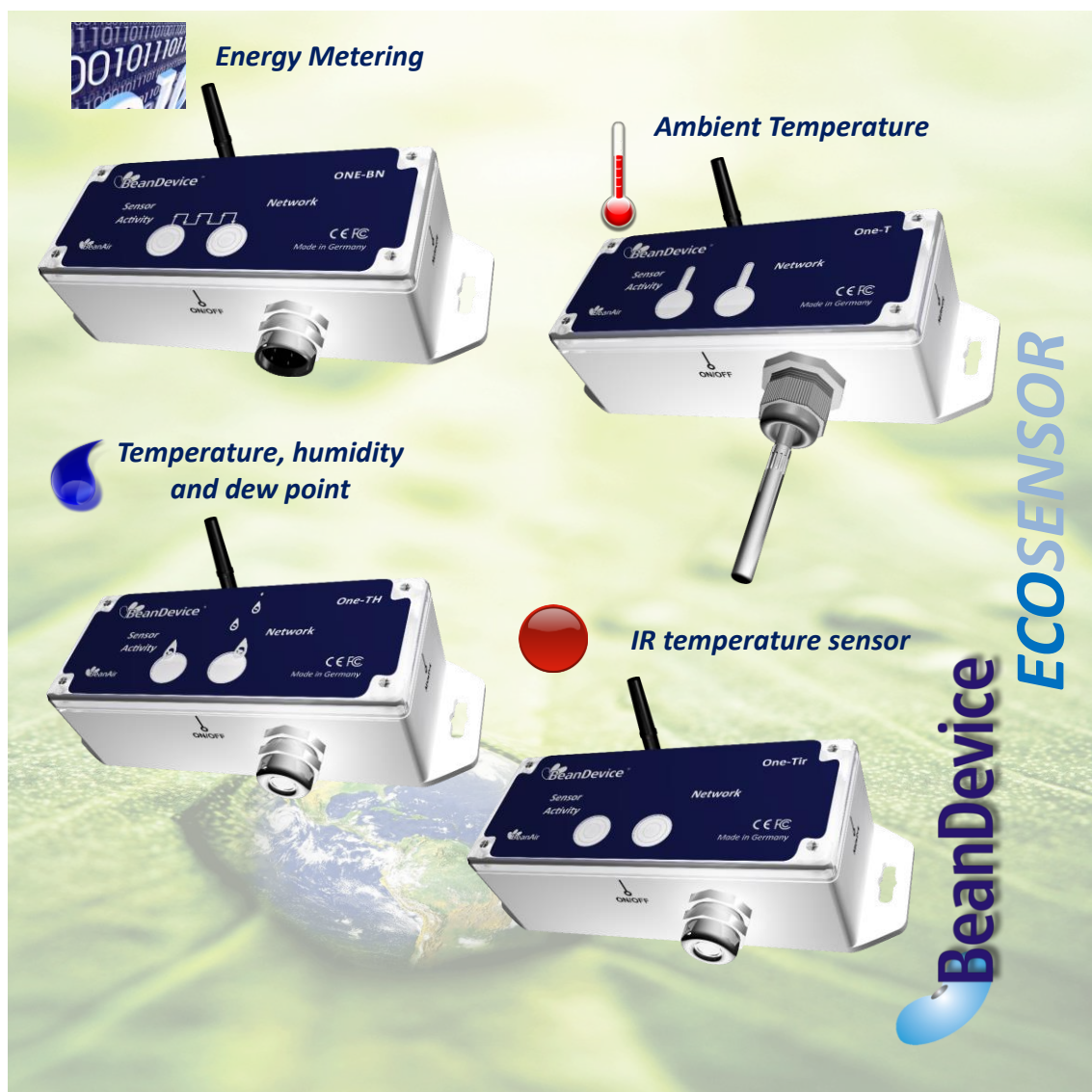




READY FOR
INDUSTRIAL
INTERNET OF
THINGS ?

BEANDEVICE® ECOSENSOR





Ready for Industrial Internet of Things ?

Document version : 2.0

Document type : QuickStart

BeanDevice® WiLow® Quickstart

DOCUMENT

Document ID	QS-01	Version	V2.0
External reference	Quick-Start-EcoSensor	Date	26/12/2017
Author	Aymen Jegham ,		
		Project Code	
Document's name	EcoSensor Quick Start		

VALIDATION

Fonction	Destination	For validation	For info
Writer	Aymen Jegham	✓	
Reader	Antje Jacob, Electronic technician	✓	

DIFFUSION

Fonction	Destination	For action	For info
Reader n°1	Mohamed-Yosri Jaouadi., Software Architect	✓	
Reader n°2	Antje Jacob, Electronic technician	✓	

UPDATES

Version	Date	Author	Evolution & Status
V2.0	26/12/2017	Aymen Jegham	• Document created



Please consider the environnement before printing this document.

Page : 2 / 23



Contents

1. TECHNICAL SUPPORT.....	5
2. VISUAL SYMBOLS DEFINITION	6
3. PRODUCT OVERVIEW	7
4. WSN COORDINATOR (BEANGATEWAY®)	9
5. POWER SUPPLY.....	13
6. BEANGATEWAY® MOUNTING	15
6.1 Wall mounting kit for the BeanGateway® outdoor.....	16
7. START YOUR APPLICATION.....	17
7.1 Technical notes and videos.....	22





Disclaimer

The information contained in this document is the proprietary information of BeanAir.

The contents are confidential and any disclosure to persons other than the officers, employees, agents or subcontractors of the owner or licensee of this document, without the prior written consent of BeanAir GmbH, is strictly prohibited.

BeanAir makes every effort to ensure the quality of the information it makes available. Notwithstanding the foregoing, BeanAir does not make any warranty as to the information contained herein, and does not accept any liability for any injury, loss or damage of any kind incurred by use of or reliance upon the information.

BeanAir disclaims any and all responsibility for the application of the devices characterized in this document, and notes that the application of the device must comply with the safety standards of the applicable country, and where applicable, with the relevant wiring rules.

BeanAir reserves the right to make modifications, additions and deletions to this document due to typographical errors, inaccurate information, or improvements to programs and/or equipment at any time and without notice.

Such changes will, nevertheless be incorporated into new editions of this document.

Copyright: Transmittal, reproduction, dissemination and/or editing of this document as well as utilization of its contents and communication thereof to others without express authorization are prohibited. Offenders will be held liable for payment of damages. All rights are reserved.

Copyright © BeanAir GmbH 2017





1. TECHNICAL SUPPORT

For general contact, technical support, to report documentation errors and to order manuals, contact **BeanAir Technical Support Center** (BTSC) at:
tech-support@beanair.com

For detailed information about where you can buy the BeanAir equipment/software or for recommendations on accessories and components visit:

www.beanair.com

To register for product news and announcements or for product questions contact BeanAir's Technical Support Center (BTSC).

Our aim is to make this user manual as helpful as possible. Please keep us informed of your comments and suggestions for improvements. BeanAir appreciates feedback from the users.



