BeanAir
WIRELESS IIOT SENSORS

2.4 GHz

BeanGateway 2.4GHz Outdoor

Wireless IIOT Sensors Coordinator Outdoor-Version | Ethernet Link

PRODUCT VIDEO

USER GUIDE

MECHANICAL DRAWING

STEP FILE

2year Warranty

MADE IN GERMANY

CE · FC · ℝ 001A-08148

142 mm
55 mm
202 mm

MAIN FEATURES

- **IP67** • Waterproof (IP67) & Robust Aluminum Enclosure
- • Wireless technology IEEE 802.15.4
- • Auto-Reboot : Periodic reboot at a specified time interval
- • Ethernet/LAN interface with a server
- • Advanced UPS (Uninterruptible power supply) with integrated rechargeable Lithium battery

HOW DOES IT WORK ?

BeanScape

BeanAir
Rethinking Sensing Technology

Wireless IIOT Sensors Cloud
(IEEE 802.15.4)

BeanGateway
2.4GHz Outdoor Version

BeanAir
WIRELESS IIOT SENSORS
IIoT

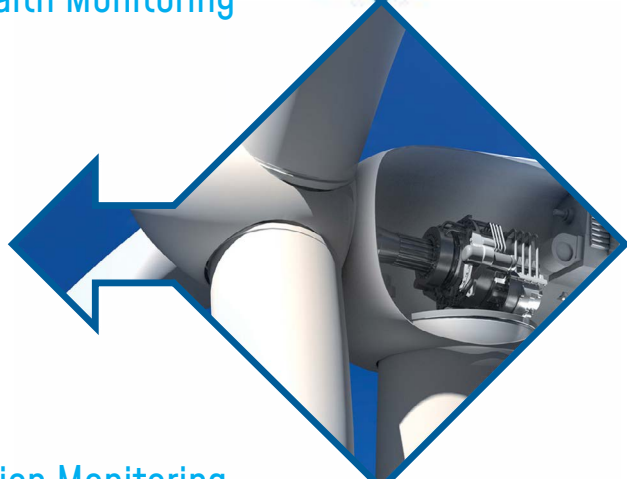**BeanGateway** OUTDOOR

APPLICATIONS

2.4 GHz

Test and Measurement

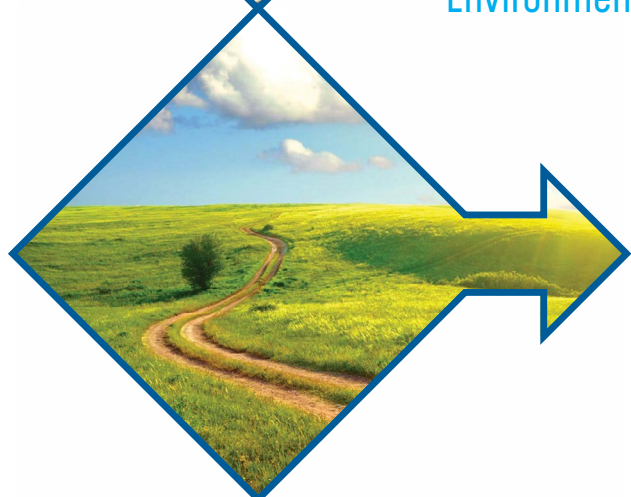Structural Health Monitoring

Condition Monitoring
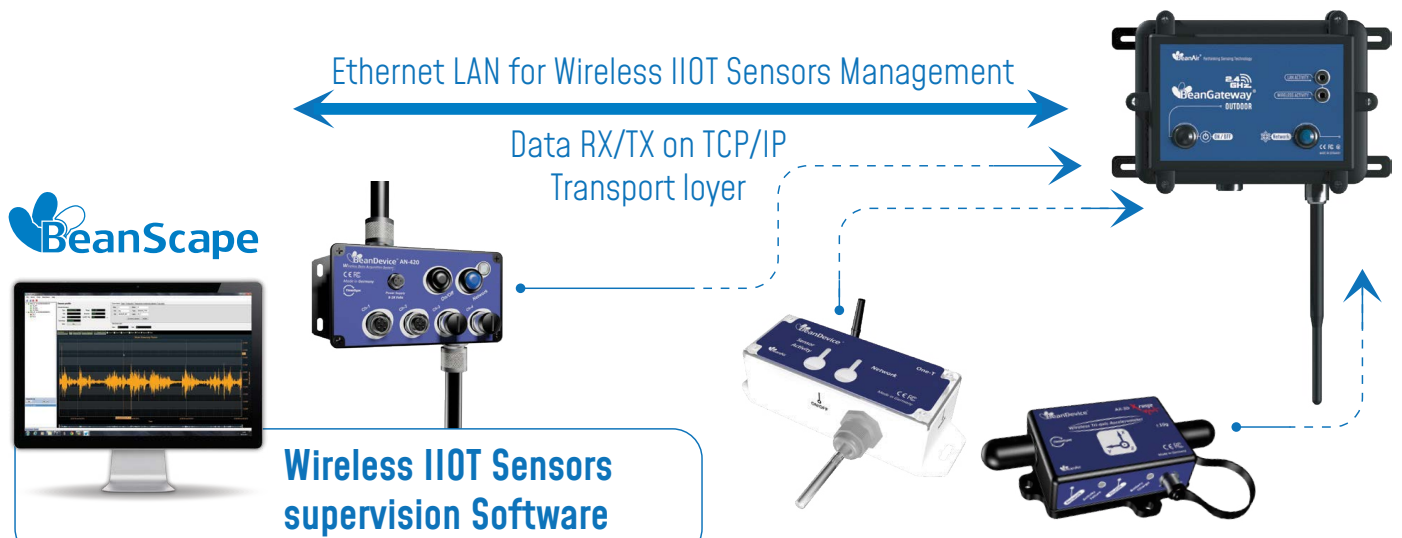
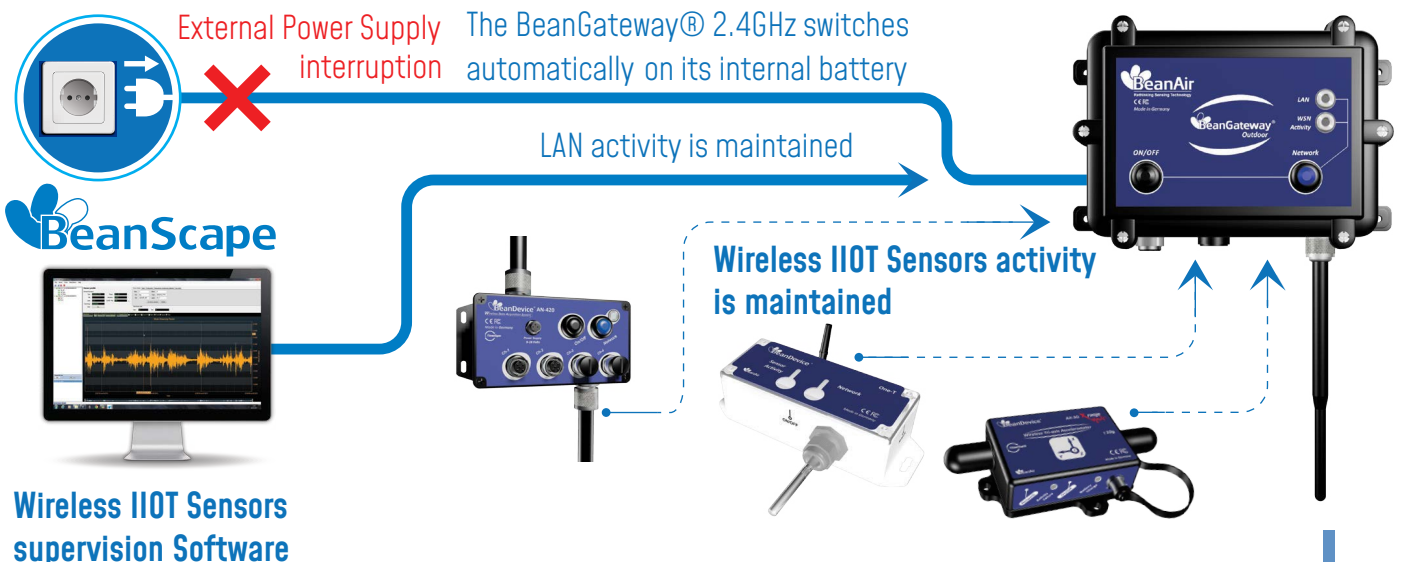Ground Vibration Monitoring

