Wireless iCinac - User Manual

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Date	Revision	Modifications
29/06/2021	00	First issue

1 Regulatory Compliance

1.1 CONFORMITY TO FCC RULES

SUPPLIER'S DECLARATION OF CONFORMITY
47 CFR § 2.1077 Compliance Information

Manufacturer: AMS Srl
Address: Via E. Barsanti 17/A I-00012 Guidonia (Rome), Italy

Unique Identifier: iCinac Wireless Transmitter – PN 05-05457-00

Responsible Party – U.S. Contact Information

KPM Analytics North America Corp.	8 Technology Drive Westborough, MA 01581- USA	Phone +1 774 399 0500 info@kpmanalytics.com

FCC Compliance Statement

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.

1.2 EMC & ELECTRICAL SAFETY COMPLIANCE

iCinac Wireless Transmitter – PN 05-05457-00 is compliant with standard:

-EN 61326-1:2013: EMC Emissions/Immunity of Electrical equipment for measurement, control and laboratory use.

-EN 61010-1:2010: Safety requirements for electrical equipment for measurement, control, and laboratory use.

1.3 Warning

In iCinac Wireless Transmitter devices (PN 05-05457-00), a radio module FCC ID: MCQ-S2CTH is installed and used only at the conditions declared by original manufacturer without any modification nor deviation in the intended use.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.4 FCC Regulatory Notice

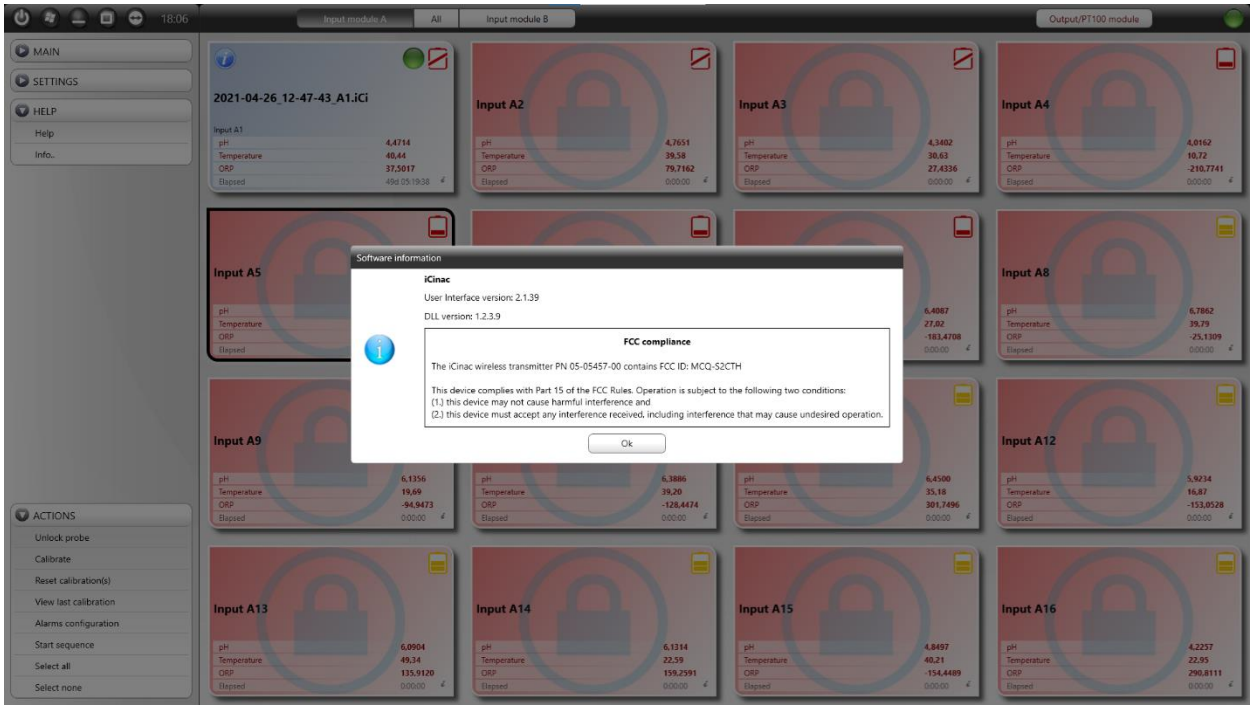
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The iCinac wireless transmitter contains FCC ID: MCQ-S2CTH

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.

Once at least one wireless transmitter is configured, is possible at any time to access FCC information via software:

Main page > Help > Info



2 iCinac Wireless System

2.1 Introduction

iCinac wireless system, connected to a PC, allows remote acquisition of temperature, PH and Oxidation/Reduction Potential (ORP), through Mettler Toledo ISM probes. The transmitter is powered by rechargeable, long-life built-in batteries. Charging cable is standard USB-C type.

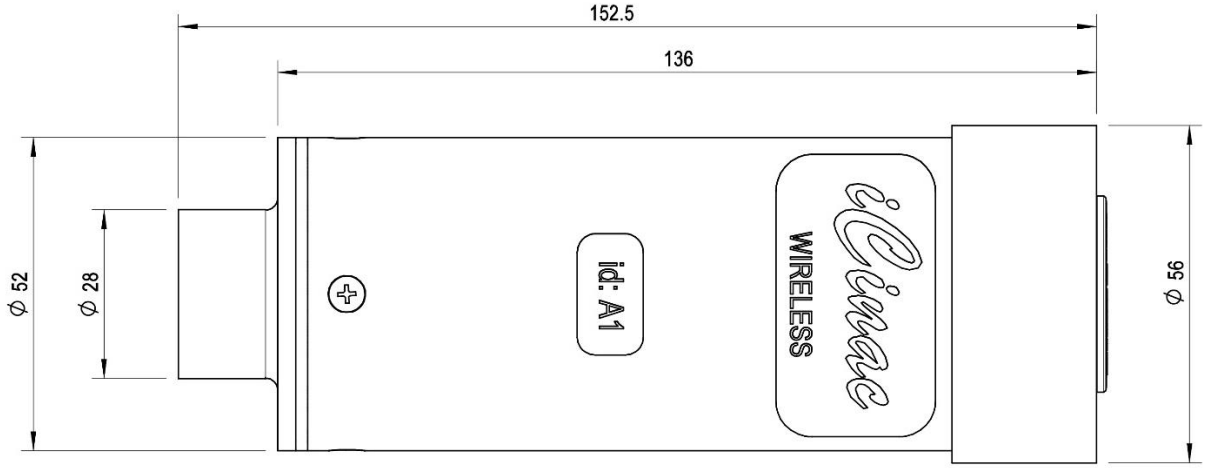
Up to 2 receivers can be connected to a single PC.
Up to 16 channels with each receiver.

