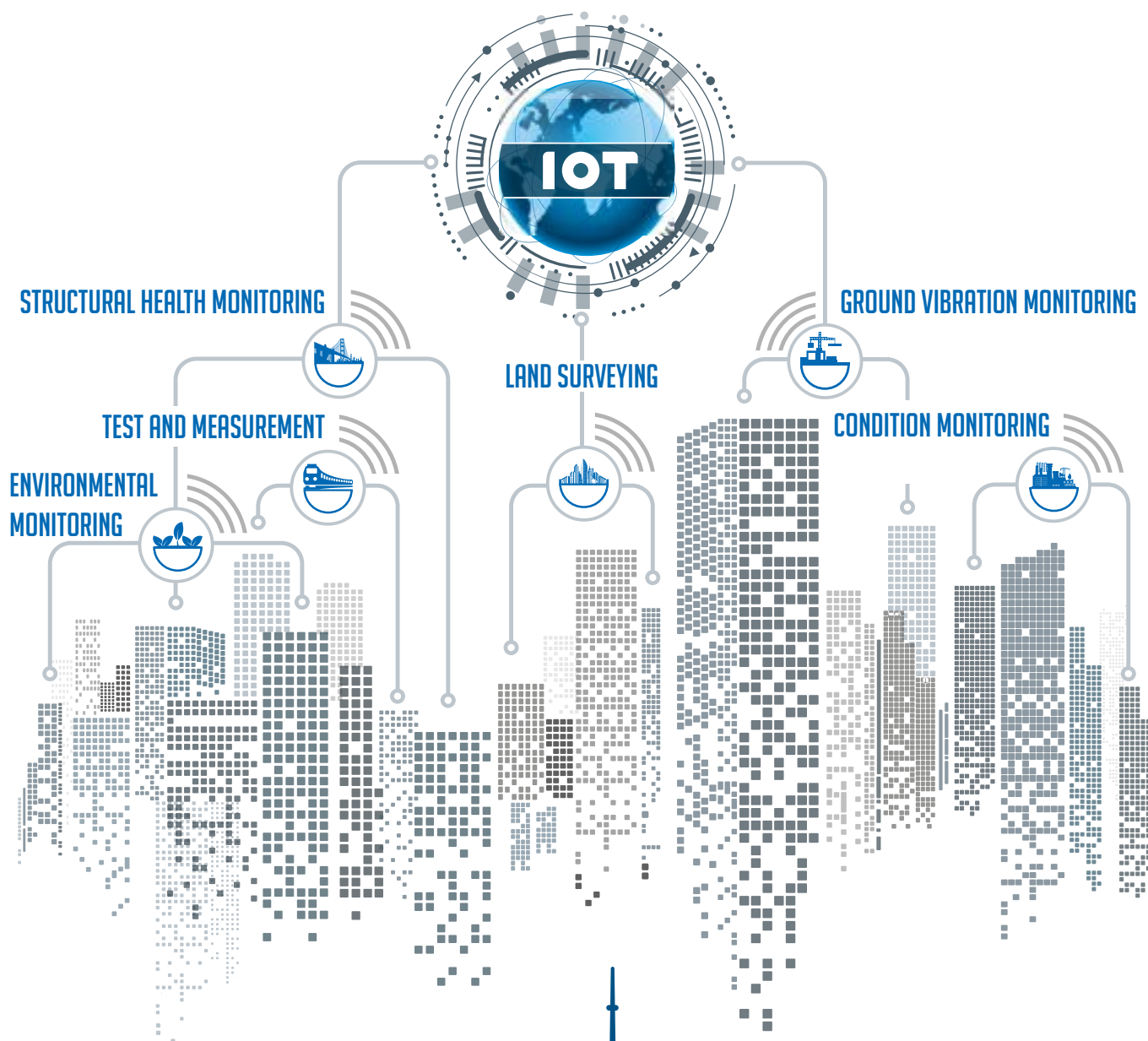


PRODUCTS CATALOG



READY FOR
INDUSTRIAL INTERNET
OF THINGS ?



MADE IN GERMANY



WIFI AND 2.4GHZ WIRELESS IOT SENSORS

HEADQUARTER

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Berlin - Germany

WEBSITE

www.beanair.com

BLOG

www.temperature-screening.com

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Recent developments in sensor technology, especially when wireless technology is considered, have opened up new gates in terms of health monitoring and preemptive fault detection.

To meet these new challenges, BeanAir®, a leading German company in sensing technology, designs and manufactures smart, rugged and open-standard wireless IOT sensors.

BeanAir® Wireless IOT sensors constitute an outstanding technology for various applications : Structural Health Monitoring, Test and Measurement, Land Surveying, Condition Monitoring, Environmental Monitoring ...

Furthermore, the high level of versatility, performance, and reliability of its wireless IOT sensors, in addition to a worldwide presence thanks to effective system integrators partners, Beanair® has acquired an international outreach and continues to maintain a strong reputation with major customers in numerous sectors.



www.temperature-screening.com



WWW.BEANAIR.COM



www.youtube.com/user/BeanairSensors



www.facebook.com/BeanAir



www.twitter.com/beanair



STRUCTURAL HEALTH MONITORING

The recent developments in sensor technology, especially when wireless technology is considered, have opened up new gates in terms of health monitoring and preemptive fault detection.

BeanAir®'s wireless sensor technology offers great reliability, versatility, maintainability and easy to deploy technology

GROUND VIBRATION MONITORING

Monitoring and control of ground and structural vibrations provide the rational to select measures for prevention or mitigation of vibration problems.

Discover how our wireless vibration sensors can provide a great flexibility in terms of deployment and performances.



CONDITION MONITORING

BeanAir® offers the ideal solution to your needs in terms of measurement and instrumentation to improve equipment energy efficiency and get better knowledge about equipment availability.

ENVIRONMENTAL MONITORING

Beanair provides a wireless IOT sensors system perfectly adapted to any environmental need:

- Autonomous wireless sensors (ultra low battery consumption with an autonomy than can go up to 7 years)
- Various information transmission protocols
- Data acquisition and storage device
- Wireless IOT sensors supervision and monitoring software



TEST AND MEASUREMENT

Offer a True Flexibility to your Testbench !

BeanAir technology offers solutions for rolling stock, naval and aeronautic manufacturer in terms of test and measurement, aiming at reducing costs related to test bench.

