 300330: 2015
Warranty	3 years