Distances: Up to 60m indoor.
Battery lifetime: 25 days (in use).
Battery Type: Lithium-Ion Battery
Battery charging time (discharged to fully charged): 5 h.
Battery charging time (half discharged to fully charged): 3 h.
Operating temperature: From 10°C to 60°C
Humidity: From 10% to 75%

iCinac works only with Mettler probes ISM Technology (Intelligent Sensor Measurement).

Weight:
320 g (batteries included)

Dimensions (mm):



2.2 Kit description

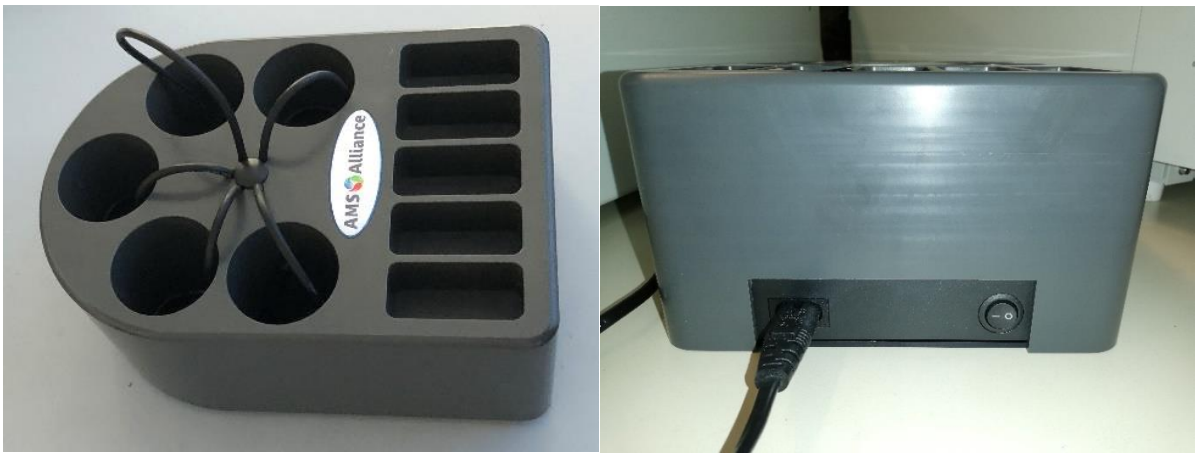
The iCinac Wireless kit is composed of:

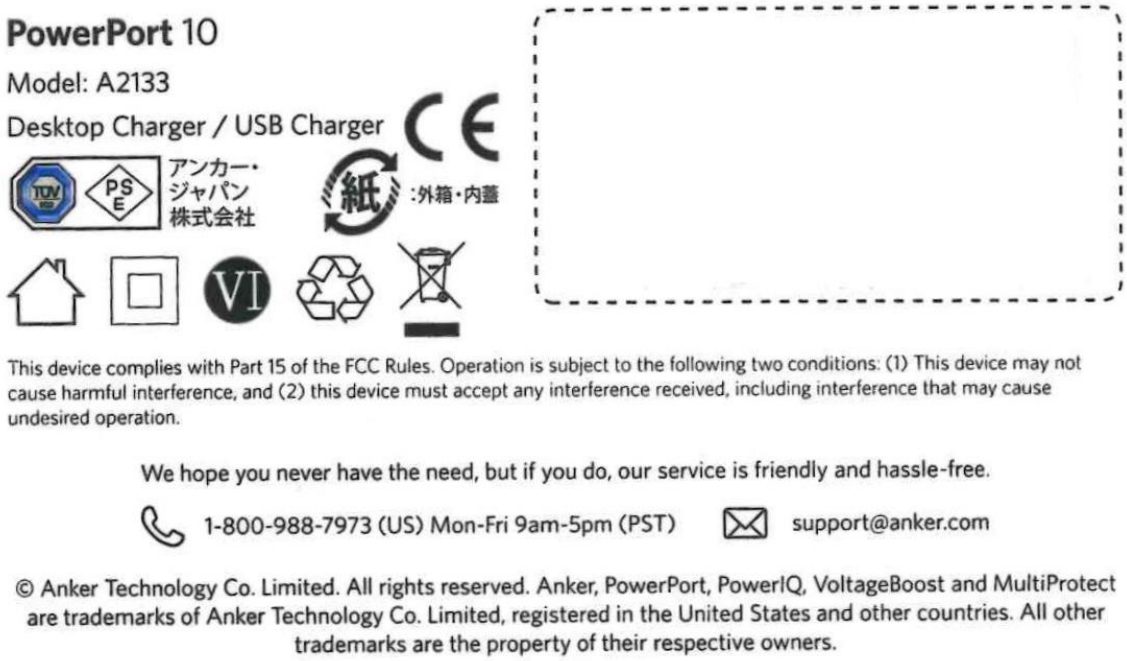
Figure 1: USB Receiver

Figure 2: Transmitter (Wireless Head)

Figure 3: Probe connector

Figure 4: Probe ISM- (Intelligent Sensor Measurement)





PowerPort 10

Model: A2133

Desktop Charger / USB Charger

アンカー・ジャパン株式会社

:外箱・内蓋

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.

We hope you never have the need, but if you do, our service is friendly and hassle-free.