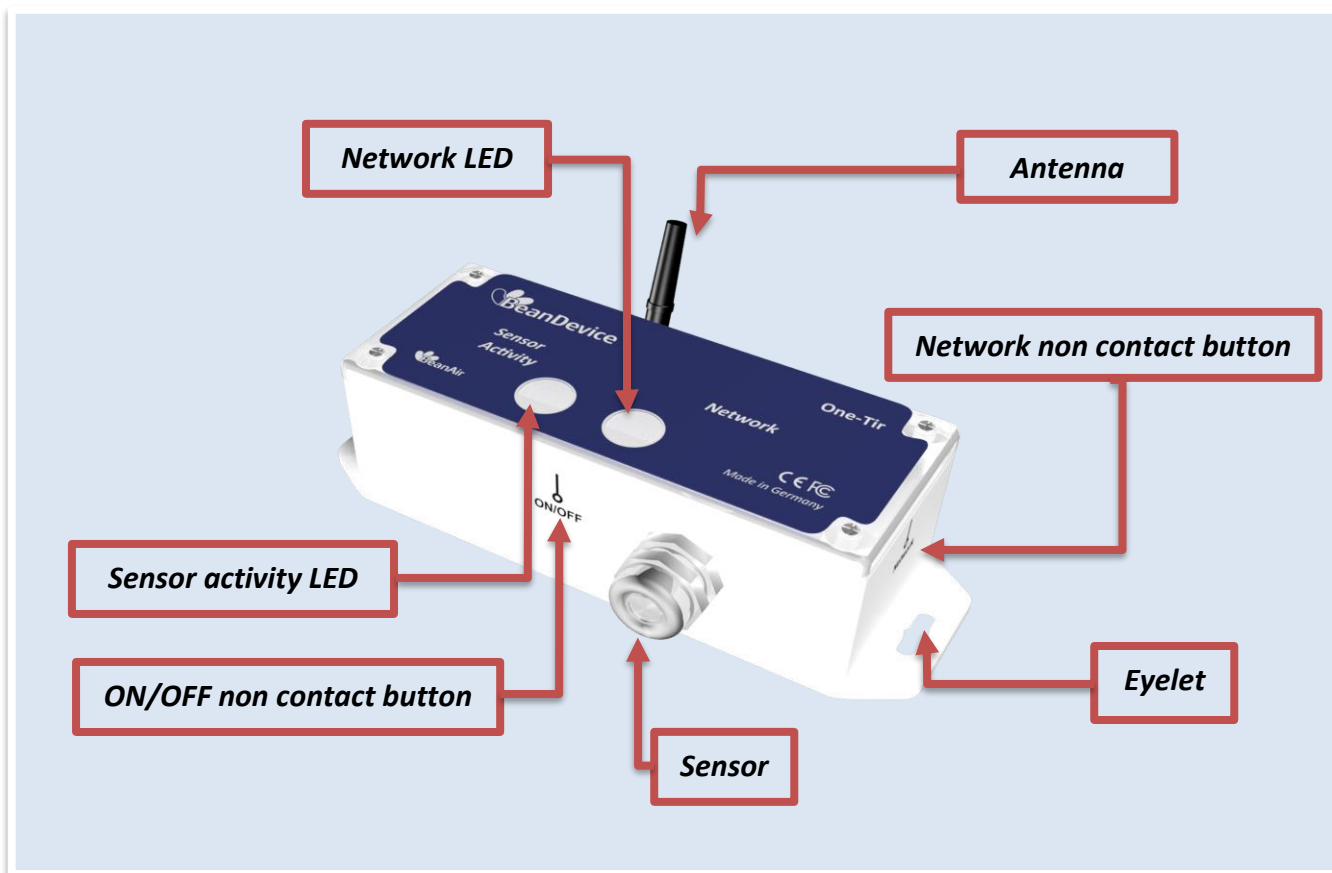
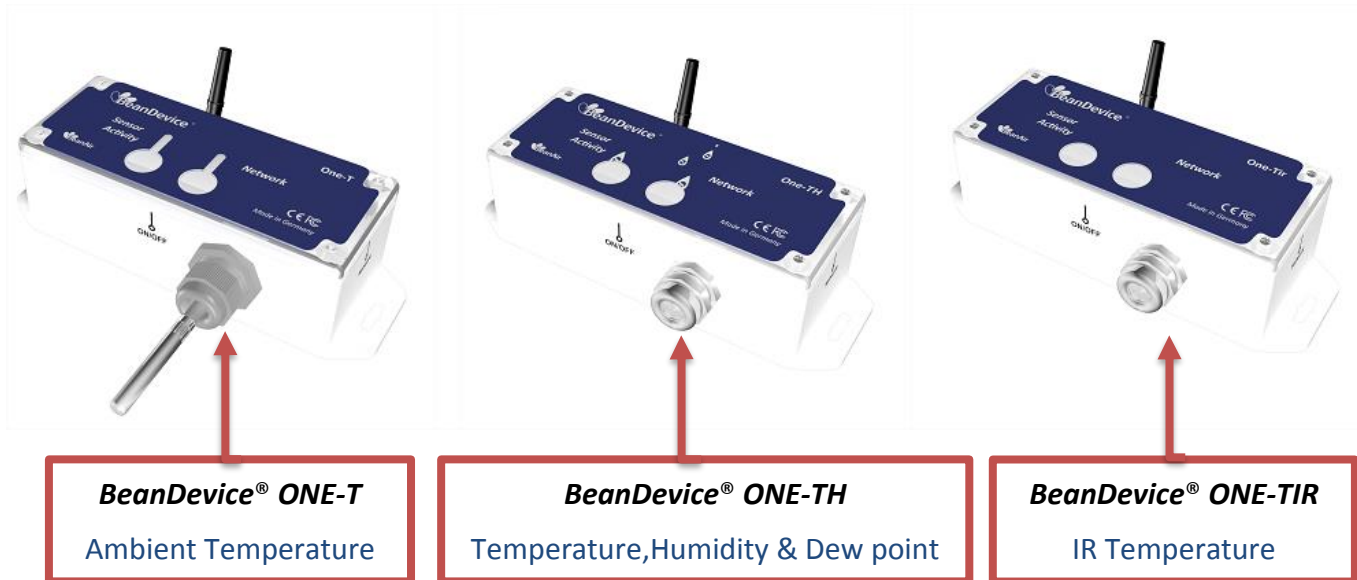
2. VISUAL SYMBOLS DEFINITION

<i>Symbols</i>	<i>Definition</i>
	<u>Caution or Warning</u> – Alerts the user with important information about BeanAir wireless sensor networks (WSN), if this information is not followed, the equipment /software may fail or malfunction.
	<u>Danger</u> – This information MUST be followed if not you may damage the equipment permanently or bodily injury may occur.
	<u>Tip or Information</u> – Provides advice and suggestions that may be useful when installing BeanAir Wireless Sensor Networks.



3. PRODUCT OVERVIEW

EcoSensor® range is composed by different wireless sensors for telemetry applications :





Ready for Industrial Internet of Things ?

Document version : 2.0

Document type : QuickStart

BeanDevice® WiLow® Quickstart



[Watch our video on the EcoSensor product: High-grade and affordable wireless sensor networks for environmental monitoring](#)



Please consider the environnement before printing this document.