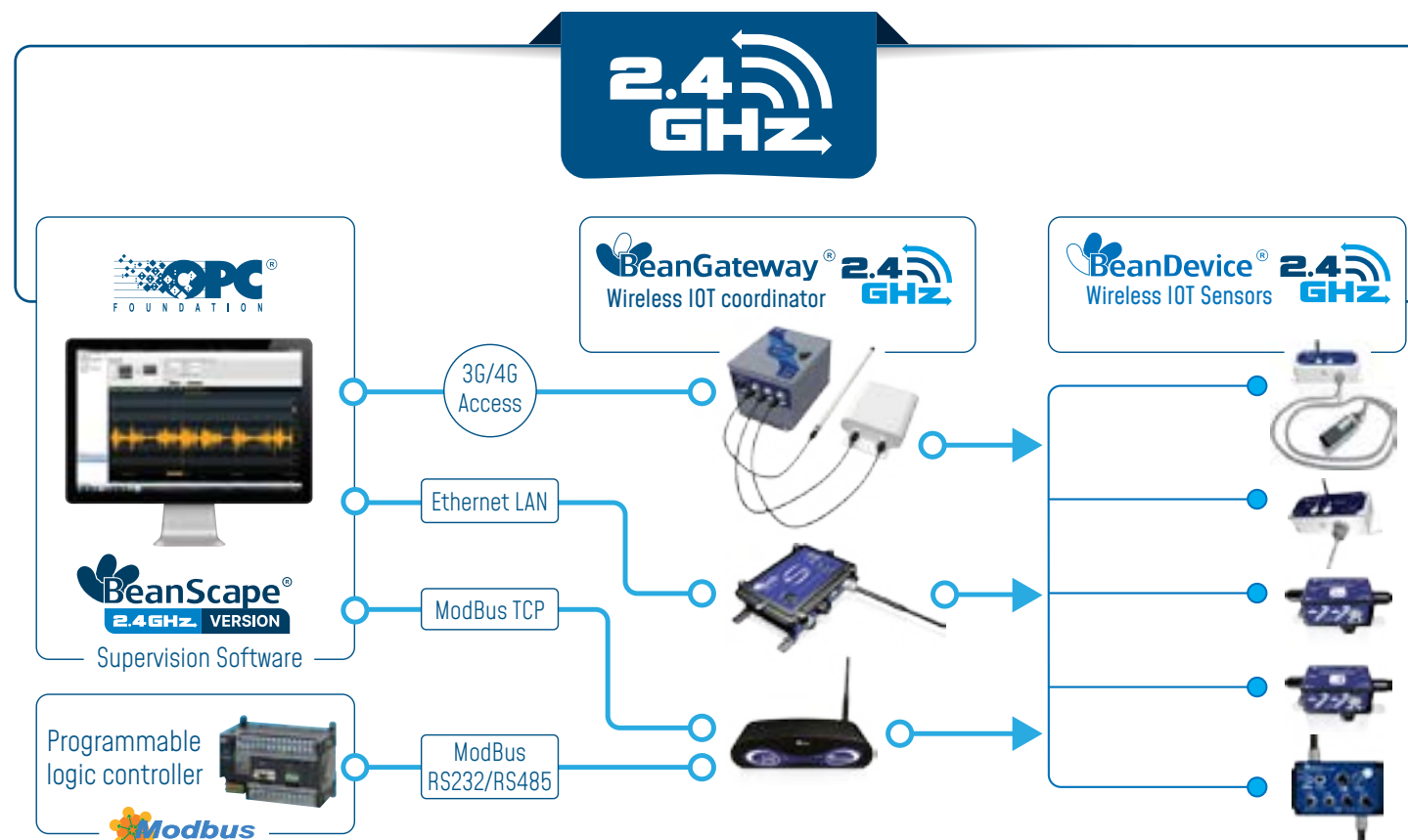
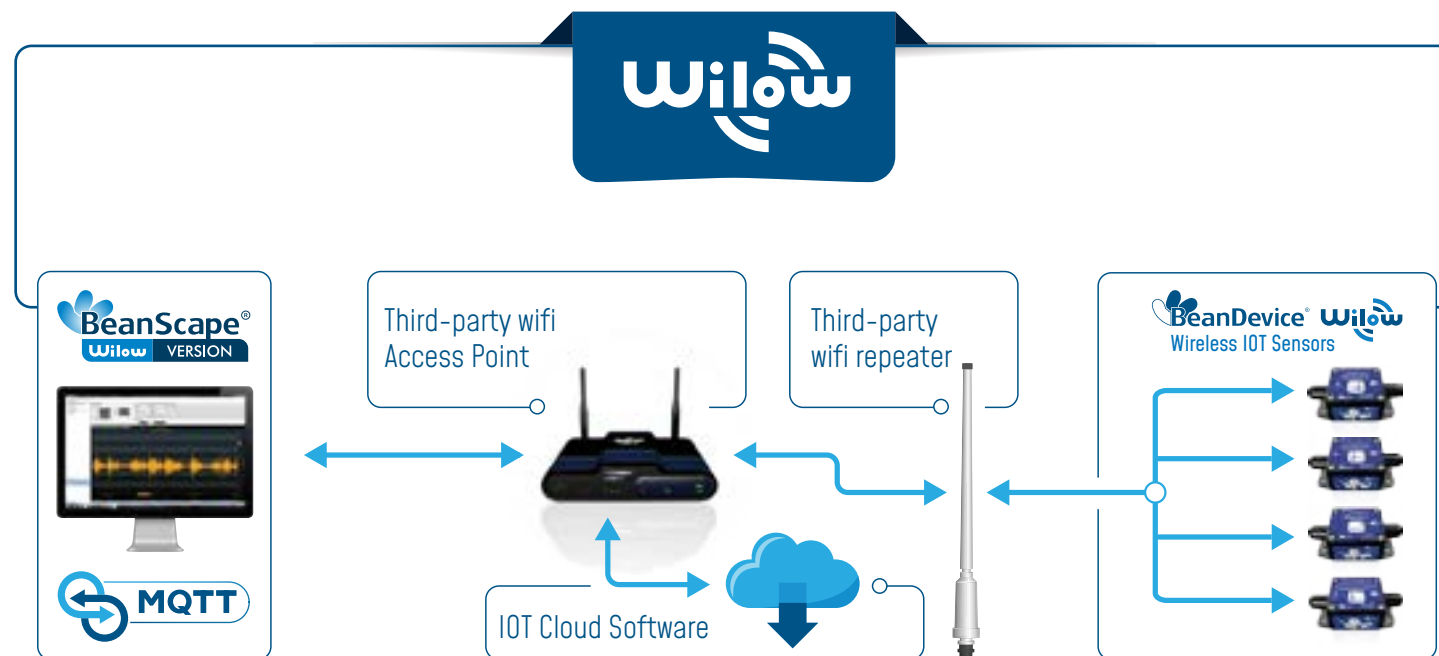
LAND SURVEYING

Surveying and land surveying is the measurement and mapping of our surrounding environment using mathematics, specialized technology and equipment.

Discover how Beanair provides field-proven and cost-effective wireless IOT sensors for land surveying.