1-800-988-7973 (US) Mon-Fri 9am-5pm (PST) support@anker.com

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Figure 5: Charger Station 5 places (OPTIONAL)

1. Each receiver - 

2. Figure 1- can manage up to 16 transmitters.
3. The transmitter (or commonly named wireless head) -

4. Figure 2- transmits all measured data from the probe to the receiver.
5. The probe adapter (connector), -
6. Figure **3**- adapts ISM probe connection to transmitter probe connector.
7. The ISM probe (Intelligent Sensor Measurement) -Figure **4**- is directly connected to the wireless head. In addition to the pH measurement, the ISM probe also measures the temperature, allowing automatic compensation.
8. The optional charger station -Figure **5**- holds up to five wireless transmitters and caps during battery charge. Optional USB charger is TUV certified. Power supply is interruptible by on-off button.
9. Usb key – Driver and manuals

3 Installation of the iCinac wireless system

Connect the USB stick (receiver) on one USB Port of the computer.

3.1 Installation of the receiver driver

The driver of the USB receiver is on the USB key supplied in the starting kit. Go to the folder DRIVER USB and Run the file CDM20600.EXE.

1) Connect the USB receiver on one USB COM Port of the computer.
2) Install drivers of the USB receiver which are on the USB key supplied in the starting kit.
3) Start the file CDM20600.EXE which is located on the folder DRIVER USB STICK.
4) After installation, check the COM Port Used: Go in Control Panel > System / Device Manager / Ports (COM&LPT) as shown in Figure 6, encircled in red. USB Serial Port (COM***), is shown on the same figure- highlighted in blue.
5) Write down the COM port number on a sheet. Insert it in the Settings / Options form later.

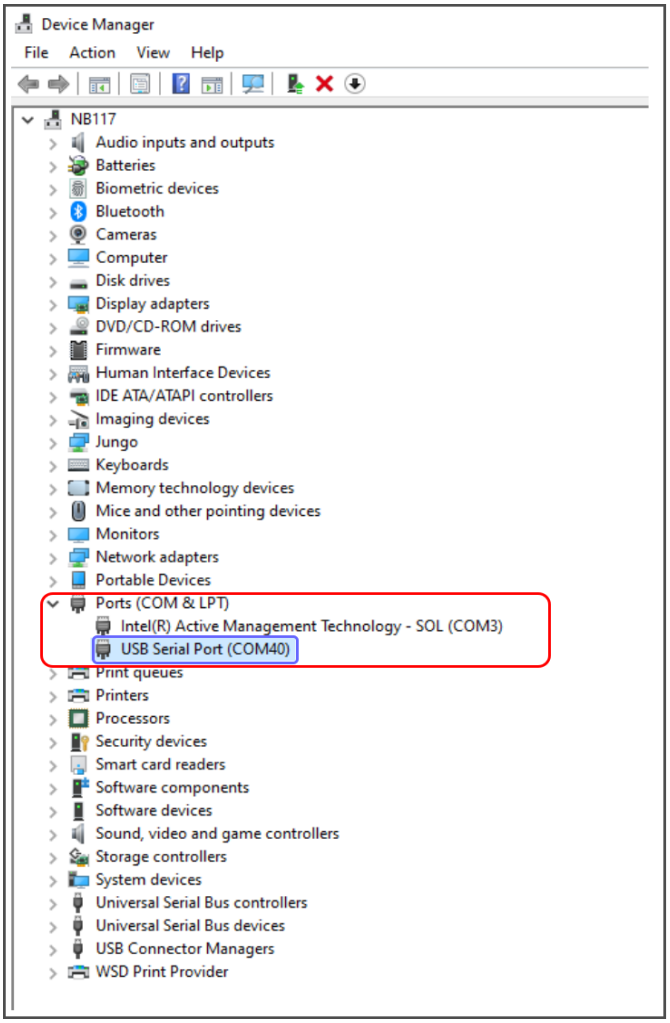


Figure 6: Device Manager COM Port.

3.2 Installation of the iCinac software.

To install the iCinac software: Run the file "Setup.bat", saved in the USB key, provided with starting kit.

3.3 Installing the license:

With the installation of the iCinac software, the license files are automatically installed. In case of need, follow these steps to restore the license configuration:

1) Go to the folder "**DATA**" in the USB key provided and copy the file "**licfw$#.mem**".
2) Go to: **C:\iCinac\Data\Mems** and paste the file "**licfw$#.mem**" (for systems with two receivers, copy and paste also the "**licw$#2.mem**).

3.4 First Setup of iCinac software

1) Set the correct COM port: Run the installed iCinac software. Go to: **Settings>**

Options; Input module A: Left click on COMxx, as shown in Figure 88; Select the COM port noted in Chapter 3.1 Figure 6 (in Figure 9 as an example it is selected the COM43).

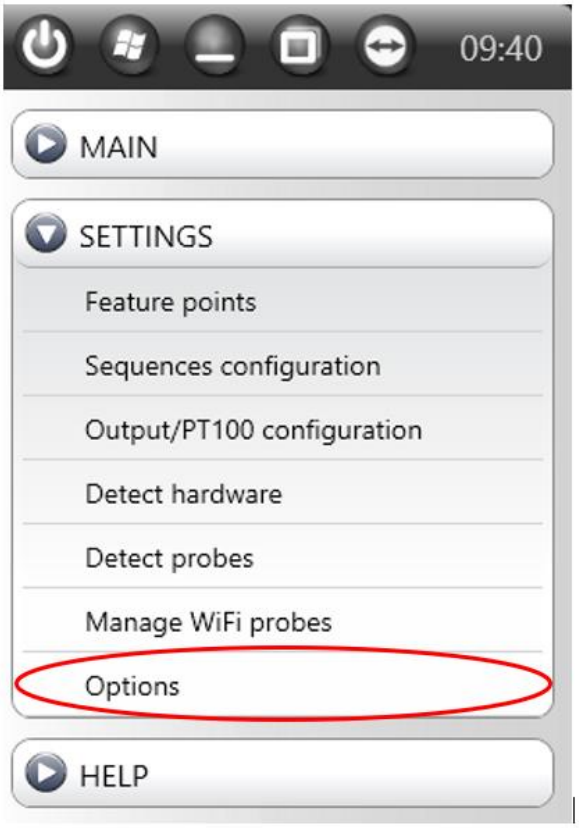


Figure 7: iCinac Settings Menu.