Page : 8 / 23

4. WSN COORDINATOR (BEANGATEWAY®)

The BeanGateway®, an essential component of the WSN manages and coordinates the wireless sensor network. Its role is to build and oversee the entire network of wireless sensors. It has the ability to identify and verify by authorizing the network access.

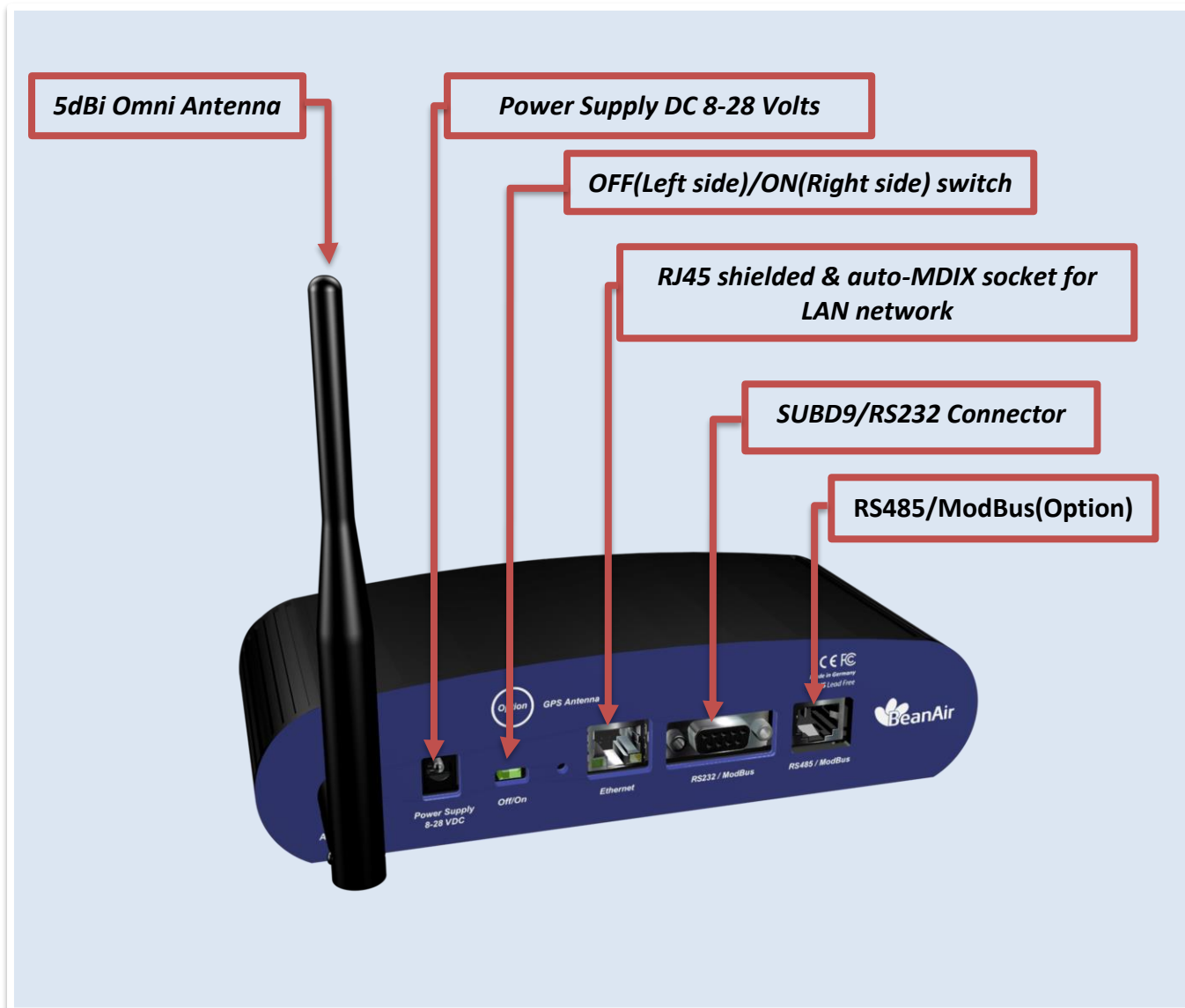
It deals with the exchanged data by means of compressing and connecting them to the IP of the network, thereby reducing the necessary precision in these platforms for maintenance and consequently the associated cost. The BeanGateway® enclosure comes in two versions:

1. Indoor Version :



Front View





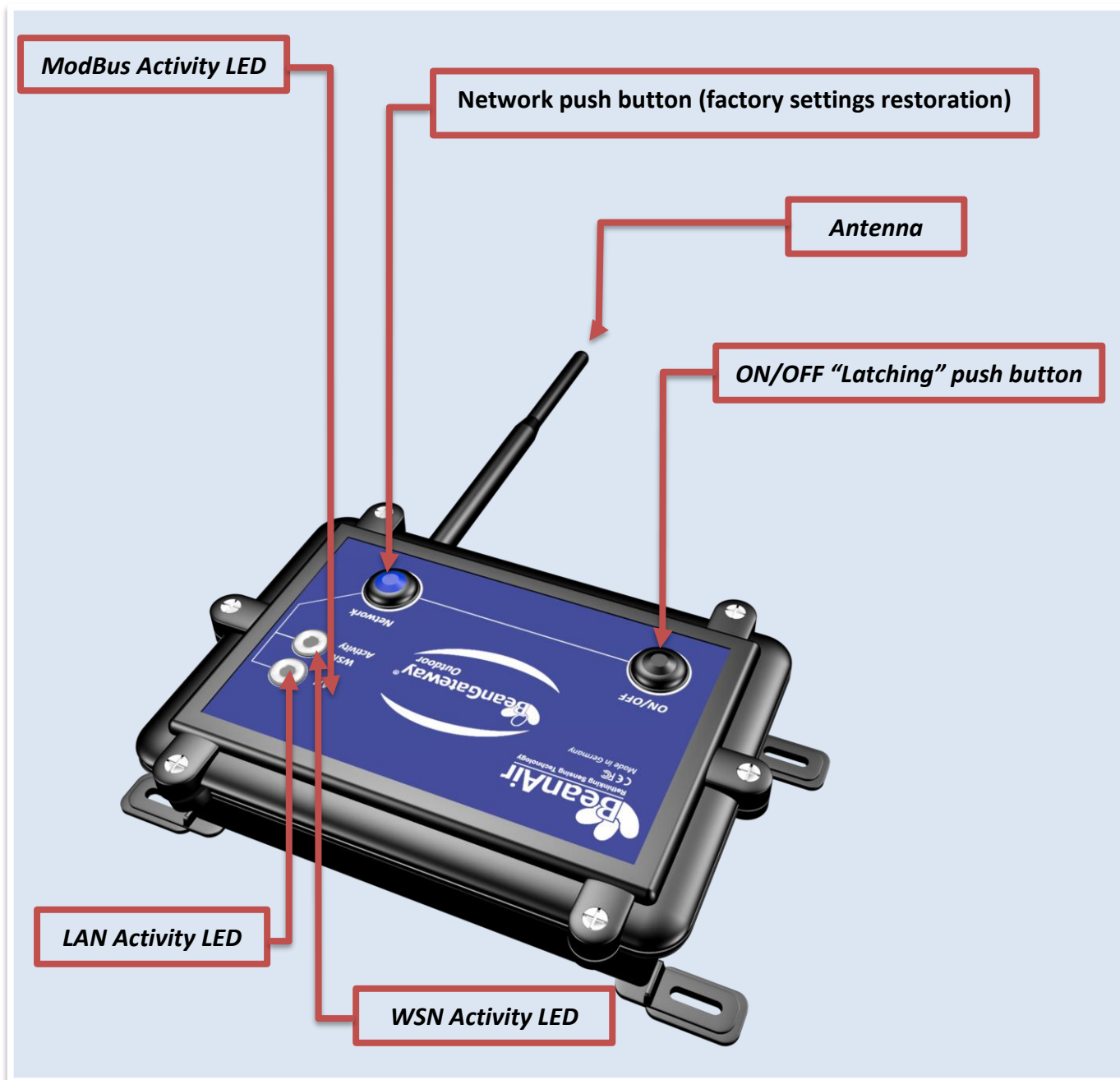
Rear View



[Watch our Video Sensor Network coordinator\(BeanGateway indoor\) video on youtube](#)

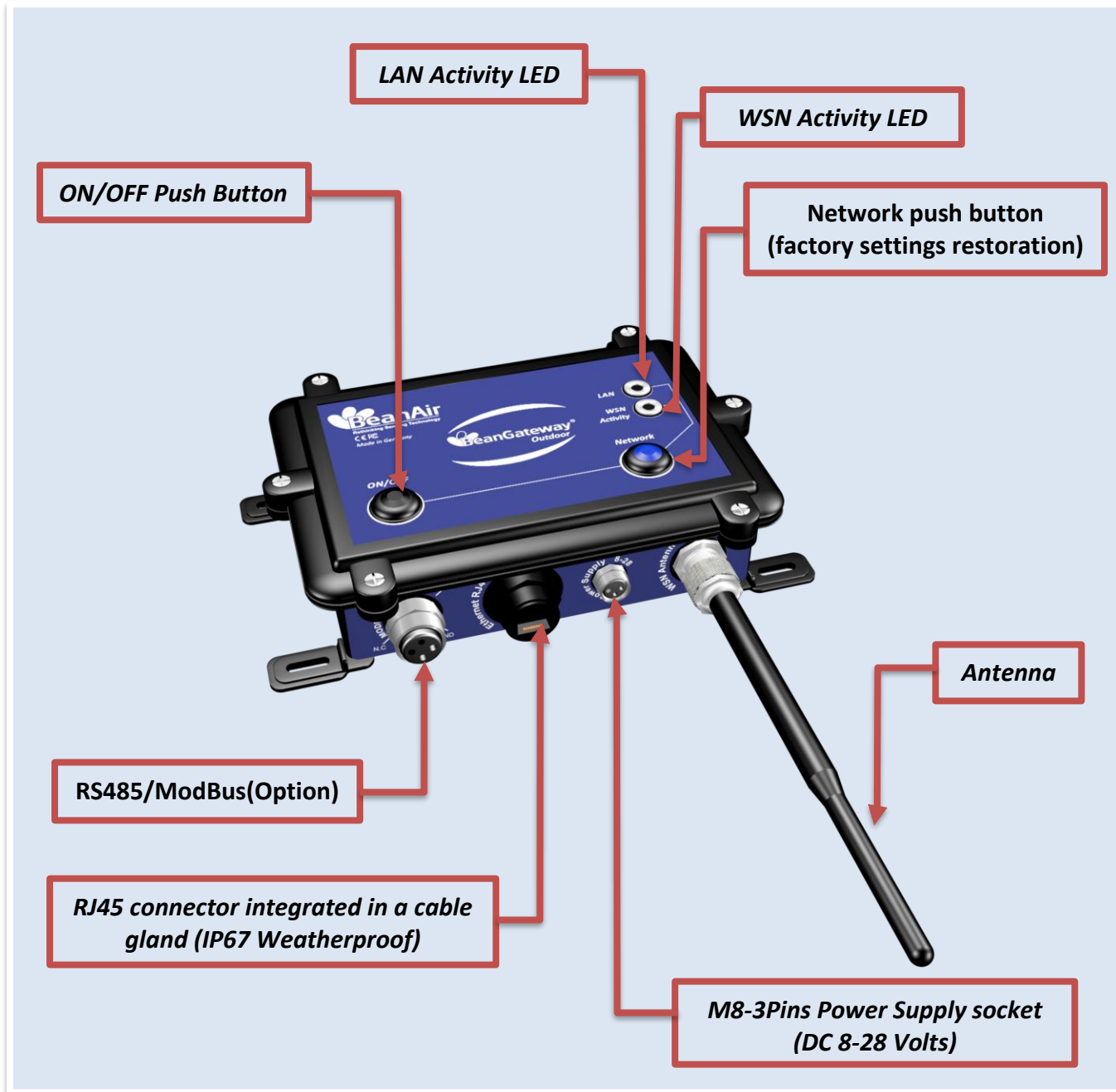


3. Outdoor Version :



Front View





Rear View



5. POWER SUPPLY

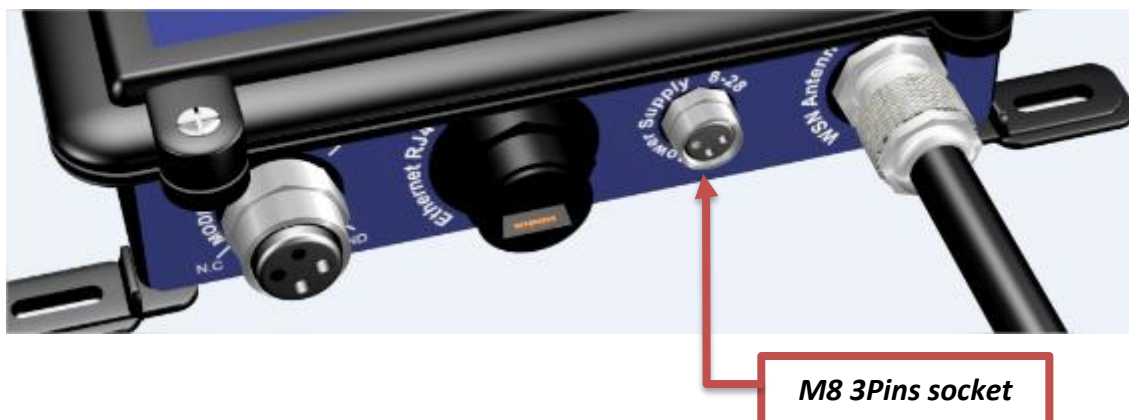
The BeanGateway® is delivered with a 100-240V AC to DC Wall Plug-in power supply of 12V with M8-3 Pins

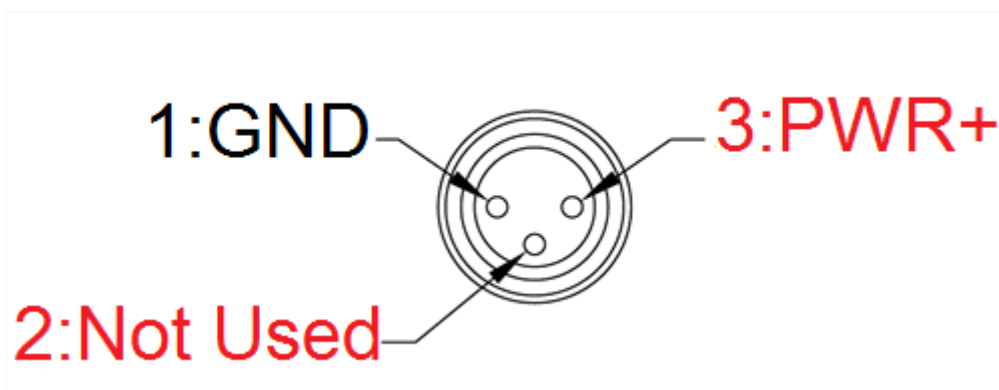


To ensure uninterrupted functioning of the BeanGateway, it must be always connected to an external power source.