FINDING THE WIRELESS SENSOR FITTING YOUR APPLICATION



COMPARISON TABLE

Wireless range in Line-of- Sight (L.O.S.) and Non Line-of-Sight (NLOS)	200 m in L.O.S. 20-50 m in N.L.O.S. Wireless range can be extended by adding WIFI bridge/repeaters	500 m in L.O.S. 30-100 m in N.L.O.S
Wireless Technology	IEEE 802.11 b/g/n @2.4GHz	2.4GHz wireless based on IEEE 802.15.4E
Open Standard or proprietary protocol	Open-Standard protocol	Proprietary Protocol
Need a specific Wireless Network Coordinator (Gateway) ?	✗	✓
Low Power	++	++++
Network Aggregation capacity	✓✓✓	✓
Available sensors/DAQ	Vibration & Peak Particle Velocity, shock, Inclinator	temperature, IR temperature, humidity, dew point, Vibration & Peak Particle Velocity, shock, inclinometer, analog DAQ [4-20mA, ±20 mV, ±5V, ±10V]
IOT Ready (MQTT protocol)	YES. Free source codes available in C#, Labview, Android and NodeRed	✗
Energy Harvesting (Solar power supply)	✓	✗
USB Link	USB 2.0	✗
USB power supply	✓	✗
Easy Firmware update	USB and Wifi	✗
Store and Forward+	✓	✗
Clock- synchronization	±30 ms	±2.5 ms
Encryption on Wireless Link	WEP, WAP, WAP2	✗
Wakeup function	Timer and Shock detection	Timer

OPEN-STANDARD WIFI SENSORS FOR INDUSTRIAL INTERNET OF THINGS

Until now, WIFI technology was extremely energy greedy and unreliable. Users working on Structural Health Monitoring (SHM) and condition monitoring were more favorable to deploy proprietary wireless IIOT sensors offering a better reliability and a low power operation.

Thanks to more than 12 years of experience in sensing technology and wireless IIOT sensors, our research and development team worked intensively with our customers to bring out WiLow® (Wifi Low Power) technology, a new generation of WIFI IIOT sensors (vibration, inclination and shock) which is reliable, ultra-low power, open-standard and adapted to dynamic data acquisition.

WILOW® SENSOR SERIES DEPLOYMENT



Discover how WiLow® IOT sensors revolutionize sensing technology by bringing outstanding features:

MAIN FEATURES

- ULP (Ultra Low Power) Wifi Technology - IEEE 802.11 b/g/n (2.4 Ghz frequency band)
- Embedded Data Logger: up to 5 million data points (with events dating)
- Over the Air Firmware Upgrade via WIFI.
- SSD (Smart Shock Detection), Wilow® sensor can wakeup on shock detection (software configurable)
- Onboard SNTP (Simple Net Time Protocol) Client with ±30ms of precision
- Solar Power Supply (option)
- Rugged aluminum casing Waterproof IP67/NEMA 6
- USB 2.0 for device configuration (including firmware update)
- Store and Forward+: Lossless data transmission with hard real-time
- Industrial temperature range -40 °C to +65 °C
- SSL/TLS Encryption over MQTT Data exchange
- Integrated MQTT Data exchange with SSL/TLS Encryption. A lightweight and open-standard Internet of Things protocol.

By connecting **WILOW®** IOT Sensors to existing WIFI infrastructure, user can benefit from a rapid return on investment:

- Lower total cost of ownership-works
- Large installed base and consequent broad-based familiarity with configuration, use and troubleshooting at the physical and link layers
- Easy provisioning & IT friendly: **WILOW®** IOT sensors use IP-over-Ethernet networking environment



GET READY FOR INDUSTRIAL INTERNET OF THINGS (IOT)

Ready for Industrial Internet of things (IOT) applications, Wilow® sensors integrate natively MQTT (Message Queuing Telemetry Transport) data frame, a lightweight and open-source (OASIS & ISO/IEC 20922:2016 standards) Internet of Things protocol. MQTT is based on publish/subscribe paradigm, therefore user can easily connect, configure and manage several Wilow® sensors at the same time from a unique IOT software platform. Users looking for a high level of security can count on a mechanism to notify interested parties to an abnormal disconnection of a client using the Last Will and Testament feature. No need to spend several months to develop a specific and complex supervision software, user can easily integrate Wilow® sensors in a third-party IOT Cloud platform (Amazon web services, IBM Watson, Microsoft Azure, Facebook Messenger, Alibaba Cloud....). Non-developer users can still use the BeanScape® software to setup a quick and affordable Wifi sensor network.

Industrial Internet of things



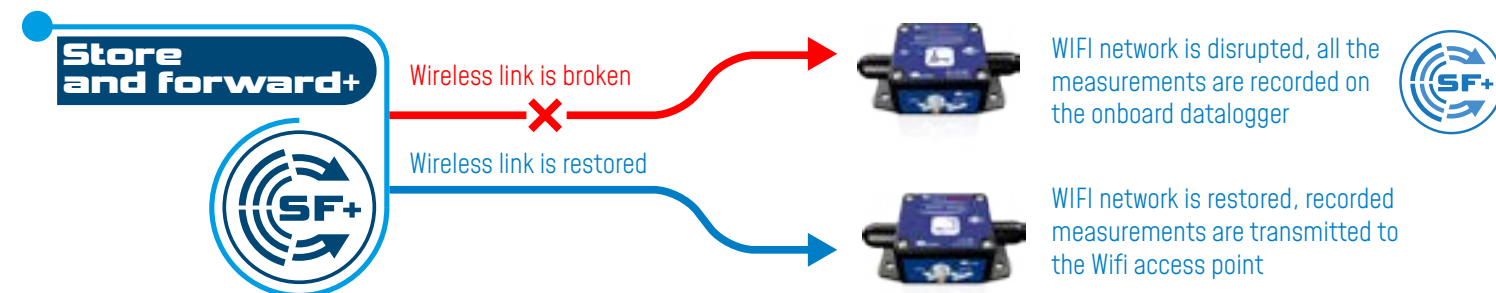
TRIGGER DATA ACQUISITION ON SHOCK DETECTION

Thanks to our Smart Shock Detection (SSD) technology, Wilow® IOT sensors wakes up on a shock detection and starts immediately data acquisition and real-time wireless transmission. Unsolicited wakeup can be avoided by configuring both shock threshold (up to 16g) and a delay timer. User will spend less time to analyze data acquisition as both data recording & wireless transmission start when a shock threshold is reached. Battery life can be extended as Wilow® sensors are most of the time in sleep power mode.