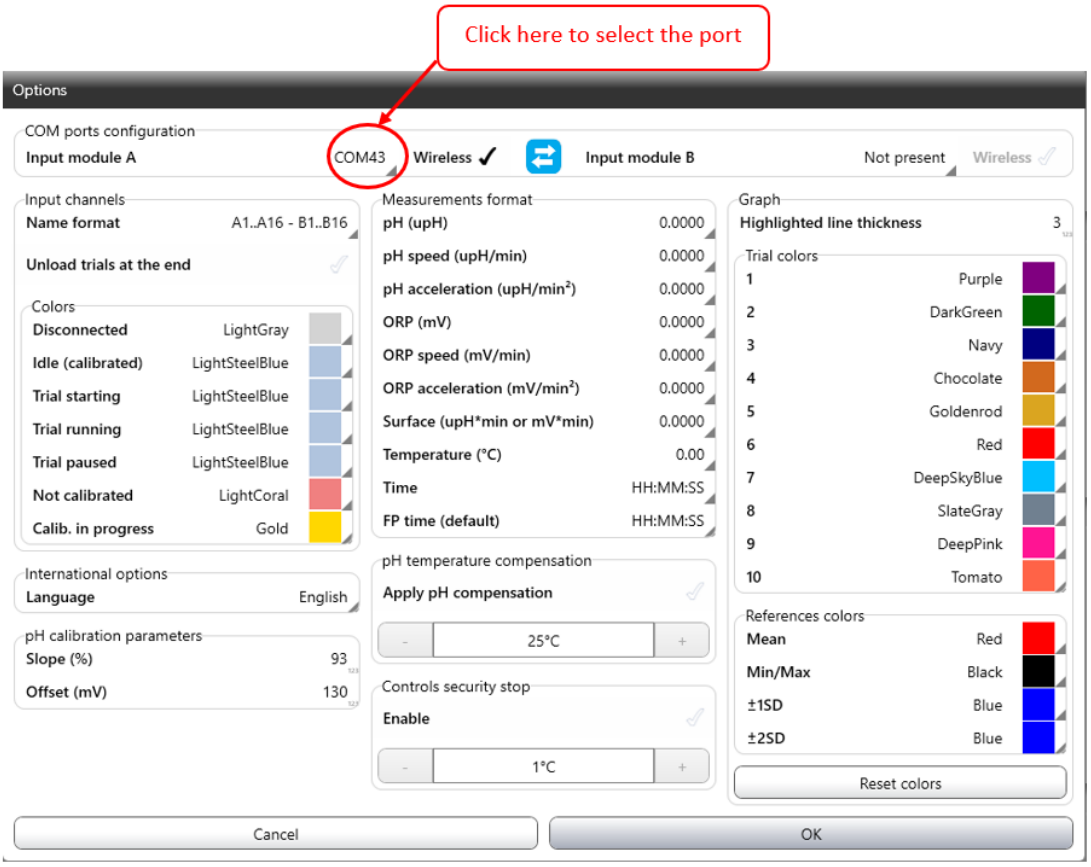


Figure 8: COM Port Settings.

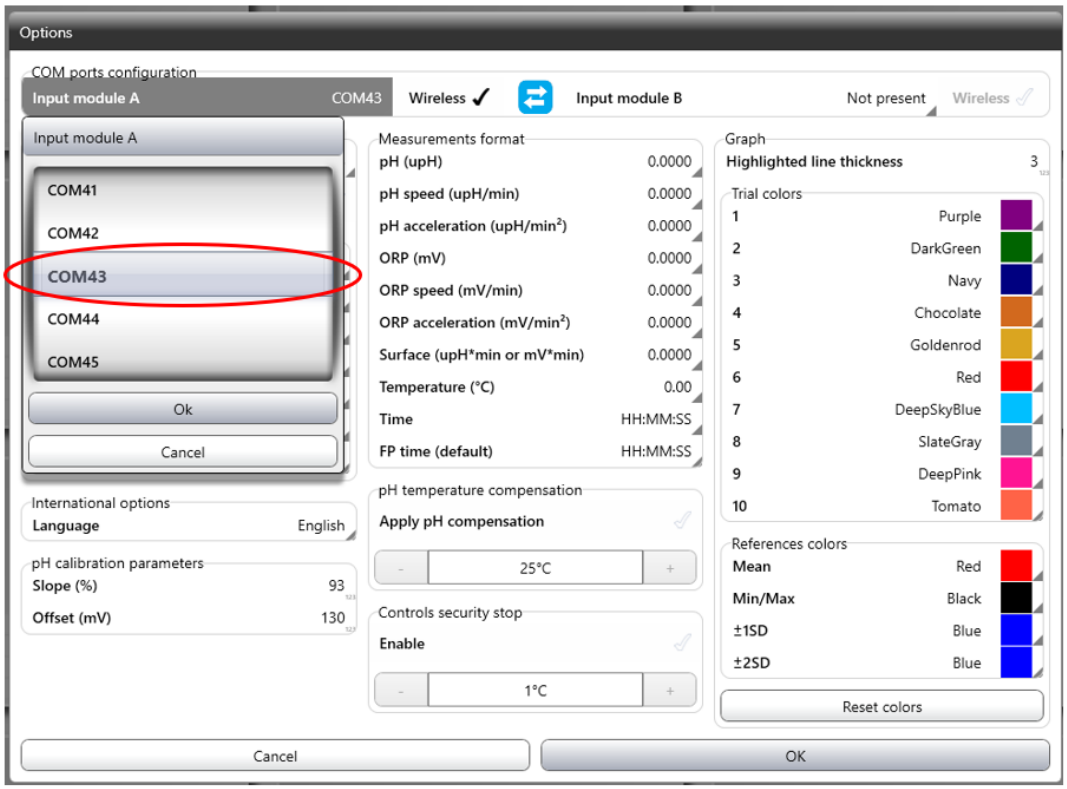


Figure 9: COM port configuration view.

1) Left click on **Wireless** to select it then click **OK** to save the settings.

4 Start the software and Transmitters connection

When the iCinac software is running and the USB receiver is well detected, the label "Input Module A" is white, otherwise it is in red, as shown in Figure 1010 for "input Module B".

Figure 10: iCinac Input Modules.

Time to turning ON the transmitter by pressing the push button: The Green LED lights up for about 8 seconds, indicating that the Wireless head is switched ON.

