

EMBIPOS

USER MANUAL



95011012600000629



Embisphere

11 Avenue de l'harmonie
59650 Villeneuve d'Ascq
FRANCE

(+33) 3 20 61 06 88- www.embisphere.com

Dear Customer,

Thank you for choosing this EMBISPHERE product. We hope that you will enjoy using it, will make your encasement easier and that it will give you satisfaction for many years to come.

Once you unpack your EMBISPHERE product, we recommend that you take a few minutes to read the following instructions.

Wishing you a pleasant experience with the EmbiPos.

The EMBISPHERE team





SAFETY INFORMATION

For your safety and to avoid any risk of personal injury please take few minutes to read these operating instructions carefully before using the unit. Follow the safety instructions listed below. Keep these operating instructions handy for future reference.

Product Care

Your device is an electronic product that needs to be treated with care. Please follow the instructions :

- Do not subject it to unnecessary shock or vibration.
- Keep your EmbiPos, cable and power supply away from water, rain and excessively humid areas.
- Use only AC power supply and cable provided with your product.
- Do not open it up. There are no user-serviceable parts inside. Opening will void your warranty.
- If your device is very cold or has been stored in a cold area, do not apply power to the device until it has been allowed to come to room temperature.
- Unplug this apparatus from the AC power supply during lightning storms or when unused for long periods of time



SUMMARY

PRODUCT DESCRIPTION	5
1. GETTING STARTED	7
Unpacking the reader	7
Mounting and removing the reader	8
Connecting antennas	9
Connecting serial/RS232 cable	10
Connecting USB cable	10
GPIO interface	11
Powering the reader	11
Powering the reader	12
2. TECHNICAL SPECIFICATION	13
3. TROUBLESHOOTING	14

PRODUCT DESCRIPTION

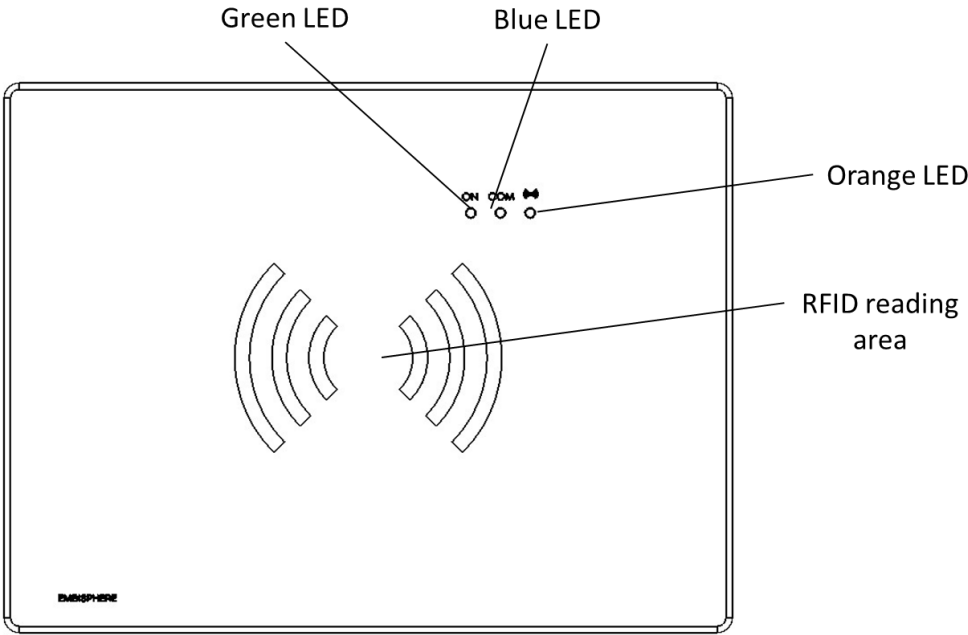


Figure 1: Top side product description

Description	Fonction
Green LED	Power on/off indicator light
Blue LED	Link activity indicator light. Status of serial link to the host PC.
Orange LED	RFID activity indicator light
RFID reading area	Area where tag reading is optimal. Read distance depends on read power settings