RELIABLE WIFI TECHNOLOGY THANKS TO OUR "STORE AND FORWARD+" FUNCTION

The **store and forward** technique operates by storing the message transmitted by Wilow® IOT sensors to a WIFI access point/ WIFI receiver. If the message is not received due to a network disruption, it will be retransmitted on the next transmission cycle. This technique allows to bring a lossless data transmission

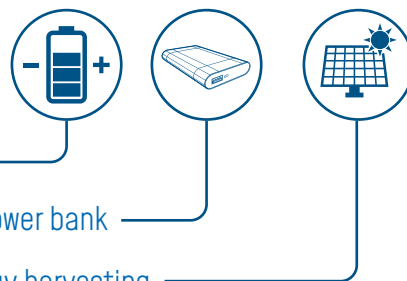


SMART AND FLEXIBLE POWER SUPPLY

Wilow® IOT sensors can be power supplied from different power sources :



- ← Internal rechargeable Lithium-Polymer battery (750 mAh)
- ← USB 5VDC power supply, compatible with any kind of USB power bank
- ← Auxiliary power supply 6-24VDC compatible with solar energy harvesting



OPTIONAL ACCESSORIES AND SERVICES



X-SOLAR | STAND-ALONE SOLAR POWER SYSTEMS

High efficiency Solar Panel with Solar Charging Controller and Lead-acid battery

REF · X-SOL-WILOW-12AH-20W-4CH-5V-CL



SOLAR PANEL | 3W - 5W

Polycrystalline Solar Panel for BeanDevice® Wilow® power supply

REF · WL-SLP-3W | REF · WL-SLP-5W



MECHANICAL MOUNTING OPTIONS

By default, the BeanDevice® Wilow® comes with a screw mounting lid. Two other mounting options are available

A RUGGEDIZED OUTDOOR IOT GATEWAY FOR YOUR MONITORING SITE



The **Wilow® IOT Gateway** is a ruggedized outdoor (IP66) IOT gateway designed for Harsh Industrial Environment. It supports both WIFI and 3G/4G/LTE wireless protocols and allows a very easy connection to our **Wilow® IOT sensors**.

Thanks to WDS (Wireless Distribution System, only available on Mains Power version) function, a wireless bridging with other WIFI Bridges/Repeaters can be configured for a better wireless network coverage. The combination of MQTT protocol and 4G connectivity enables effortless data transmission from the sensor to the cloud.

The **BeanScope® Wilow® RA**, a supervision software dedicated to IOT sensors with remote access feature, can display in real-time all the collected data from the monitoring site. Provided with high gain outdoor antennas (12dBi for LTE, 9dBi for WIFI), the connection will be secured from the wireless IOT sensor to the remote supervision software.

The **Wilow® IOT Gateway** can be powered from an external AC Power supply

(90 ~ 264VAC) with UPS Battery or solar power supply. The internal Lead-acid battery provides instantaneous protection from external power supply interruptions, the wireless network activity is maintained during this time.

IOT GATEWAY WITH 4G CONNECTIVITY DEDICATED TO WILLOW® SENSORS

IOT Gateway with 4G connectivity dedicated to **Wilow®** sensors:

- Remote access to monitoring site thanks to the integrated 3G/4G/LTE Router (4G Connectivity CAT4 up to 150 Mbps) and the built-in MQTT broker
- WIFI connectivity (IEEE 802.11 b/g/n) 2.4GHz
- WDS (Wireless Distribution System) with WIFI AP/ Station/Bridge network configuration
- Robust, Waterproof (IP67) and High Gain antennas:
 - 3G/4G/LTE antenna (2x2 MIMO) with 12dBi of Gain
 - 2.4GHz antenna with 9dBi of Gain
- UPS Battery (Lead Acid Battery 12Ah)
- Ruggedized and watertight (IP66 | Nema 4) steel casing (LxWxh: 65x59x35mm, 9.8 Kg) with anti-theft protection
- Certifications for European Market (CE), North America (FCC) and Japan (Giteki)
- Industrial operating temperature (-15°C to +50°C)

APPLICATIONS

The **Wilow® IOT GATEWAY 4G** is the right solution for different monitoring applications:

- Structural Health Monitoring.
- Land Surveying.
- Industrial Applications
- Ground vibration monitoring on construction site.

Important: **BeanScope® Wilow® RA** is needed for Remote Access



BeanDevice® 2.4GHz



Wireless IOT Sensors with integrated data logger

The **BeanDevice®** is a wireless sensor/DAQ providing a real-time wireless transmission and a high capacity data logger with low power operation.

The **BeanDevice®** can be used for both dynamic and static measurement.

BeanGateway® 2.4GHz






Wireless IOT Sensors Coordinator

The **BeanGateway®** is used to build **BeanAir®** Wireless IOT Sensors.

It can manage queues for every **BeanDevice®**, conversion of data, compression and IP connectivity with the network, reducing the intelligence required in these platforms and the associated cost. It controls external access through a secured authentication procedure.



SmartSensor | WIRELESS ACCELEROMETER SELECTION GUIDE

Main Features	BeanDevice® AX-3D	BeanDevice® AX-3DS	BeanDevice® AX-3D X-Range
			
Measurement Range	±2g or ±10g	±2/4/8g or ±6/12/24g	±2g or ±10g
Spectral noise density@ BW 10Hz	±2g Version : 45 µg/√Hz ±10g version: 100 µg/√Hz	24G Version: 650 µg/√Hz 8G Version: 218 µg/√Hz	±2g Version : 45 µg/√Hz ±10g version: 100 µg/√Hz
Applications	Vibration Monitoring	Shock, Impact and vibration monitoring	High-Accuracy Vibration Monitoring
Maximum wireless Range (L.O.S. and N.L.O.S.)	500 m in L.O.S 30-100 meters in N.L.O.S		
Maximum sampling rate per channel (SPS—sample per second)	1660 SPS	1000 SPS	1000 SPS
Available Measurement mode	Low Duty Cycle 1s to 24h Streaming	Low Duty Cycle 1s to 24h Smart Shock Detection (SSD) Streaming	Low Duty Cycle 1s to 24h Streaming
Data Logger Size	1 million logs		8 million logs
Internal Battery	Lithium-Polymer battery 1250mAh		Lithium-Polymer battery 2100mAh
Mounting option	Adhesive Mounting		Screw Mounting Magnetic Mounting
Casing	Waterproof IP67 aluminum enclosure Dimensions in mm (LxWxH): 80x55x36 Weight : 155g		Waterproof IP67 Aluminum enclosure , Dimensions in mm (LxWxH): 100 x 71 x 38 Weight : 225g (screw mounting) 252g (magnetic mounting)