To activate one or more channels, click to select it, or click SELECT ALL, as shown in Figure 11:

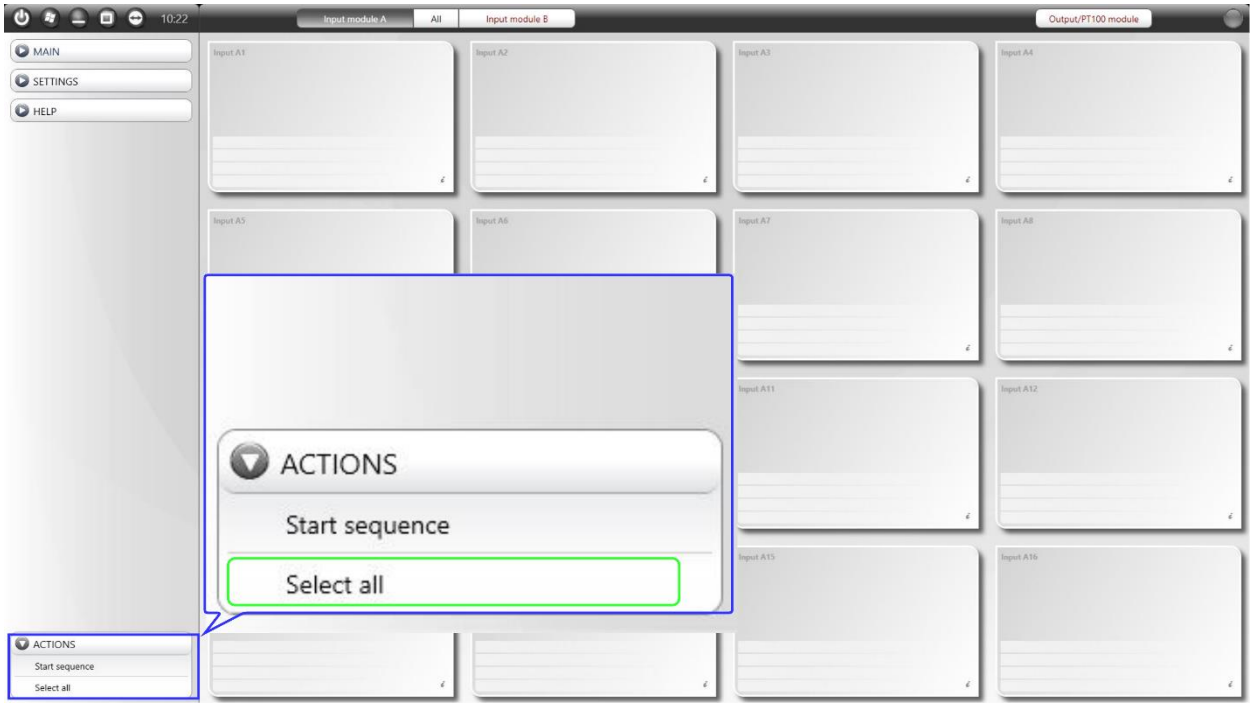


Figure 11: Manage Wi-Fi probes menu.

Is possible to select every single Wi-Fi Probe to be activated/deactivated, by clicking on it while pressing CTRL Key:

When the probes are selected, click on **Wakeup Probes**.

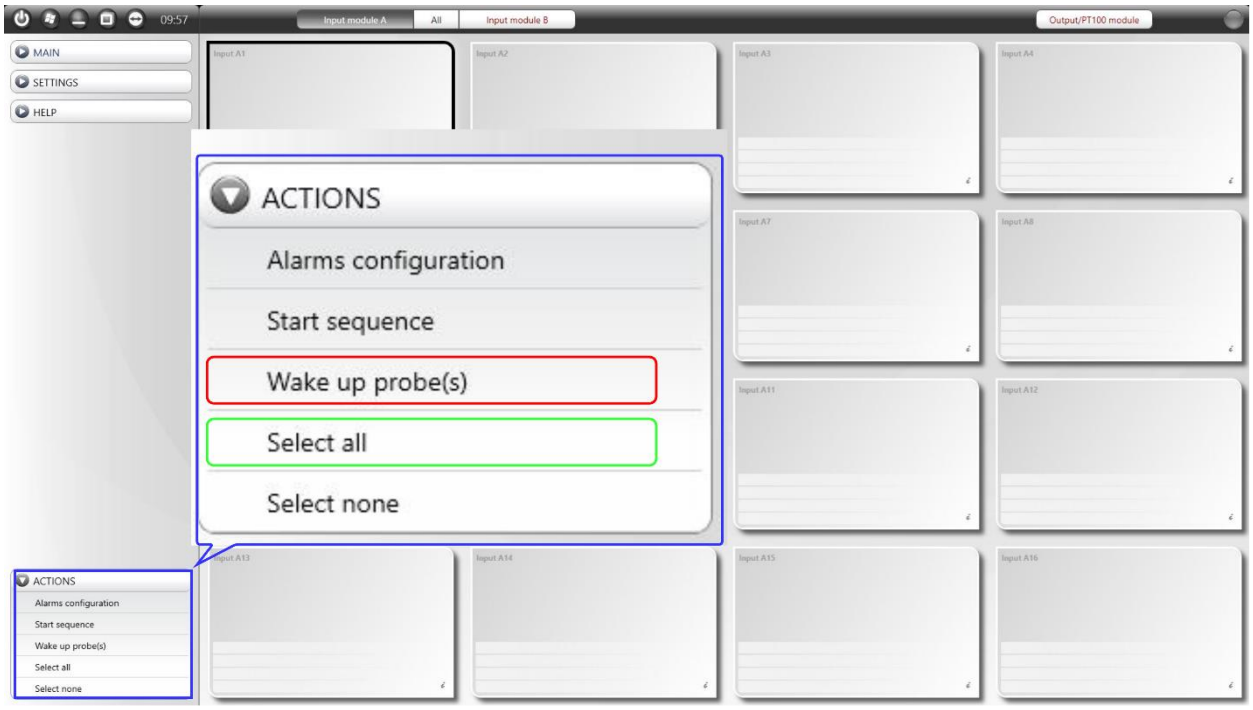


Figure 12: Manage Wi-Fi probes Mask.