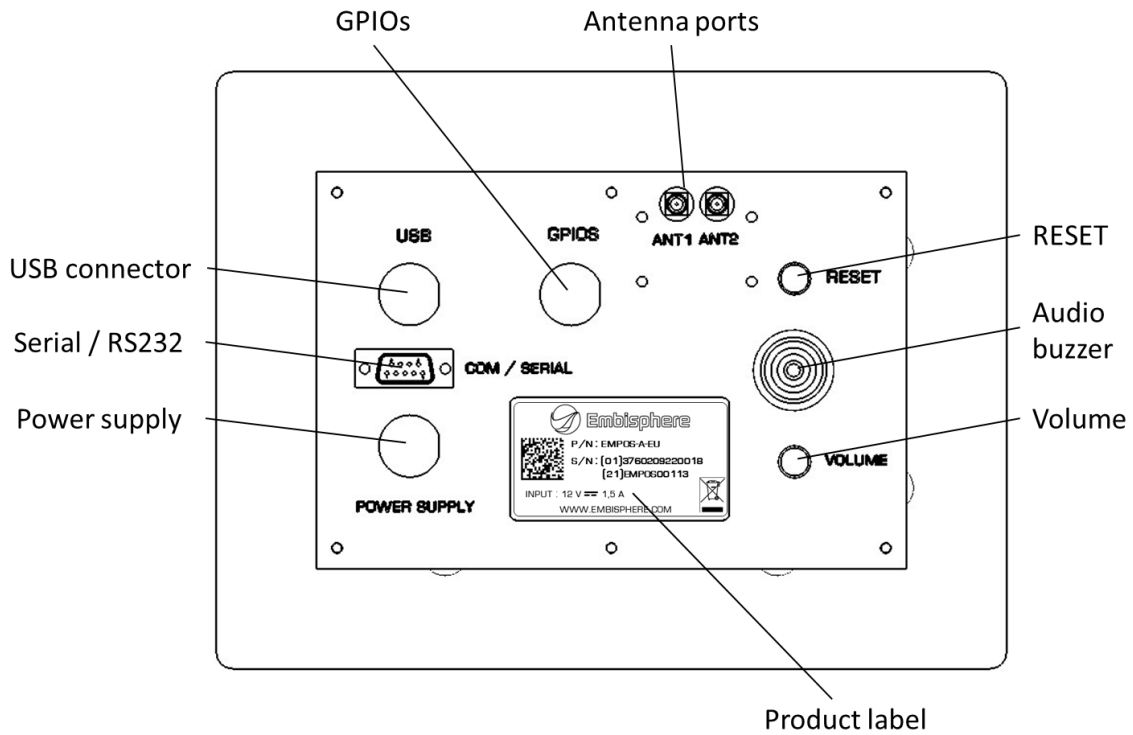


Figure 2: Bottom side product description

Description	Fonction
Power supply	DC connector connects to the Emblspos approved power supply AC adapter provided with your reader. Maximum power 12V \equiv 1,5A
Serial/RS232	RS232 serial link to host PC
USB connector	USB link to host PC
GPIOs	Insert the dedicated Emblspos GPIOs cable
Antenna ports	2 SMA RF connection for 50 Ohms external antennas
RESET	To reset the reader, press and hold this yellow button for not less than 1 seconds
Audio buzzer	Audio indicator for tags reading
Volume	Press volume button to change Emblspos reader audio indicator volume

1. GETTING STARTED

Unpacking the reader

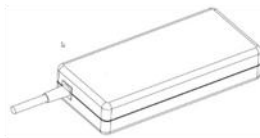
Remove the reader from the shipping container and inspect it for damage. Keep the shipping container, it is the approved shipping container and should be used if the reader needs to be returned for servicing.