SmartSensor | WIRELESS INCLINOMETER SELECTION GUIDE

Main Features	BeanDevice® INC	BeanDevice® HI-INC	BeanDevice® HI-INC X-Range
			
Measurement Range	±30° or ±90°	±15° or ±30°	±15° or ±30°
Sensor Technology	Bi-Axis Inclinometer		
Sensor Resolution	±0.0025°	±0.001°	
Noise spectral density DC to 100 Hz	0.0008 °/√Hz	0.0004 °/√Hz	0.0004 °/√Hz
Sensor repeatability (full scale @25 °C)	±0.1°	±0.005° for bi-axis ±15° version ±0.006° for bi-axis ±30° version	
Maximum wireless Range (L.O.S. and N.L.O.S.)	500 m in L.O.S 30-100 meters in N.L.O.S		
Data Logger Size	1 million logs		8 million logs
Internal Battery	Lithium-Polymer battery 950mAh		Lithium-Polymer battery 2200mAh
Mounting option	Adhesive Mounting		Screw Mounting Magnetic Mounting
Casing	Waterproof IP67 aluminum enclosure Dimensions in mm (LxWxH) · 80x55x36 Weight · 155g		Waterproof IP67 Aluminum enclosure , Dimensions in mm (LxWxH) · 100 x 71 x 38 Weight · 225g (screw mounting) 252g (magnetic mounting)



SmartSensor

OPTIONAL ACCESSORIES AND SERVICES

X-SOLAR | HIGH EFFICIENCY SOLAR PANEL WITH SOLAR CHARGING CONTROLLER AND LEAD-ACID BATTERY



REF : X-SOL-WILOW-12AH-20W-4CH-5V-CL

Input voltage solar cell panel: 14-30VDC
 Nominal input voltage: 12VDC
 Number of output voltage: 4
 Output Voltage: 4VDC or 12VDC
 Battery Capacity: 12Ah
 Dimensions: 202 mm x 142 mm x 55 mm
 IP Rating: Waterproof IP66 | NEMA 6
 Weight: 8 kg



X-SOLAR

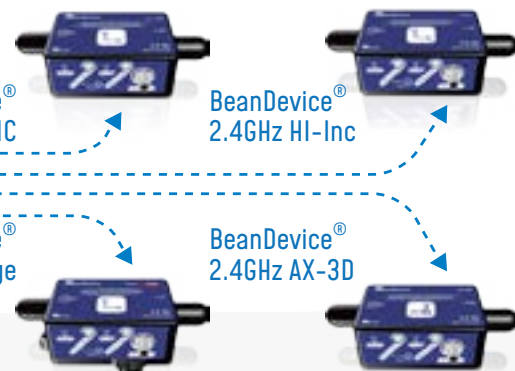


BeanDevice®
2.4GHz INC

BeanDevice®
2.4GHz HI-INC

BeanDevice®
2.4GHz HI-INC Xrange

BeanDevice®
2.4GHz AX-3D



PRIM-XTEND | REF : PRIM-XTEND

Waterproof IP67 battery box for long-term monitoring applications

- Battery Pack with 3 x C size primary cell, Li-SOCL2 Lithium Primary cell 3.6VDC Type [Ref : ER26500M]
- Suitable for BeanDevice® INC/HI-INC Xtender version [-XT extension in product reference]
- Waterproof [IP67] aluminum casing with 4 x eyelets for screw mouting
- Waterproof M8 plug , cable length : 2 meters, 5 meters and 10 meters
- Dimensions [with eyelets] : 155 x 80 x 40 mm
- Weight : 700 g



ProcessSensor

WIRELESS IOT DATA ACQUISITION (DAQ) INSTRUMENT

Voltage inputs (±5V or ±10V)
built-in datalogger

4-20mA (current loop) inputs
built-in datalogger

Low voltage inputs (±20mV)
built-in datalogger

Main Features	BeanDevice® AN-420	BeanDevice® AN-V	BeanDevice® AN-mV
Measurement Range	4-20mA	±5V or ±10V	±20mV
Sensor Technology	Industrial sensors with 4-20mA output	Sensors with single-end or differential voltage output	Strain gage sensors (full bridge) Load Cell, Pressure sensor
Measurement Repeatability [full scale, @ 25°C]	< ±0.01%	< ±0.01%	< ±0.025% Static Measurement mode 2s < ±0.35% Dynamic Measurement mode 10Hz
External sensor power supply	4.5 to 20 volts, configurable from the BeanScape® software		
Number of channels	4 channels		
Maximum wireless Range [L.O.S.]	650 meters [Line of Sight] , 30-100 meters [Non Line of Sight]		
Maximum sampling rate per channel	400 Samples per second [16-bit ADC]		
Data Logger Size	1 million data points		
Battery	Lithium-polymer Rechargeable battery with 2200 mAh of capacity		
Operating temperature	-40°C to +65°C		
Casing	Aluminum, Watertight IP67 NEMA 4 casing dimensions [without antenna] L x w x h . 156mm x 82mm x 57mm Weight : 760g		

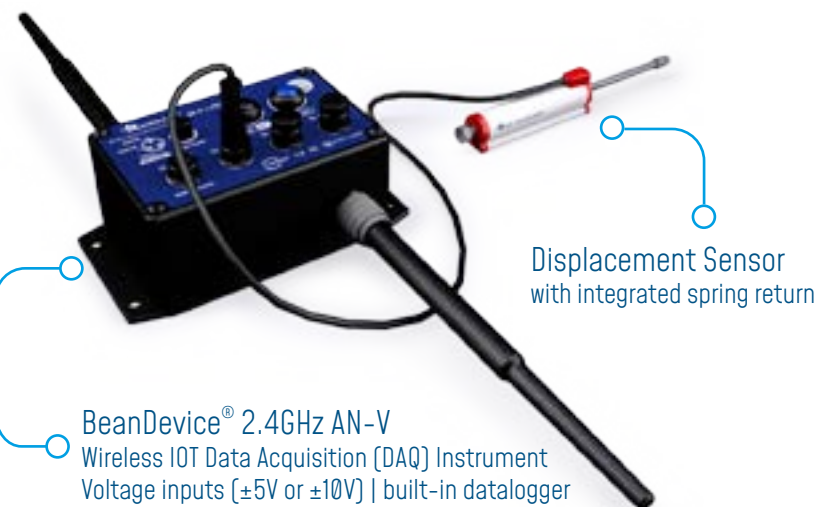
OPTIONAL ACCESSORIES AND SERVICES

DISPLACEMENT SENSOR WITH INTEGRATED SPRING RETURN

Displacement Sensors compatible with Beandevicē 2.4GHz | AN-V

- Measurement range 10 - 100 mm
- Long mechanical life
- Excellent repeatability <0.01 mm

REF : DISP-SENS-SR-MS-YY-CL-XX



Beandevicē 2.4GHz AN-V
Wireless IOT Data Acquisition (DAQ) Instrument
Voltage inputs (±5V or ±10V) | built-in datalogger

DISPLACEMENT SENSOR WITH BALL JOINT

Displacement Sensors compatible with Beandevicē 2.4GHz | AN-V

- Measurement range 10 - 400 mm
- Long mechanical life
- Excellent repeatability <0.01 mm

REF : DISP-SENS-BJ-MS-YY-CL-XX



Beandevicē 2.4GHz AN-V
Wireless IOT Data Acquisition (DAQ) Instrument
Voltage inputs (±5V or ±10V) | built-in datalogger