An integrated rechargeable battery with a capacity of 950mAh is used as an UPS battery (uninterruptible power supply). The internal battery provides instantaneous protection from external power supply interruptions.

The Beangateway® Outdoor version integrates a M8-3P socket. The AC-DC power supply adapter is provided with a M8-3P plug.





M8-3pins socket



For the indoor version of BeanGateway® It's highly recommended to use it with the DC power supply bloc provided from BeanAir®.



6. BEANGATEWAY® MOUNTING

- For a better wireless link, we recommend to mount the BeanGateway® on a wall/mast above 2-3 meters from the ground.
- If your WSN is deployed on the same floor, the RF antenna should be mounted vertically.



- If your WSN is deployed on a different levels, the RF antenna should be configured horizontally, for a better RF signal quality

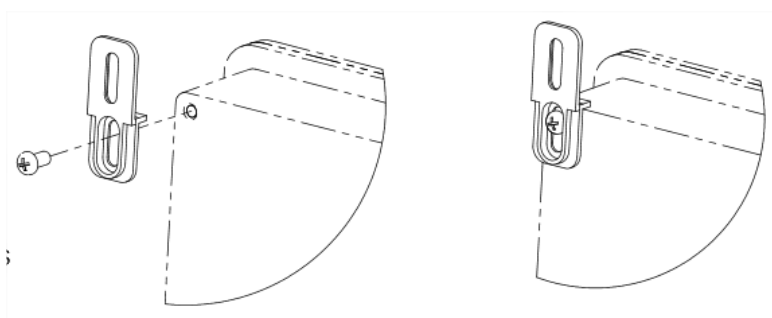
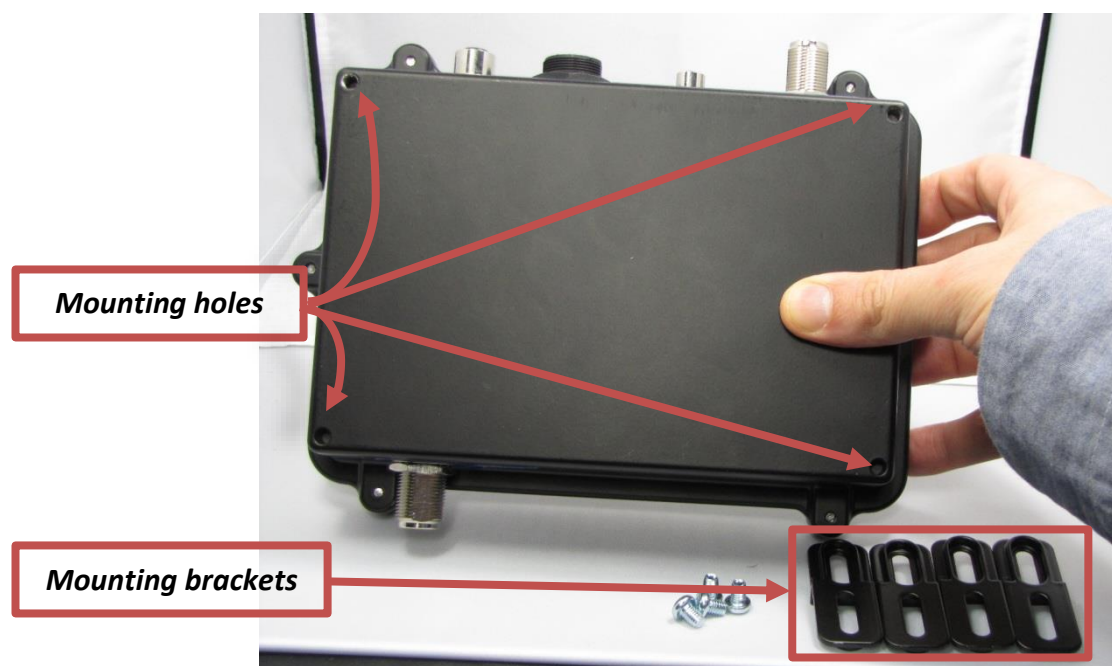


Walls and other obstacles will decrease the signal quality



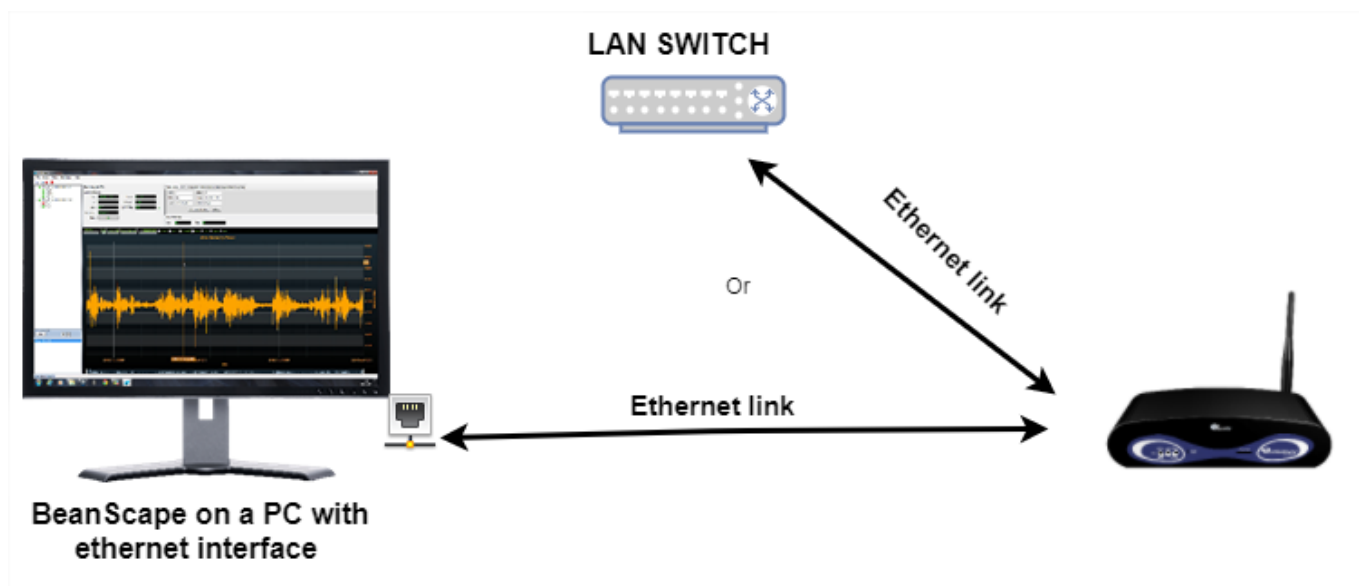
6.1 WALL MOUNTING KIT FOR THE BEANGATEWAY® OUTDOOR

The BeanGateway® outdoor is provided with mounting brackets (4 x brackets and 4 x M5 attaching screws).these brackets enable the BeanGateway® outdoor to be wall or panel mounted without opening the box.