EMBIPOS RFID reader



Serial cable



Power adapter



Power cable
Europe

Figure 3: Packaging contents



CAUTION

Use only parts provided with the EmbiPos RFID reader or EMBISPHERE approved/recommended parts.

Substituting other cables or parts can degrade system performance, damage the reader, and/or void the warranty

Mounting and removing the reader

Preparing your desk

Before installing your EmbiPos please prepare your desk to host your reader

Drill your furniture to insert the reader. The hole should follow 184 mm x 124 mm as illustrated below

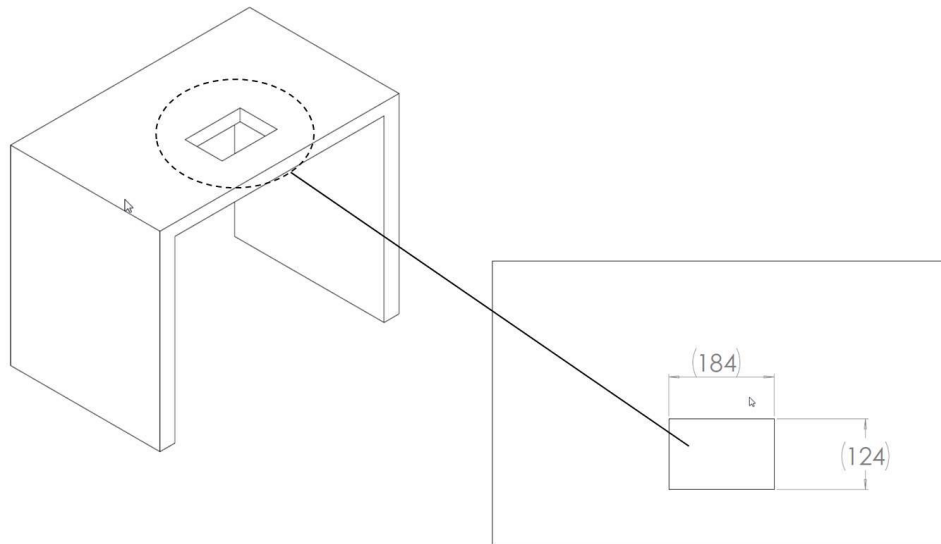


Figure 4: Mounting hole specifications

Mounting information

- Mount the reader indoors, in operating range and out of direct sunlight, high moisture, and/or extreme temperatures, or in confined environment.
- Ensure that power can reach the reader
- Mount the reader onto a permanent fixture. Avoid metal parts around. The recommended minimum clearance on all sides of the reader is 20 cm



WARNING

Please remove all metallic parts far away from the reader. Any metallic object too close to the reader may degrade the reading performances.

Mounting the reader

1. Position the reader on the mounting hole
2. Insert the reader by pressing the reader down

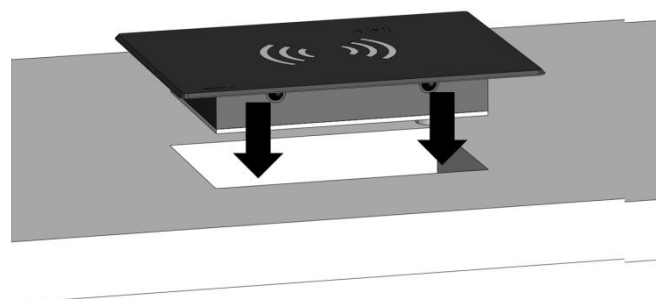


Figure 5: EmbiPos reader mounting

3. To remove the reader, press the reader from the bottom side and slide the reader up while gently pulling out



Figure 5: EmbiPos reader removing from desk

Connecting antennas



CAUTION

Power off the reader before connecting antennas. Never disconnect the antennas while the reader is powered on or reading tags. This can damage irretrievably the reader

Maximum external antenna gain (including loss of RF cables) cannot exceed 5 dBiL

1. For each external antenna, screw the antenna cable connector to one of the two antenna ports
2. Please make sure that the antenna cables are not bend