Main Features	Beandevicē		Beandevicē ONE-TH	Beandevicē ONE-TIR
	ONE-T	ONE-T-HA		
Sensor Technology	Temperature	Temperature (High Accuracy)	Temperature, Humidity & Dew Point	IR temperature (non-contact temperature sensor)
Measurement Range	-50°C to +150°C	-10°C to +60°C	Temperature: -40°C to +85 °C Humidity: 0 to 100% RH	-40°C to +85°C for ambient temperature [Ta] -70°C to +380°C for object temperature [To]
Sensor Resolution	0.1 °C	0.0034 °C	Temperature: 0.015 °C Humidity: 0.02% RH	0.02 °C
Sensor Accuracy	±0.3 °C between -10 °C and +60 °C	±0.1°C between -5°C and +45°C	Temperature: ±0.2 °C between 0°C and 60 °C Humidity: ±1.8% RH between 10%and 80% RH	±0.5 °C
Maximum wireless Range (L.O.S.)	300m			
Data Logger Size	1 million logs			
Battery size	1800 mAh			
Mounting Techniques	Screw Mounting			
Casing	Waterproof IP67 Polycarbonate enclosure Dimensions in mm [LxWxH]: 119 mm x 35 mm x 35 mm Weight (battery included): 120g			

DIGITAL SENSOR B-TH-01 | Digital Humidity and Temperature Sensor



DIGITAL SENSOR



Measurement range: 0 to 100 %RH for Humidity
Temperature range: - 40°C to +85 °C
Temperature Sensor technology: Thermistor
Dimensions[LxWxH]: 119x35x35mm
IP rating: IP67



BEANDEVICE® ONE-TIR-MED

Body Temperature Scanner with Wireless Connectivity

Transportable version, powered with a non-rechargeable battery



Fast temperature Screening version [only 1s]



MAIN FEATURES

- **Non-invasive:** IR temperature technology eliminates the risk of cross-infection
- **Medical sensor precision:** Sensor precision of $\pm 0.2^{\circ}\text{C}$ on the temperature range of $32-42^{\circ}\text{C}$, compliant with ASTM standard Section 5.3 [Designation E1965 - 98(2009) - Standard Specification for Infrared Thermometers for Intermittent Determination of Patient Temperature].
- **Wireless data transmission :** worldwide license free 2.4GHz frequency band
- **Modular, Articular Sensor Arm:** Can be adjusted to different morphology. Option for sensor arm length up to 105 cm.
- **Waterproof and Acid-resistant casing :** IP67/NEMA6 Polycarbonate casing can be cleaned with Isopropyl alcohol
- **Compact device:** With its small size (119x35x35mm) and weight (120g), this solution is suitable for small area [shops, restaurants, medical office];
- **Two intuitive LEDs:** Measurement L.E.D for human presence detection and RESULTS L.E.D for Normal/Abnormal temperature reading
- **Onboard datalogger:** records both ambient and body temperature . Datalogger Size : 1 million data records.
- **Two versions available:**
 - A transportable and autonomous version which is battery powered with a minimum refresh rate of 4seconds
 - A version for fast temperature screening from 1s for a better queue management, this version is mains powered.
- Option for controlling two external relays [Fever/Body Temperature normal]



BeanGateway® | WIRELESS IOT SENSORS COORDINATOR

MAIN FEATURES

- Builds and manages a Wireless IOT Sensors designed by BeanAir®
- **Wireless protocol stack:** IEEE 802.15.4
- **Several versions:** Ethernet, Modbus TCP / IP & Modbus RS485 / RS232
- **Maximus Radio range:** 1km (LOS)
- Embedded wireless IOT sensors diagnostic tool
- Advanced UPS (Uninterruptible power supply)
- Wireless IOT Sensors mapping & context is stored on embedded flash
- **<< Plug & Play >> installation:** no knowledge regarding Wireless IOT Sensors is necessary
- Integrated Lithium-Ion battery charger with high-precision battery monitoring
- Standard interface with our Wireless IOT Sensors Scada supervision Software (BeanScape® 2.4GHz)



IP66 INDOOR VERSION



IP67 OUTDOOR VERSION

WIRELESS IOT SENSORS COORDINATOR | 3G/4G/LTE LINKS | REMOTE ACCESS

OUTDOOR VERSION (WATERPROOF)

The **BeanGateway® 2.4Ghz-4G version** is a ruggedized outdoor wireless coordinator (IP66) designed for Structural Health Monitoring, Ground vibration monitoring and Land Surveying applications. Integrating both 2.4GHz and 3G/4G/LTE wireless protocols, it is used to build and manage Beanair® wireless wireless sensor network. The **BeanGateway® 2.4Ghz-4G version** comes with two power supply versions:

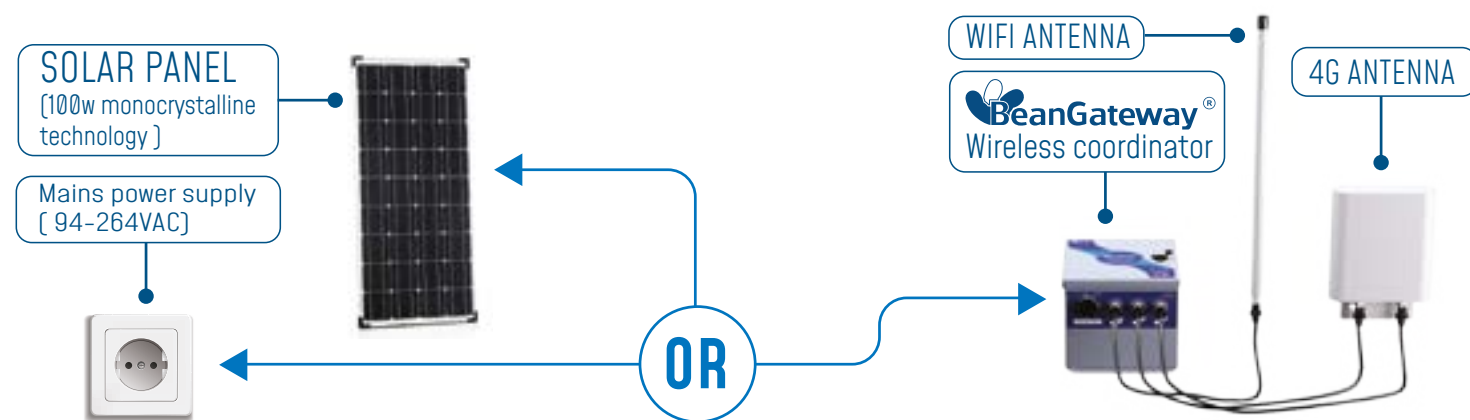
- Solar Panel (50W Monocrystalline Technology)
- Mains power supply (94-264VAC)