Now, after the synchronization, probes will appear like in picture below.

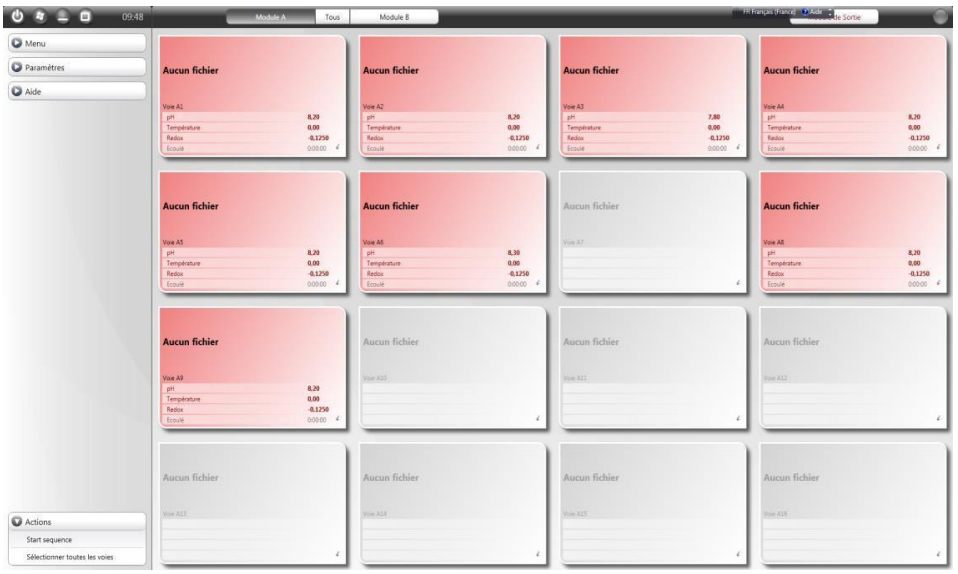


Figure 13: iCinac with Wi-Fi probes connected.

At the end of the Trial, probes can be switched off or set in Sleep Mode as follows:

- Select probes to put in Sleep Mode.
- Click on **Sleep** to validate and click on **Close**.

Channels become grey when probes are in Sleep Mode.

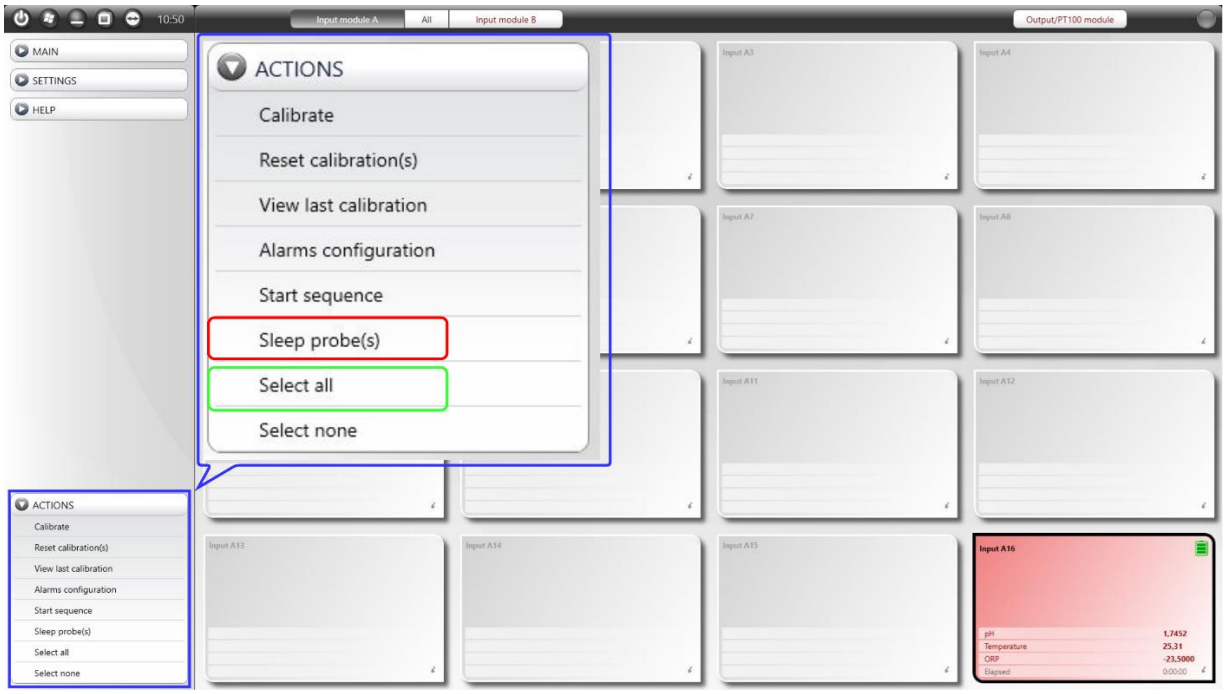


Figure 14: iCinac- Sleep mode probes.

5 Wireless Head

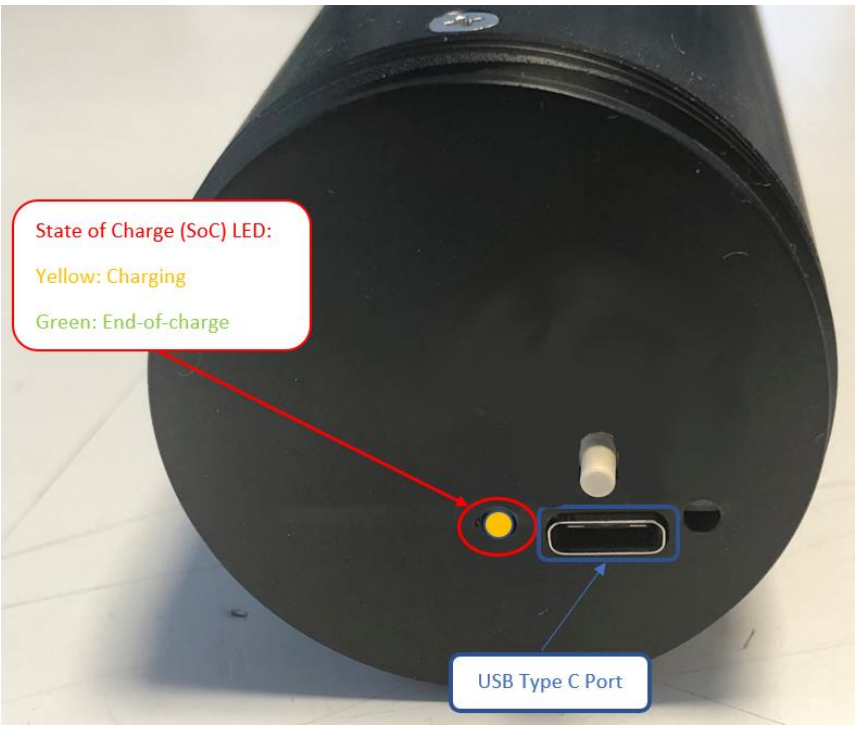
During normal operation, the wireless head led is blinking, indicating its working state/or condition. There are five different states:

Wireless head	Legend:
	**Green***:* When the button is pressed to switch-on the iCinac wireless, this LED lights up for about 8 seconds
	**Blinking Green:** Standby or Reading mode (Running)
	**Blinking Blue:** Calibration mode.
	**Fixed Purple:** (Duration: ~6 seconds.) Sleep command has been received. (The wireless head goes in sleep mode after 10 seconds).

6 Charge the Wireless Head

Optional USB charging station provides optimal charge.
The charging time depends on the state of the battery.
At the first installation, **charge completely** the batteries, following below steps:

1. Extract the pH probe from the wireless head
2. Connect the USB charger to the main power line
3. Connect the USB cable to the Wireless Head
4. Turn on the charger
5. Wait until the State of Charge LED becomes Green
6. Disconnect the USB cable from the Wireless Head
7. Turn off the charger
8. Disconnect the charger when you have finished to use it.



7 Maintenance guidelines

The iCinac wireless is a maintenance free device. Nevertheless, a regular cleaning of lab equipment ensures that it is ready for use when needed, that stubborn stains/substances do not get a firm hold, and that experiments are not contaminated by impurities carried over from previous experiments.
Here below is described the cleaning procedure for the charger:

1. **Turn off** the charger.
2. **Unplug** the charger from the power.
3. Use a **soft, clean cloth** moistened with **water** to wipe the charger. Use an **anti-static** wipe to lightly dust your computer casing. **Do not use** furniture cleaners or strong solvents.

To clean the receiver or the transmitters apply point 3 of the instructions above.

For the probe refer to the instruction for use provided in the original package.

8 Safety Summary

To avoid electrical shock check periodically the power cord integrity of the charger.
iCinac wireless is a battery-operated device and there is no dangerous voltage for human and/or animals.

9 Transmitter shipping

Transmitters contain Li-ion battery which falls under **UN3481 - PI967 & IATA regulation for AIR transport.**
In case a transmitter needs to be shipped the be aware that recalled or defected lithium batteries are forbidden for air transport.

Exhaust or working batteries may be shipped by air transport:

- up to 2 transmitters (4 batteries) need no specific labeling or coding
- more than 2 transmitters (more than 4 batteries) need to be labeled under criteria listed in Figure 15

Lithium ion and lithium polymer cells or batteries - 2020 IATA DGR

	UN3480 - PI965				UN 3481 -PI966	UN3481 - PI967	
Description	**Lithium Cells / Batteries loose (bulk)** *Important: State of Charge (SoC) of the battery/ cell must not exceed 30%*				**Lithium Cells/Batteries packed with equipment**	**Lithium Cells / Batteries contained in equipment**	
Section	**PI965 - Section II**			**PI965-Section IB**	**PI966 - Section II**	**PI967 - Section II**	
Lithium ion cells / batteries capacity	Per cell or battery ≤ 2.7Wh	Per cell: > 2.7Wh but ≤ 20Wh	Per battery: > 2.7Wh but ≤ 100Wh	Per cell: ≤ 20Wh Per battery: ≤ 100Wh	Per cell: ≤ 20Wh Per battery: ≤ 100Wh	Per cell: ≤ 20Wh Per battery: ≤ 100Wh	Per cell: ≤ 20Wh Per battery: ≤ 100Wh
Maximum number of cells / batteries per package ***and packages/consignment***	N/A	8 cells	2 batteries	>2 batteries > 8 cells	Those necessary to power the equipment and 2 spare sets (See **"Note 2"** for **set** details)	≤ 2 batteries or 4 cells ≤ 2 packages per consignment	> 2 batteries or 4 cells and consignments with more than 2 packages with ≤ 2 batt. or 4 cells
	Only one package per consignment and/or overpack allowed						
Maximum net weight of cells / batteries per package	2.5 kg (CAO)	N/A	N/A	10 kg (CAO)	5 kg (PAX & CAO)	5 kg (PAX & CAO)	5 kg (PAX & CAO)
"Description of content" statement as per IATA DGR	***"Lithium ion batteries in compliance with Section II of PI965"*** and ***"CAO"***			***"Dangerous goods as per attached Shipper's Declaration"*** and ***"CAO"***	***"Lithium ion batteries in compliance with Section II of PI966"***	No Requirements	***"Lithium ion batteries in compliance with Section II of PI967"***
Required marks and labels	UN3480			UN3480	UN3481	No Requirements	UN3481 (See **"Note 3"**)
Accepted in Time Definite International (door to door)	**Yes** - Service Code **"HB"** (See **"Note 1"**)			**Yes** - Service Code **"HE"** (See **"Note 1"**)	**Yes** - Service Code **"HD"**	**Yes** – No Service Code Required	**Yes** - Service Code **"HV"**
Account approval required for Time Definite International	**Yes** ***Separate approval for PI965 Section II***			**Yes**	**Yes**	**No**	**Yes**
Requirements for Air Capacity Sales (airport to airport)	Select "***LB***" and mention "***CAO***" in the restricted commodity type			Select "***DG***" and mention "***CAO***" in the restricted commodity type	Select "***LB***" and mention "***Section II***" in the restricted commodity type	No Requirements	Select "***LB***" and mention "***Section II***" in the restricted commodity type
Note 1: Limited service worldwide due to CAO limitations. For additional information please contact your local DHL representative.						**PAX** – Passenger and Cargo Aircraft, **CAO** – Cargo Aircraft Only)	
Note 2: A "set" of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.							
Note 3: Lithium Battery Mark is not required for packages containing only **button cell batteries** installed in equipment (including circuit boards)							