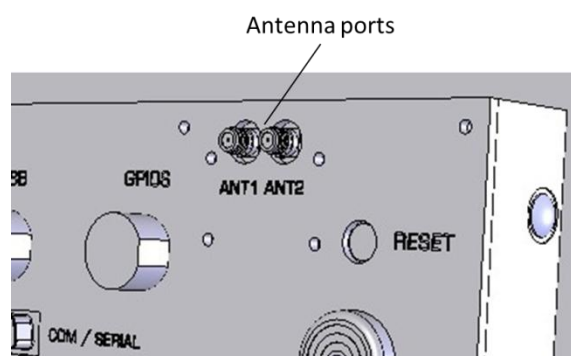


Figure 6: Antenna ports illustration

Connecting serial/RS232 cable

EmbiPos reader communicates with the host PC through a serial/RS232 communication.

1. Connect the serial cable to the serial/RS232 port of the reader
2. Fasten the screws of cable connector into the hole of host socket to secure the connection

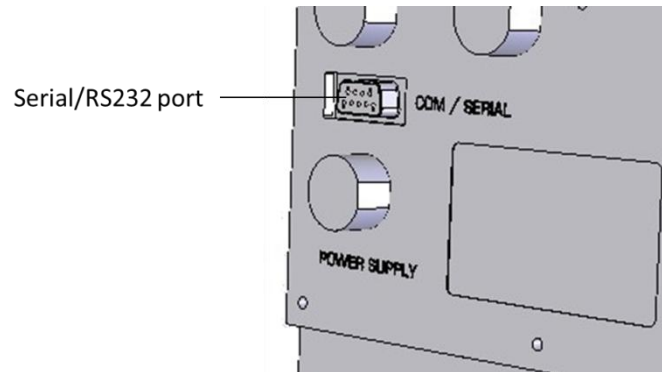


Figure 7: Serial port illustration

Connecting USB cable

EmbiPos is able to communicate with host PC through an USB 2.0 interface.

The specific USB cable is available upon request as an accessory with your Embisphere sales service

1. Insert the USB cable (with the blue over molded plastic part) into the USB port of the reader, connect the other part into USB port of your host PC
2. Fasten the screw of cable connector to secure the connection

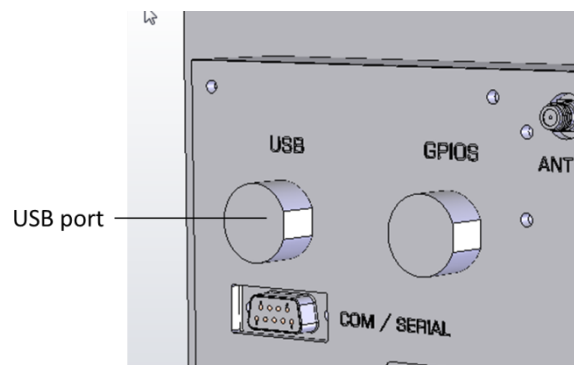


Figure 8: USB port illustration

GPIO interface

EmbiPos reader offers up to four general purpose outputs to drive for example 12V relays, indicator LEDs, etc.

The GPIOs port of the reader needs a specific connector. Please contact your Embisphere representative for any information.

The general purpose outputs are optically isolated 12V drivers. Each output can sink up to 200 mA

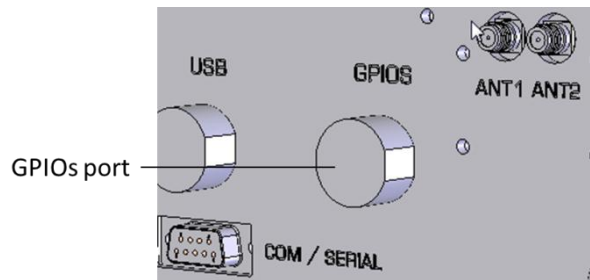


Figure 9: GPIOs port illustration

Powering the reader



CAUTION Please make sure that antennas are connecting before powering on your device
Use only AC power supply provided with your EmbiPos

The EmbiPos AC power supply provided with your product uses a specific locking connector.