7. START YOUR APPLICATION

1. Connect BeanGateway® Ethernet cable directly to your computer or through a LAN switch



For further information about LAN Network configuration:

Read the following technical note: [TN RF 009 – « BeanGateway® management on LAN infrastructure »](#)

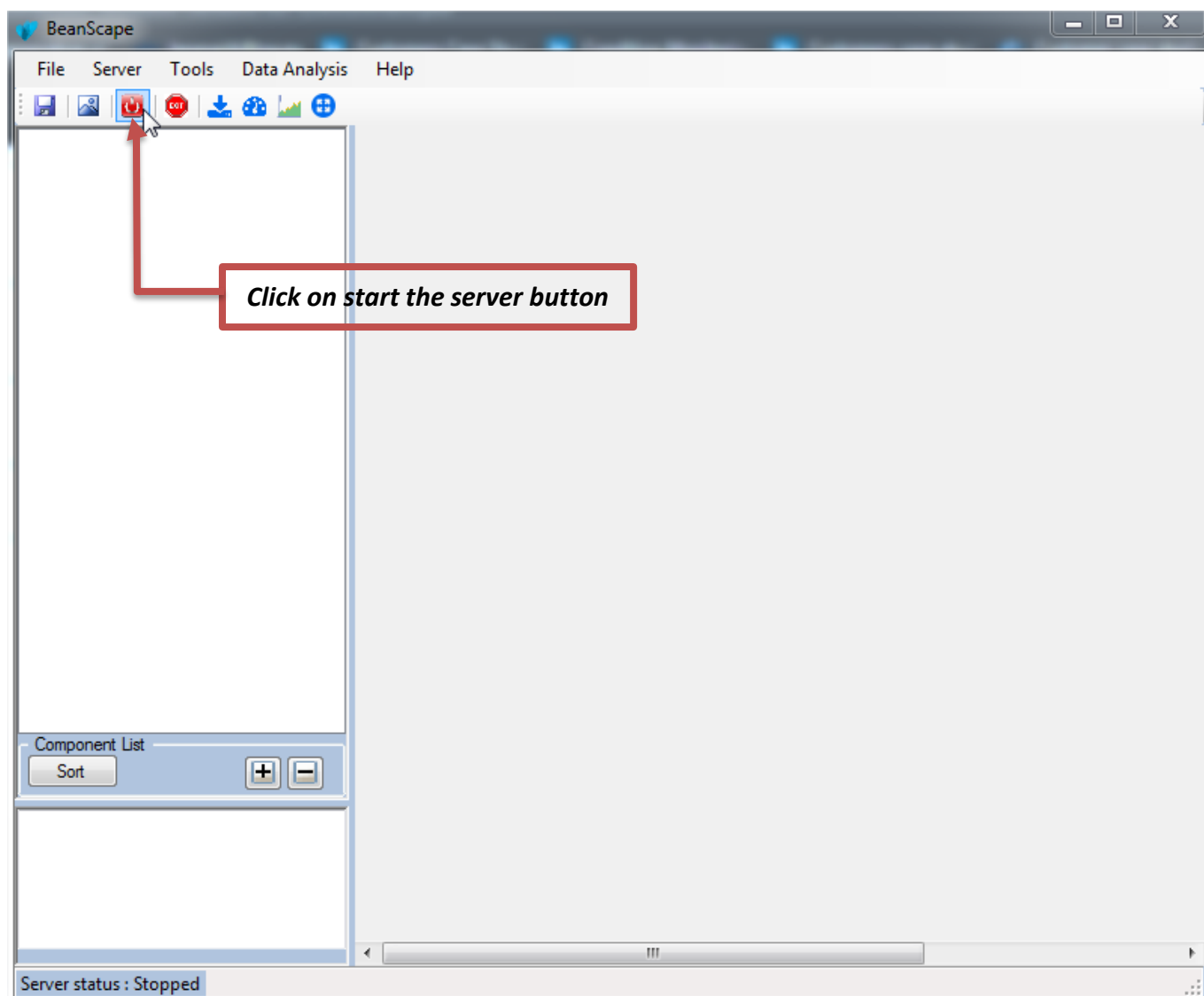
2. Make sure BeanScape® is installed on your PC and run it



3. Turn on the BeanGateway®



4. Click on “Start” to start the server 



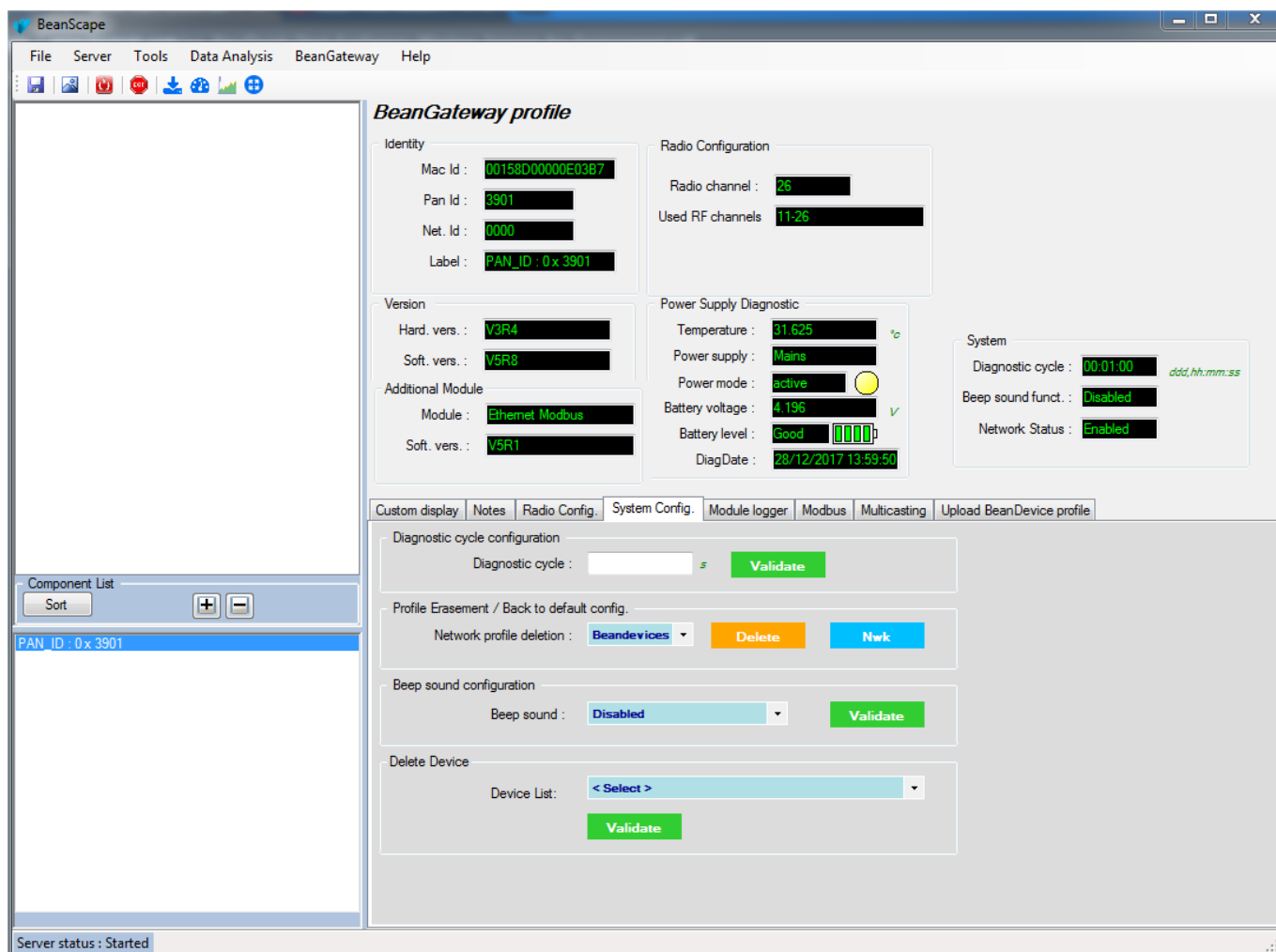
The Beanscape® launches, and creates a mapping of the BeanGateway® on the bottom of the left side pane.