Section	**PI965 - Section IA** *(State of Charge (SoC) ≤ 30%)*	**PI966 & PI967 - Section I**
Per Cell: > 20Wh **Per Battery: > 100Wh**	UN specification packaging required Maximum net weight of cells/batteries per package: 35 kg (CAO) Time Definite International - Service Code **"HE"**. (See **"Note 4"**) Air Capacity Sales - Select **"DG"** and mention **"CAO"**.	UN specification packaging required for PI966 Maximum net weight of cells/batteries per package: 5 KG (PAX) and 35 kg (CAO) Time Definite International - Service Code **"HE"**. (See **"Note 4"**) Air Capacity Sales – Select **"DG"** and mention **"PAX"** or **"CAO"** if applicable.

Note 4: Lithium batteries packed according to **PI965 Section IA** and **PI966 / PI967 Section I** are not accepted in Time Definite International when transported via road to/from an ADR member state.

PI965 Section IA / IB and **PI966,PI967 Section I** - Cells and batteries must not be packed in the same outer packaging, or placed in an overpack with, dangerous goods classified in Class 1 (except 1.4S), Division 2.1, Class 3 , Division 4.1 and Division 5.1. (For PI966 and PI967 Section I is a DHL requirement)
PI965 Section II: Cells and batteries must not be packed in the same outer packaging with other dangerous goods. Cells and batteries must not be placed in an overpack with dangerous goods classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1.

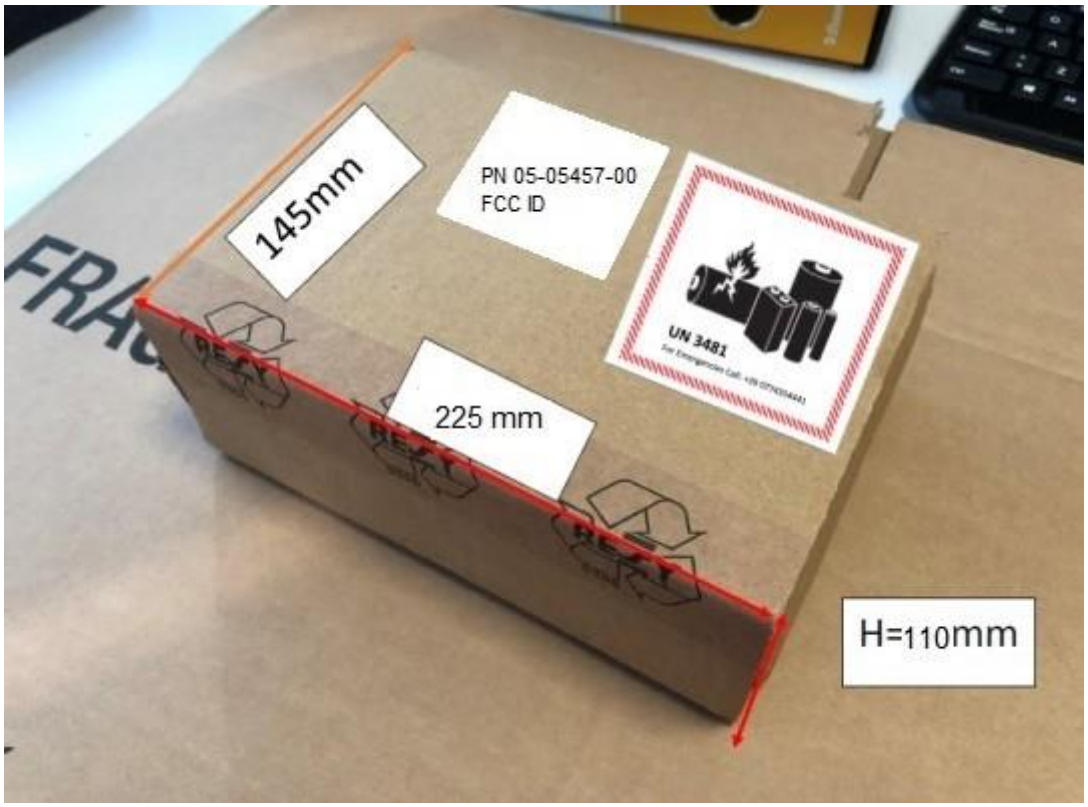
IMPORTANT: RECALLED OR DEFECTED LITHIUM BATTERIES ARE FORBIDDEN FOR AIR TRANSPORT.

V 5.4 - Effective from: 1st January 2020

Figure 15: directives for shipping.

9.1 Device packaging

Proper packaging is mandatory before shipping. Reuse same packaging received along with the device.	
1	Make sure the transparent cover is screwed on the transmitter, till the end of the thread
2	Place the transmitter in a box (possibly the original one), protected by foam or other proper material. Fold/close the box over the transmitter. 
4	Insert into the external box. 

5	Apply label UN3481 if more than 4 batteries are shipped (see figure 15) Also Apply Part number label showing this text: <u>iCinac Wireless Transmitter – PN 05-05457-00</u> <u>Contains FCC ID: MCQ-S2CTH</u> 
6	If this package containing more than 4 batteries is shipped in a bigger box, together with other LI-ION batteries, apply the UN3481 and OVERPACK labels on external box. 

10 Troubleshooting

Symptom Description	*Solution*
When pressing power button, no light switches on.	Battery totally discharged: Connect to a power supply by USB-C to Charge battery.
After 2-hours connection to power supply, when pressing power button, no light switches on.	Contact technical service
When pressing power button, green light switches on and then fades off.	Battery discharged: Charge battery
When pressing power button, green light stays on	Transmitter is not connected to the receiver: Check receiver and connection settings.
Transmitter connects (blinking green) but read data are inconsistent	Check if the ISM probe is connected and working.