1. Insert the power supply connector into the reader power port

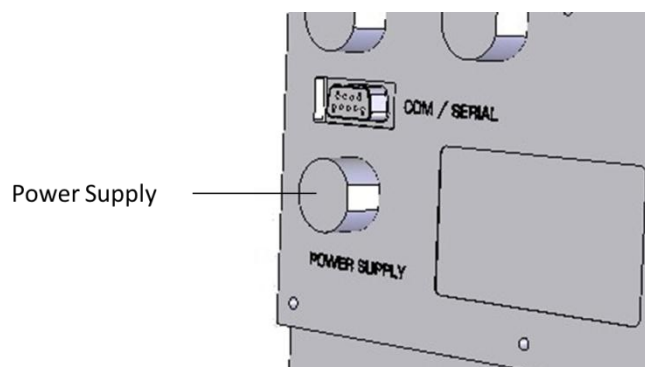


Figure 10: Power supply port illustration

2. Fasten the screw of cable connector to secure the connection
3. Connect the AC power supply to a power outlet. The green power LED lights on to indicate that the reader is powered on and the blue Led blinks to indicate the reader is ready
4. To power off the reader, remove the AC power supply from its power source. The green power and blue LEDs light off.

Reading UHF RFID tags



CAUTION

Please make sure that the tags that you want to read are located inside the reading area of your embiPos reader

To test RFID reader capability of your reader, please launch RFID software commands

1. Present a tag to the RFID reading area
2. Each time the EmbiPos reads a tag, the orange Led blinks
3. Each time the reader reads a new tag, the buzzer beeps
4. Adapt the volume of the buzzer by pressing volume button

2. TECHNICAL SPECIFICATIONS

TECHNICAL DATA	
RFID Frequency	ETSI (EU) 865.6 - 867.6 MHz FCC (NA, SA) 902 – 928 MHz SRRC-MII (China) 920 – 925 MHz
RFID Chip compatibility	EPCglobal Class 1 Gen 2 (ISO 18000-6C) with anti-collision
RFID Output power	From 10 dBm to 30 dBm (1W)
RFID Integrated Antenna	Circular polarized built-in antenna
RF Interface	2 SMA connectors for external antennas
General Purpose I/O	2 outputs, optically isolated. 0– 12V.
Communication	Secured USB Serial RS232
User interface	LED indicators : Power, Communication, RFID read Buzzer
Power Supply	100-240 V ~ 50-60 Hz 1,1A / 12 DC  4A external power adaptor
Operating temperature	0 °C / 60°C
Altitude	0 to 2000m
Construction	ABS choc
Dimensions (HxWxD)	24,5 cm x 18,5 cm x 33,3 cm
Weight	475 g

PACKAGING SPECIFICATIONS	
Product Number	(01)3760209220018(21)EMPOS for EU Version
Package dimensions(HxWxD)	29 cm x 26 cm x 9,5 cm
Package weight	1400 g

3. TROUBLESHOOTING

Problem	Possible solutions
The product don't turn on	Verify that power adaptor and cable are well connected
I don't succeed connecting my EMBIPOS to host device by RS232 or USB	Verify that the reader appears in the Windows device manager. Otherwise please check cable connection.
I don't succeed connecting my EMBIPOS to host device by RS232	Verify that the physical serial port used is coherent with that defined into the software application
I don't succeed connecting my EMBIPOS to host device by RS232 or USB	Verify the connection between the reader connectors and host device
During RFID tags reading, the orange LED don't blink et the buzzer don't beep	You are perhaps located too far away from the RFID tags. Try to get closer.

For any issue, remark or suggestion, please contact:



EMBIPHERE

11 Avenue de l'harmonie – HUB innovation

59650 Villeneuve d'Ascq

FRANCE

www.embisphere.com