Environmental Monitoring

Land Surveying

A MULTI-PROTOCOL WIRELESS IIOT SENSORS COORDINATOR

The BeanGateway® 2.4GHz Ethernet is used to build and manage Beanair® wireless IIOT sensors. It can manage queues for every network element (BeanDevice® 2.4GHz). 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® 2.4GHz Ethernet is also equipped with various communication interfaces with the customers IT infrastructure (RS232, Ethernet - TCP / IP / UDP / DHCP / DNS). With a client application TCP / IP, it can easily connect to a local application server (via the Ethernet) .
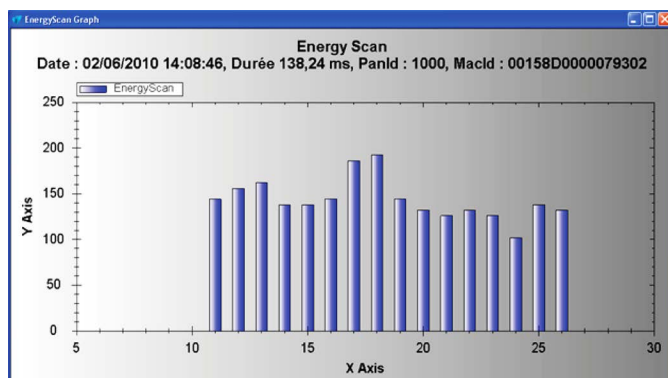

Ethernet LAN for Wireless IIOT Sensors Management

Data RX/TX on TCP/IP
Transport loyer

BeanScape

Wireless IIOT Sensors supervision Software

ADVANCED UNINTERRUPTIBLE POWER SUPPLY (UPS)

The BeanGateway® 2.4GHz Ethernet operates with an external power supply (DC 8-28V). 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 wireless IIOT sensors activity & Ethernet LAN activity are maintained during this time (3h00 to 3h30 approximately).

External Power Supply interruption

The BeanGateway® 2.4GHz switches automatically on its internal battery

LAN activity is maintained

BeanScape

Wireless IIOT Sensors activity is maintained

Wireless IIOT Sensors supervision Software

EMBEDDED WIRELESS IIOT SENSORS DIAGNOSTIC TOOL

The BeanGateway® 2.4GHz Ethernet provides a wireless IIOT sensors diagnostic tool useful for resolving some common networking troubleshooting :
• Energy Scan for choosing the more appropriate RF Channel
• BeanDevice® 2.4GHz PER (Packet Error Rate) calculation
• LQI (Link Quality Indicator) between the BeanGateway® 2.4GHz and the BeanDevice® 2.4GHz

The Energy Scan allows the user to know the network quality on each Radio channel. This operation allows the user to choose the appropriate RF channel on a site where the wireless IIOT sensors is deployed.

TECHNICAL SPECIFICATIONS

PRODUCT REFERENCE
BGTW-2.4GHZ-ETH-OUT

WIRELESS SENSOR NETWORK COORDINATOR	
Wireless Technology	Ultra-Power and license-free 2.4Ghz radio technology (IEEE 802.15.4E)
WSN Topology	Peer-to-peer/ Star
Raw data rate	250 Kbits/s
RF Characteristics	ISM 2.4GHz – 16 Channels
RF Transmit power	+18 dBm
Receiver sensitivity	-104 dBm
Maximum Radio Range (In Transmission Mode)	1 km (Line of Sight) , 70-150m (Non Line of Sight)
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

TECHNICAL 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® (UDP/Ethernet Interface).

