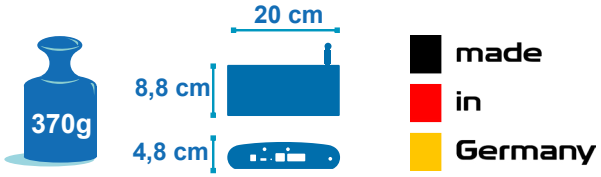
WIRELESS SENSOR NETWORKS (WSN) COORDINATOR - MODBUS/ INDOOR VERSION

//APPLICATIONS



made in Germany

FEATURED VIDEO

BeanGateway® (Indoor Version) main presentation video

TECHNICAL NOTE

TN_RF_009 – «BeanGateway® management on LAN infrastructure»

USER MANUAL

BeanGateway® Modbus user manual

APPLICATIONS

- Process Monitoring
- Indoor Application

SELECTION GUIDE

BeanGateway® Selection Guide

HOW DOES IT WORK ?

// MAIN FEATURES

Wireless technology IEEE 802.15.4

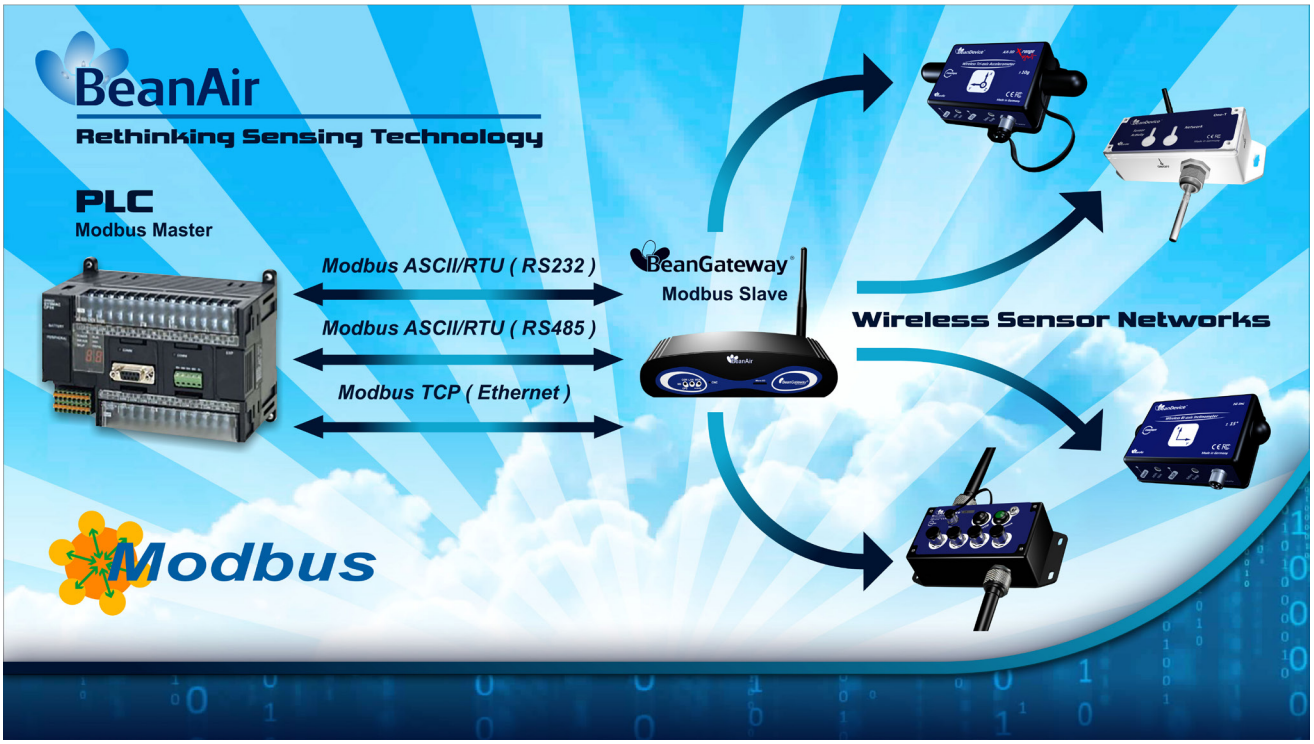
Ethernet/LAN interface with a server

Advanced UPS (Uninterruptible power supply) with integrated rechargeable Lithium battery

Data logger based on Micro-SD® (option)