Make sure no antivirus/firewall is blocking the Network activity between the BeanGateway® and the Beanscape®



- Click on the BeanGateway® identified by the PAN ID in the lower left screen. the screen for monitoring and configuring your BeanGateway® will show up .



The screenshot displays the BeanScape software interface, specifically the 'BeanGateway profile' configuration screen. The interface is divided into several sections:

- Identity:**
 - Mac Id : 00158D00000E03B7
 - Pan Id : 3901
 - Net. Id : 0000
 - Label : PAN_ID : 0x 3901
- Radio Configuration:**
 - Radio channel : 26
 - Used RF channels : 11-26
- Version:**
 - Hard. vers. : V3R4
 - Soft. vers. : V5R8
- Additional Module:**
 - Module : Ethernet Modbus
 - Soft. vers. : V5R1
- Power Supply Diagnostic:**
 - Temperature : 31.625 °C
 - Power supply : Mains
 - Power mode : active
 - Battery voltage : 4.196 V
 - Battery level : Good
 - DiagDate : 28/12/2017 13:59:50
- System:**
 - Diagnostic cycle : 00:01:00
 - Beep sound funct. : Disabled
 - Network Status : Enabled

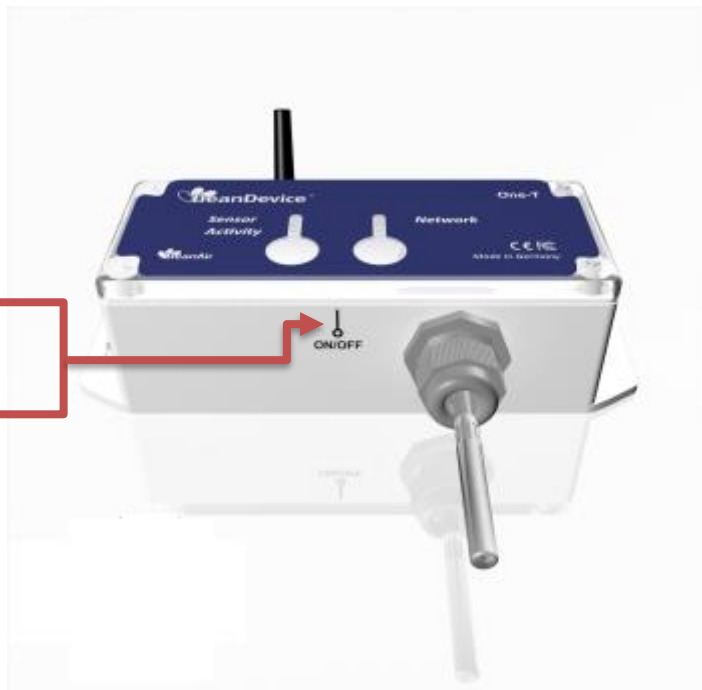
Below these sections, there are tabs for 'Custom display', 'Notes', 'Radio Config.', 'System Config.', 'Module logger', 'Modbus', 'Multicasting', and 'Upload BeanDevice profile'. The 'System Config.' tab is currently selected, showing options for 'Diagnostic cycle configuration', 'Profile Erasurement / Back to default config.', 'Beep sound configuration', and 'Delete Device'.

At the bottom left, a 'Component List' pane shows 'PAN ID : 0x 3901' selected. The status bar at the bottom indicates 'Server status : Started'.



6. Power on the Beandevise: hold the magnet next to ON/OFF non-contact push button for more than 2 seconds.

ON/OFF reed non contact button



[Watch our Video on Youtube](#)

7. for the first use, perform a Network context deletion operation to restore default parameters. Hold the magnet on the button network ("Network") for more than 2 seconds.