POWER SUPPLY	
Power Consumption	250 mA to 300 mA during wireless RX/TX and Ethernet activated
External power supply	8-28 VDC , integrated Lithium-Ion battery charger with high-precision battery monitoring
Integrated Lithium-Ion Battery with UPS function	Lithium-Ion rechargeable battery 950 mAh (reference BAT0.95DMG) In case of external power supply failure, the BeanGateway® can switch on the internal battery

PHYSICAL & ENVIRONMENTAL	
Dimensions (L x l x h)	202 mm x142 mm x 55 mm
Enclosure/Finish	· Aluminum alloy ADC12 black finish · Wall mounting holes (outside the sealing area)
IP Ratings	IP67
Weight	1220g
Connectors	· Power supply connector: M8-3P female socket, Ratings IP67, Contact brass with gold plated · Ethernet connector : RJ45 Female, Ratings IP67, Contact copper alloy with gold plated · Antenna connector: N-Type female, Ratings IP67 · ON/OFF push button : Latching push-button, Ratings IP67 · Network context push button: momentary push-button, Ratings IP67
Operating temperature	-40 °C to +60 °C
Norms and Radio Certifications	• CE Labelling Directive R&TTE (Radio) ETSI EN 300 328 • FCC (North America) • ARIB STD-T66 Ver 3.6 • ROHS - Directive 2002/95/EC

TECHNICAL SPECIFICATIONS

INCLUDED ACCESSORIES	
Waterproof 2.4 GHz Antenna	High gain antenna 5.5 dBi · V.S.W.R : 1.5 :1 · Connector : N-Type (Waterproof)
Ethernet Cable	· RJ45 Male waterproof connector (casing side only) · Cable length: 3 meter
Wall plug-in power supply	Wall plug-in, Switchmode power Supply 12V @ 1,25A Ref: M8-PWR-12V
Connectors cap	M8-3P cap
Wall mounting	Wall mounting kit, 4 pcs

OPTIONAL ACCESSORIES	
M8 extension cable for external power supply	Molded cable with M8-3pins male plug Material: PVC with shield protection IP Rating : IP67	Nema 6 Cable length: 2 meters , Ref: CBL-M8-2M Cable length : 5 meters, Ref: CBL-M8-5M Cable length: 10 meters, Ref: CBL-M8-10M
Antenna cable	N-Type cable (Male/Male), Cable type: RF-5/H155 Cable length: 1 meter, Ref: CBL-ANT-1M Cable length: 2 meters, Ref: CBL-ANT-2M Cable length: 3 meters, Ref: CBL-ANT-3M Cable length: 5 meters, Ref: CBL-ANT-5M Cable length: 10 meters, Ref: CBL-ANT-10M
High Gain antenna option	High Gain Omnidirectional antenna Frequency range 2400-2500MHz VSWR < 1.4, Impedance 50 Ohm, Polarization Vertical Vertical plane 24°(7dBi Gain version) 16°(9dBi Gain version) 6°(12dBi Gain version), Horizontal plane 360° Connector N female, Wind load (170km/h) 7.3N Included: N-Type cable (Male/Male), length: 1 meter Gain: 7dBi, Dimensions 360mm x 23mm, Weight 0.44 kg Ref: HG-OMNI-OUT-7DBI Gain: 9dBi , Dimensions 540x23 mm, Weight 0.61 kg Ref: HG-OMNI-OUT-9DBI Gain: 12dBi , Dimensions: 1125mm x 19 mm, Weight 1.06 kg Ref: HG-OMNI-OUT-12DBI

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WIRELESS IIOT SENSORS

IoT

BeanGateway OUTDOOR

2.4 GHz

OVERVIEW BEANGATEWAY® 2.4GHZ OUTDOOR

ON/OFF push button

TCP/IP Network
Reset push button

BeanGateway®
2.4GHz ETHERNET VERSION|OUTDOOR

LAN Activity Led

WSN Activity Led

Waterproof RJ45 Connector

Power supply 8-28VDC

Waterproof N-Type Antenna

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