An integrated rechargeable Lead-acid battery with a capacity of 12Ah is used as an UPS battery (uninterruptible power supply). It provides instantaneous protection from external power supply interruption; wireless sensor networks & 3G/4G/LTE activities are maintained during this time. Users looking for a safe deployment on a remote site will appreciate our powerful WSN (Wireless Sensor Networks) mapping management:

- Automatic backup on both flash memory and **BeanScape® 2.4GHz** software.
- Export/Import function on others **BeanGateway® 2.4Ghz**

APPLICATIONS

- Land surveying
- Ground vibration Monitoring
- Structural Health Monitoring



MAIN FEATURES

- Wireless IIOT sensors Coordinator
- Ultra-Power and license-free **2.4Ghz** radio technology (IEEE 802.15.4E)
- Remote access thanks to the integrated 3G/4G/LTE Router (4G Connectivity CAT4 up to 150 Mbps)
- Configuration and supervision of Wireless IIOT sensors
- Advanced Wireless IIOT sensors diagnostic tool
- Data Organization from the various Wireless IIOT sensors
- Data exchange with the **BeanScape® 2.4Ghz** (Wireless IIOT sensors supervision software)
- Robust, Waterproof and High Gain antennas:
 - 3G/4G/LTE antenna (2x2 MIMO) with 12dBi of Gain
 - 2.4GHz antenna with 9dBi of Gain
- Advanced UPS (Uninterruptible power supply) with lead-acid battery (capacity: 12Ah)
- Ruggedized and Waterproof IP66 casing with anti-theft protection
- Two power-supply versions: AC power supply and solar panel

WIRELESS IOT COORDINATOR SELECTION GUIDE

Product description	Product Ref.	Ethernet Interface	ModBus ASCII / RTU over RS485	ModBus ASCII / RTU over RS232	ModBus IP	Waterproof IP66/IP67	3G/4G/LTE	Power Supply
BeanGateway® Ethernet Indoor casing	BGTW-ETH-IND	✓						Mains 8-28VDC
BeanGateway® Ethernet Outdoor casing	BGTW-ETH-OUT	✓				✓		Mains 8-28VDC
BeanGateway® Ethernet ModBus TCP/IP Indoor casing	BGTW-ETH-MODIP-IND	✓			✓			Mains 8-28VDC
BeanGateway® Ethernet ModBus TCP/IP Outdoor casing	BGTW-ETH-MODIP-OUT	✓			✓	✓		Mains 8-28VDC
BeanGateway® Ethernet ModBus TCP/IP & Modbus over RS485 Indoor casing	BGTW-ETH-MODRS485-IND	✓	✓		✓			Mains 8-28VDC
BeanGateway® Ethernet ModBus TCP/IP & Modbus over RS485 Outdoor casing	BGTW-ETH-MODRS485-OUT	✓	✓		✓	✓		Mains 8-28VDC
BeanGateway® Ethernet ModBus TCP/IP & Modbus over RS232 Indoor casing	BGTW-ETH-MODRS232-IND	✓		✓	✓			Mains 8-28VDC
BeanGateway® Ethernet ModBus TCP/IP & Modbus over RS232/RS485 Indoor casing	BGTW-ETH-MODSERIAL-IND	✓	✓	✓	✓			Mains 8-28VDC
BeanGateway® 3G/4G/LTE Outdoor casing	BGTW-4G-MPWR-OUT					✓	✓	Mains 8-28VDC
BeanGateway® 3G/4G/LTE Outdoor casing	BGTW-4G-SOLAR-OUT					✓	✓	Solar Power Supply

An easy integration into your IT system

Thanks to ModBus protocol available on our **BeanGateway® 2.4Ghz**, seamless integration with a third-party PLC / Embedded PC is possible.

ModBus registers enable data collection from the wireless sensor networks.

The **BeanScape® 2.4GHz** is a real time wireless IOT sensors supervision and control monitor. It allows the user to monitor and operate in real time BeanAir® wireless IOT sensors.

The **BeanScape® 2.4GHz** is also equipped with a smart expert system that allows users to interpret elements such as data acquisition or alarms related to the sensor network.

SOFTWARE VERSIONS

Number of managed BeanDevice® 2.4GHz	35	35	Unlimited	Unlimited	Unlimited
Period technical assistance [e-mail]	1 month	1 year	1 year	1 year	1 year
OPC Server DA	✗	✗	✗	✓	✓
Free of cost ?	✓	✗	✗	✗	✗
Real-time graph display	✗	✓	✓	✓	✓
Alarm notification by email: System and Data Acquisition alarms	✗	✓	✓	✓	✓
Streaming with Event-Trigger [S.E.T.] mode	✗	✓	✓	✓	✓
NTP client	✗	✓	✓	✓	✓
Real-Time FFT, Real-Time Velocity	✗	✗	✓	✓	✓
Automatic Reports [Waveform , FFT, PPV, Velocity]	✗	Only Waveform report	✓	✓	✓
Multi-user access	✗	✗	✗	✗	✓

Minimum system requirements

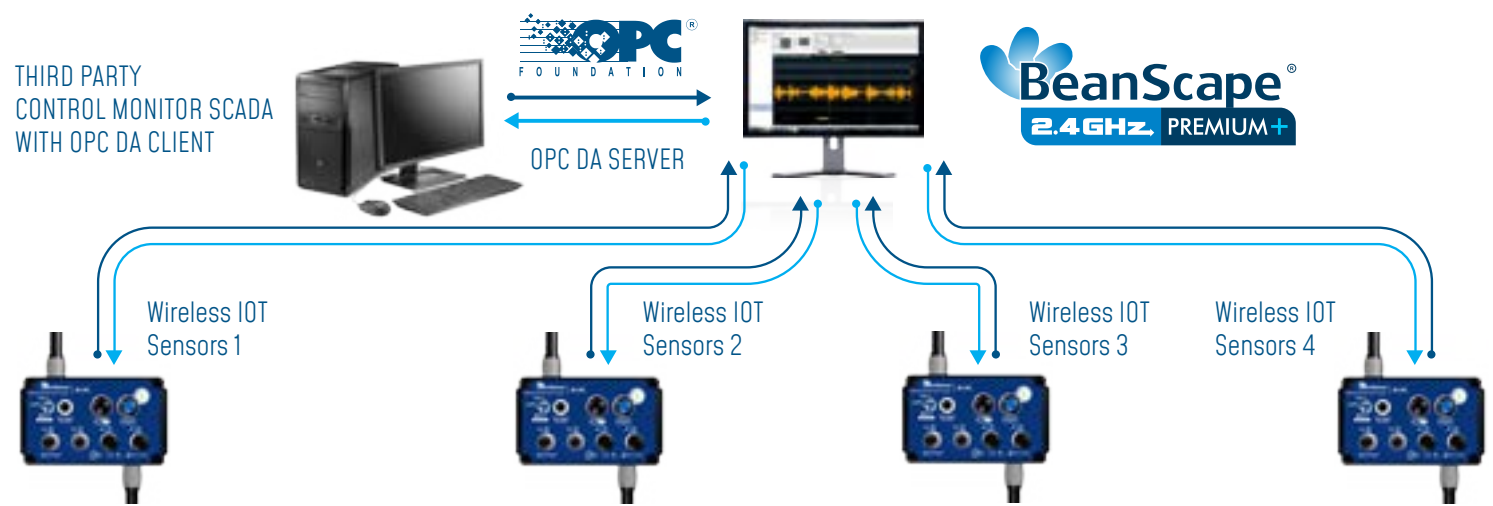
- 2.33GHz or faster x86-compatible processor
- Microsoft® Windows® XP (32-bit), Windows Server® 2003 (32-bit), Windows Server 2008 (32-bit), Windows Vista® (32-bit), Windows 7 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit)
- 2GB of RAM
- 5 GB of disk space
- 128MB of graphics memory