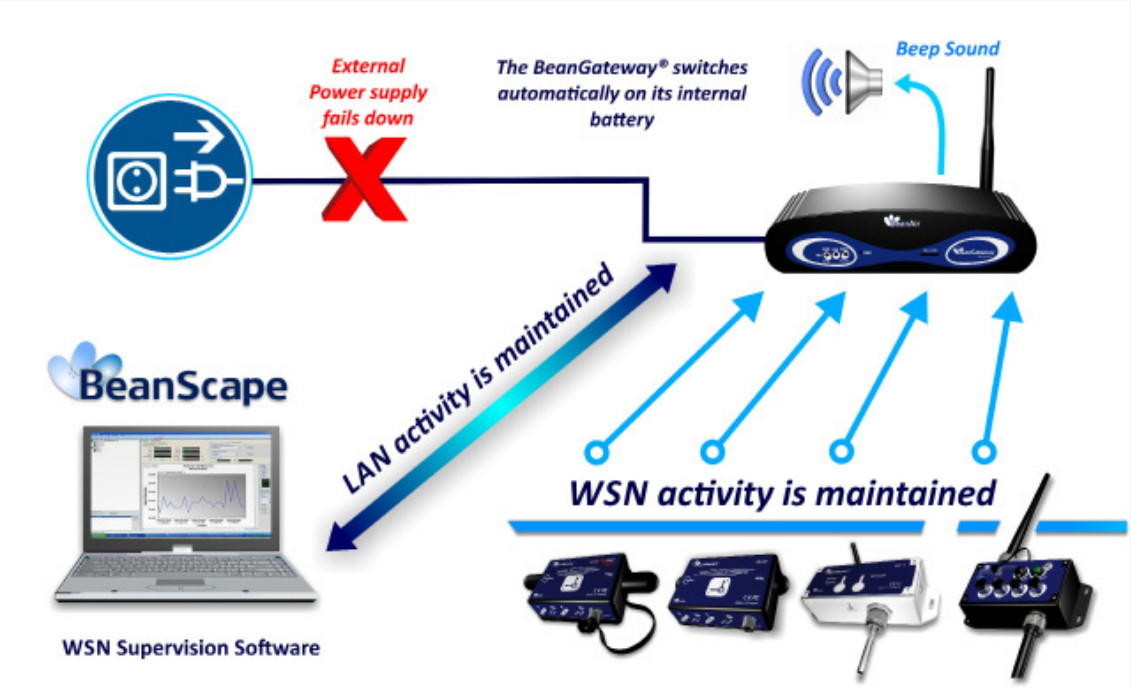
//A MULTI-PROTOCOL WSN COORDINATOR

The BeanGateway® Modbus is used to build and manage Beanair® wireless sensor network. It can manage queues for every network element (BeanDevice®). As a gateway, it controls the external access to the network through a highly secured authentication
procedure. It supports the conversion of data exchanged, compression and IP connectivity with the network thereby reducing the intelligence required in these platforms, maintenance and therefore the associated cost.
The BeanGateway® Modbus is also equipped with various communication interfaces with the customers IT infrastructure (Modbus over RS232/RS485, Modbus TCP, Ethernet - TCP / IP / UDP / DHCP / DNS).

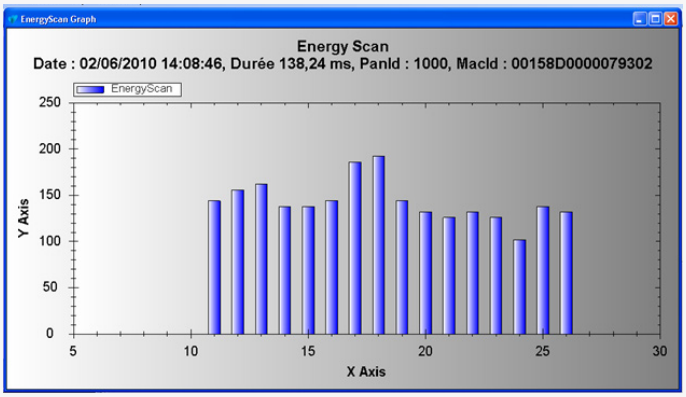


//ADVANCED UNINTERRUPTIBLE POWER SUPPLY (UPS)

The BeanGateway® Modbus operates with an external power supply (DC 8-28V). An integrated rechargeable battery witha capacity of 950mAh is used as an UPS battery (uninterruptible power supply). The internal battery provides instantaneous protection from external power supply interruptions, the wireless sensor network activity & Ethernet LAN activity are maintained during this time (3h00 to 3h30 approximately). An internal buzzer emits a beep sound every 2 seconds in case the external power supply is disconnected.



//EMBEDDED WSN DIAGNOSTIC TOOL



The BeanGateway® Modbus provides a WSN diagnotic tool useful for resolving some common networking troubleshooting :

- Energy Scan for choosing the more appropriate RF Channel
- BeanDevice® PER (Packet Error Rate) calculation
- LQI (Link Quality Indicator) between the BeanGateway® Modbus and the BeanDevice®

//AUTONOMOUS AND SMART

The BeanGateway® Modbus has the capability to backup the WSN mapping & context. Thus the user can operate the WSN without any use of PC or IT server. All the data measurements are stored on an external Memory (Micro-SD® card).