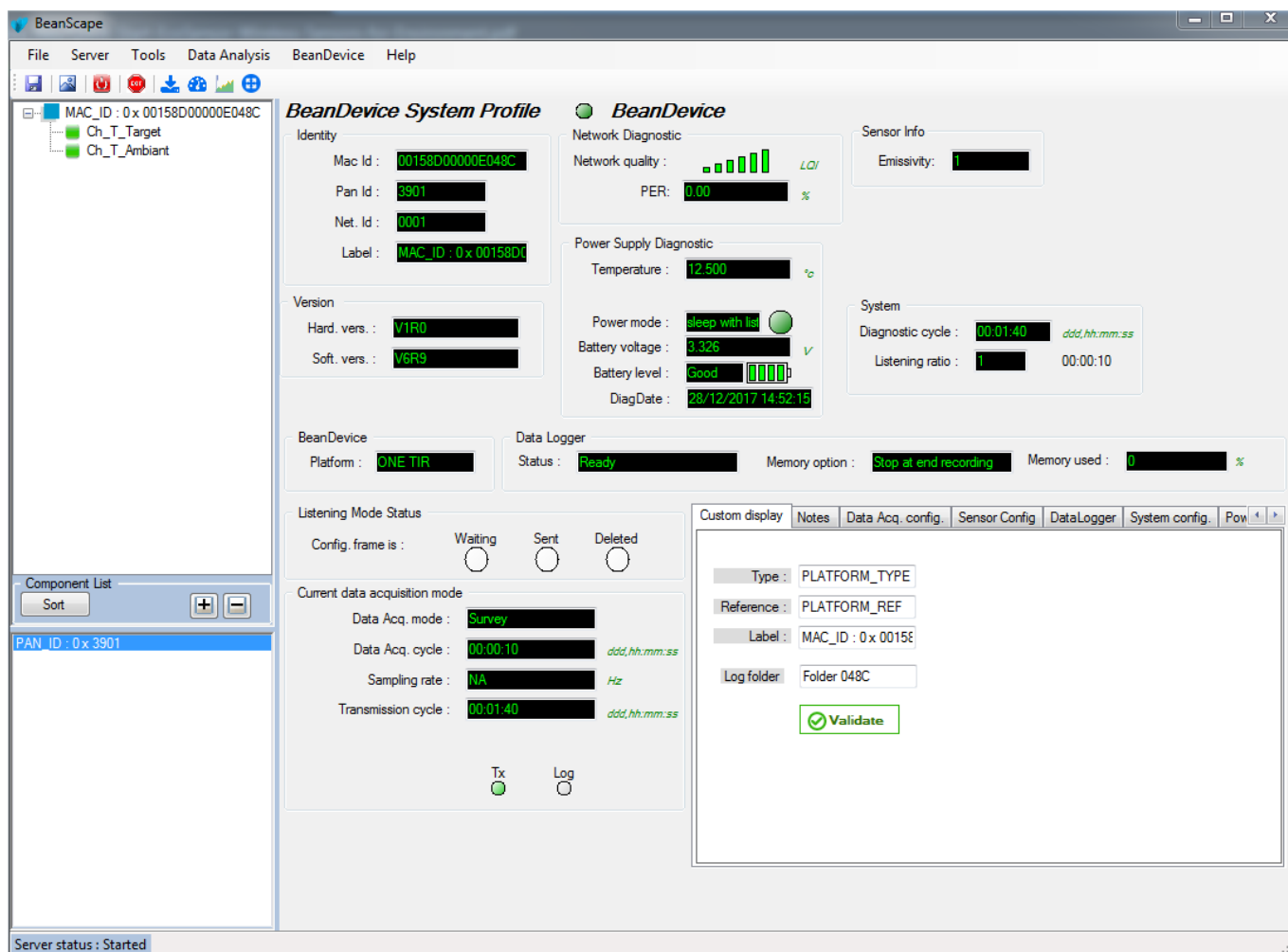
Network "Reed" non contact button





[Watch our Video on Youtube](#)

8. Click on the BeanDevice® that showed up on the left side pane



The screenshot shows the BeanScope software interface. The main window displays the 'BeanDevice System Profile' for a device with MAC_ID: 0x00158D00000E048C. The profile includes sections for Identity (Mac Id, Pan Id, Net. Id, Label), Version (Hard. vers., Soft. vers.), Network Diagnostic (Network quality, PER), Power Supply Diagnostic (Temperature, Power mode, Battery voltage, Battery level, DiagDate), Sensor Info (Emissivity), and System (Diagnostic cycle, Listening ratio). Below these, there are sections for BeanDevice (Platform), Data Logger (Status, Memory option, Memory used), and Listing Mode Status (Config. frame is: Waiting, Sent, Deleted). The 'Current data acquisition mode' section shows Data Acq. mode: Survey, Data Acq. cycle: 00:00:10, Sampling rate: NA, and Transmission cycle: 00:01:40. A 'Custom display' panel on the right shows fields for Type, Reference, Label, and Log folder, with a 'Validate' button. The bottom status bar indicates 'Server status: Started'.

Now you can see the screen for monitoring and configuring the Beandevice and its sensors.





7.1 TECHNICAL NOTES AND VIDEOS

In addition to this quickstart paper, please consult the user guide of the BeanDevice® EcoSensor and all related technical notes and videos

Document name (Click on the web link)	Related product	Description
<u>EcoSensor Wireless sensor user manual</u>	2.4GHz products line	BEANDEVICE® WILLOW® user manual
<u>TN RF 013 – « OPC configuration »</u>	BeanScope® Premium+	The aim of this document is to help deploying the OPC DA and all associated services.
<u>TN RF 012– « BeanDevice® battery life in streaming mode »</u>	2.4GHz products line	The aim of this document is to describe the autonomy performance of the BeanDevice® SmartSensor® and ProcessSensor® product line in streaming packet mode.
<u>TN RF 011 – « Coexistence of Beanair WSN at 2.4GHz »</u>	2.4GHz products line	This document aims to highlight the issues affecting co-existence of Beanair WSN (IEEE 802.15.4) in the presence of interference.
<u>TN RF 010 – « BeanDevice® Power Management »</u>	2.4GHz products line	This technical note describes the sleeping & active power mode on the BeanDevice®.
<u>TN RF 009 – « BeanGateway® management on LAN infrastructure »</u>	BeanGateway®	BeanGateway® integration on a LAN infrastructure
<u>TN RF 008 – “Data acquisition modes available on the BeanDevice®”</u>	2.4GHz products line	Data acquisition modes available on the BeanDevice®
<u>TN RF 007 – “BeanDevice® DataLogger User Guide ”</u>	2.4GHz products line	This document presents the DataLogger feature on the BeanDevice®
<u>TN RF 006 – “WSN Association process”</u>	2.4GHz products line	Description of the BeanDevice® network association
<u>RF TN 003- “Aggregation capacity of wireless sensor networks”</u>	2.4GHz products line	Network capacity characterization of Beanair Wireless Sensor Networks





Ready for Industrial Internet of Things ?

Document type : QuickStart

Document version : 2.0

BeanDevice® WiLow® Quickstart

[RF TN 002 V1.0 - Current consumption in active & sleeping mode](#)

2.4GHz products line

Current consumption estimation of the BeanDevice in active and sleeping mode

[RF TN 001 V1.0- Wireless range benchmarking](#)

2.4GHz products line

Wireless range benchmarking of the BeanDevice®

Beanair video link (Youtube)	Related products
<u>Company Presentation</u>	2.4GHz products line
<u>BeanGateway® - Ethernet Outdoor version introduction</u>	BeanGateway® - Ethernet Outdoor version introduction
<u>BeanGateway® – Ethernet Indoor version presentation</u>	BeanGateway® Ethernet Indoor version
<u>BeanDevice® AN-XX wireless range demonstration</u>	BeanDevice® AN-XX & BeanDevice® AN-XX Extender
<u>BeanDevice® AN-XX presentation</u>	BeanDevice® AN-XX & BeanDevice® AN-XX Extender
<u>BeanDevice® AX-3D presentation</u>	BeanDevice® AX-3D
<u>BeanDevice® HI-INC presentation</u>	BeanDevice® HI-INC
<u>BeanDevice® AX-3DS presentation</u>	BeanDevice® AX-3DS
<u>BeanScape® – WSN supervision software</u>	BeanScape®
<u>BeanGateway® Ethernet/LAN Configuration, directly connected to the Laptop/PC</u>	BeanGateway®
<u>Wireless sensors profile deletion from the BeanGateway® Database</u>	2.4GHz products line



[All the videos are available on our YouTube channel](#)



SCIGATE AUTOMATION (S) PTE LTD

No.1 Bukit Batok Street 22 #01-01 Singapore 659592

Tel: (65) 6561 0488

Fax: (65) 6562 0588

Email: sales@scigate.com.sg

Web: www.scigate.com.sg

Business Hours: Monday - Friday 8.30am - 6.15pm



Please consider the environnement before printing this document.

Page : 23 / 23