Product reference	
BGTW-ETH-MODIP-IND	BeanGateway Ethernet & Modbus TCP/IP
BGTW-ETH-MODRS485-IND	BeanGateway Ethernet, ModBus Modbus TCP/IP & Modbus ASCII/RTU over RS485
BGTW-ETH-MODSERIAL-IND	BeanGateway Ethernet, ModBus Modbus TCP/IP & Modbus ASCII/RTU over RS485 & RS232

Specifications	Wireless Sensor Network Coordinator
Wireless Stack	IEEE 802.15.4
WSN Topology	Peer-to-peer/ Star
Raw data rate Raw data rate	250 Kbits/s
RF Characteristics	ISM 2.4GHz – 16 Channels
RF Transmit power	Configurable transmit power: +0.5 dBm to +20 dBm
Receiver sensitivity	-95.5 dBm to -101 dBm
Encryption	AES 128 bits (integrated AES coprocessor)
Maximum Radio Range	1 km (L.O.S.)
WSN Diagnostic tool	• Energy Scan for choosing a suitable RF Channel
	• BeanDevice® PER (Packet Error Rate) calculation
	• LQI (Link Quality Indicator) between the BeanGateway® and the BeanDevice®
	• RF channels Blacklist

Specifications	Ethernet/LAN Network
Network/Transport Protocol	Client TCP/IP, UDP, DNS, DHCP
Data Link Protocol	Ethernet / Fast-Ethernet with auto-uplink (MDI/MDI-X auto) - IEEE 802.3x
IP Addressing	Dynamic (DHCP) or static
IP configuration	LAN parameters (DNS, DHCP, Keep Alive…) are configurable from the BeanScape® (RS232 Interface or UDP/Ethernet Interface).

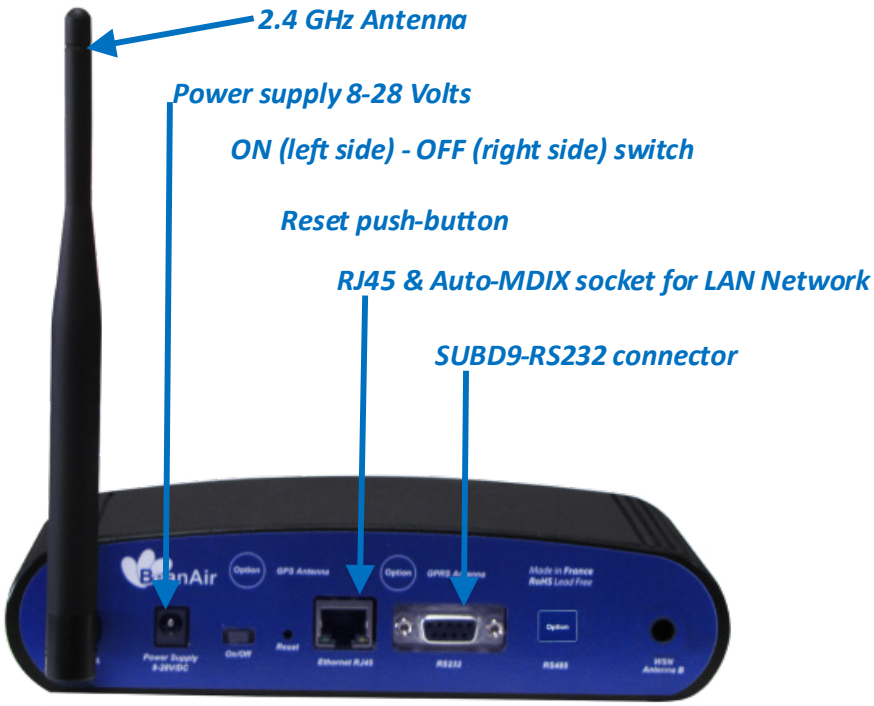
Specifications	ModBus Serial
ModBus over RS232	Slave, RTU/ASCII, Baudrate: Between 4800 bauds to 115 200 bauds
ModBus over RS485	Slave, RTU/ASCII, Baudrate: Between 4800 bauds to 115 200 bauds
	Logic selectable 120 Ohm termination

Specifications	Power Supply
Power Consumption	250 mA to 300 mA during wireless RX/TX and Ethernet activated
External power supply	+9V to +28 V , integrated Lithium-Ion battery charger with high-precision battery monitoring
Integrated Lithium-Ion Battery	Lithium-Ion rechargeable battery 950 mAh (reference BAT0.95DMG)
	In case of external power supply failure, the BeanGateway® can switch on the internal battery.

Specifications	Physical & Environmental
Dimensions (L x l x h)	200 mm x 88 mm x 48 mm
Enclosure/Finish	• Polycarbonate Enclosure- Protection ULV94/Getex
	• Provided with wall mounting kit
Weight	370g
Operating temperature	-20 °C to +65 °C – with Integrated internal temperature sensor (resolution 0.125°C)
Norms	CE Labeling directive R&TTE (Radio) , ETSI EN 300 328 , ROHS- Directive 2002/95/EC, FCC Part 15

Specifications	Accessories
2.4 GHz Antenna	• High gain antenna 5 dBi
	• V.S.W.R : 1.5 :1
	• Connector : RPSMA
Ethernet Cable	• RJ45 Male
	• Cable length: 2 meters
Wall plug-in power supply	Wall plug-in, Switchmode power Supply 12V @ 1.25A

//BEANGATEWAY REAR VIEW



Product specifications are subject to change without notice. Contact Beanair for latest specifications.

//CONTACT US

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