Connect our Wireless IOT Sensors to a third-party software

Both **BeanScape® 2.4GHz Premium+ / Multiview** integrate an OPC DA server (Data Access).

OPC DA is particularly well suited for real time measurement and data sharing. Each data/measurement can be associated to a tag or its attributes and shared with one or several OPC clients.

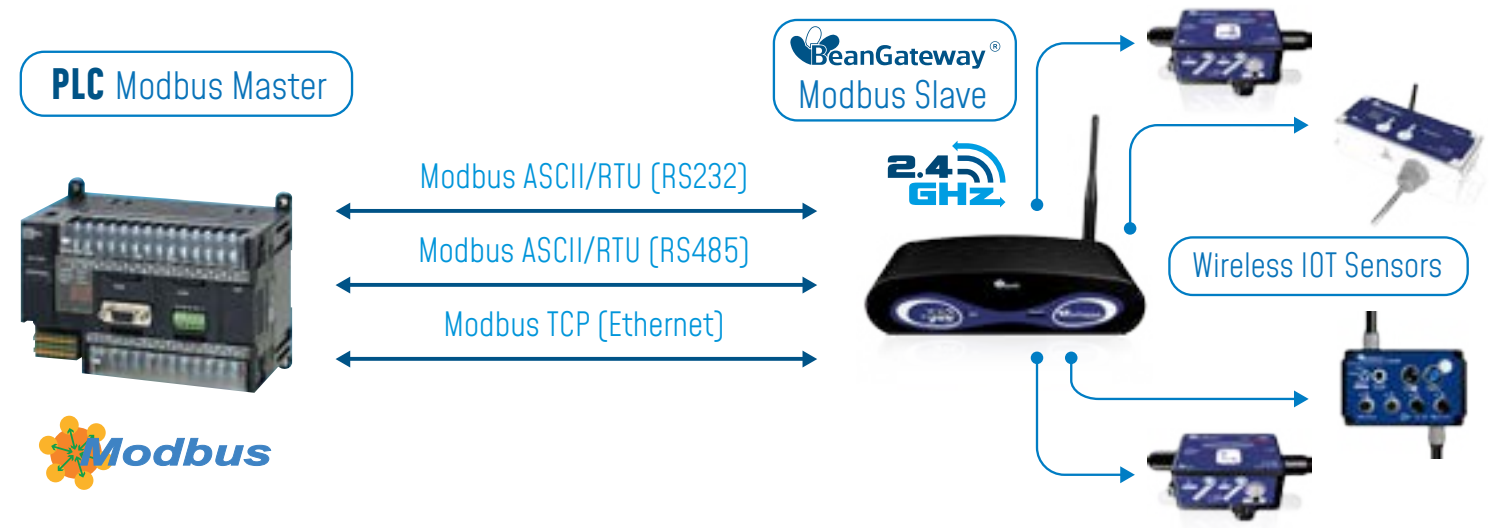
It opens up to many third party applications (SCADA, web portals etc..). Our OPC server is DA 2, DA 2.5 and DA 3 compliant and allows two different presentations. The first is a compact presentation of the sensor tree, presenting all the secondary attributes under the form of attributes. The second is an extended presentation of the sensor tree where each secondary attribute is presented by an OPC item/ tag rather than an attribute.



User looking for an easy integration with their PLC/Embedded PC can select the **BeanGateway® 2.4GHz** with Modbus communication link .

Modbus registers allows to collect data measurement and to configure remotely Beanair Wireless IOT Sensors.

Modbus protocol will work perfectly with **Beandevice® 2.4GHz** operating with a slow measurement heartbeat.



OVERVIEW AND MAIN FEATURES

The **BeanScape® Wilow®** is a real time Supervision software dedicated to Wilow® Wireless IOT sensors. It's also equipped with a smart expert system that allows users to interpret elements such as data acquisition or alarms related to the Wireless IIOT sensors network.

The **BeanScape® Wilow®** comes with outstanding features:

- Supervision software fully dedicated to Wilow® Wireless IOT sensors
- Integrated MQTT Broker for a remote access to monitoring site (BeanScape® Wilow® RA)
- Fully integrated Wireless IOT Sensors maintenance tool
- User friendly and highly adaptable to user's environment
- Highly intuitive and easy to use GUI (Graphical User Interface)
- Real time integrated database
- The **BeanScape® Wilow® Premium/RA** provides a complete vibration diagnostic and report:
 - Real-Time vibration, FFT and Peak Particle Velocity display
 - Advanced vibration analysis tool: FFT, PPV (Peak Particle Velocity) on the ±2g version only,
 - Amplitude measurement for structure movement monitoring
 - Automatic FFT and Peak Particle Velocity reports (meeting the DIN4150-3 standard)
 - Alarm generation by email when a vibration threshold is reached
- Highly customizable data panel board
- No hidden fees, and no additional subscription

Several versions are available (see comparison table for more details):

- **BeanScape® Wilow® Manager:** the right software version for configuring Beanair Wireless IIOT Sensors
- **BeanScape® Wilow® Lite:** the right software version to evaluate quickly Beanair Wireless IIOT Sensors
- **BeanScape® Wilow® Basic:** Same features than BeanScape® Wilow® Lite, with Alarm notification by email
- **BeanScape® Wilow® Premium :** Same features than BeanScape® Wilow® Basic, with advanced vibration analysis tools (Real-Time Velocity and FFT, PPV values).
- **BeanScape® Wilow® RA:** Same features than BeanScape® Wilow® Premium, with remote access to monitoring site (MQTT Architecture)



Real Time & fully integrated Data Base :

The real time database records high sampling measurement plots and Wireless IOT Sensors activities with a small memory footprint :

- No installation is needed
- Data backup (activable/disactivable functionality).
- Easily exportable data in CSV format (Access, Excel, Matlab, Labview...).

SOFTWARE VERSIONS

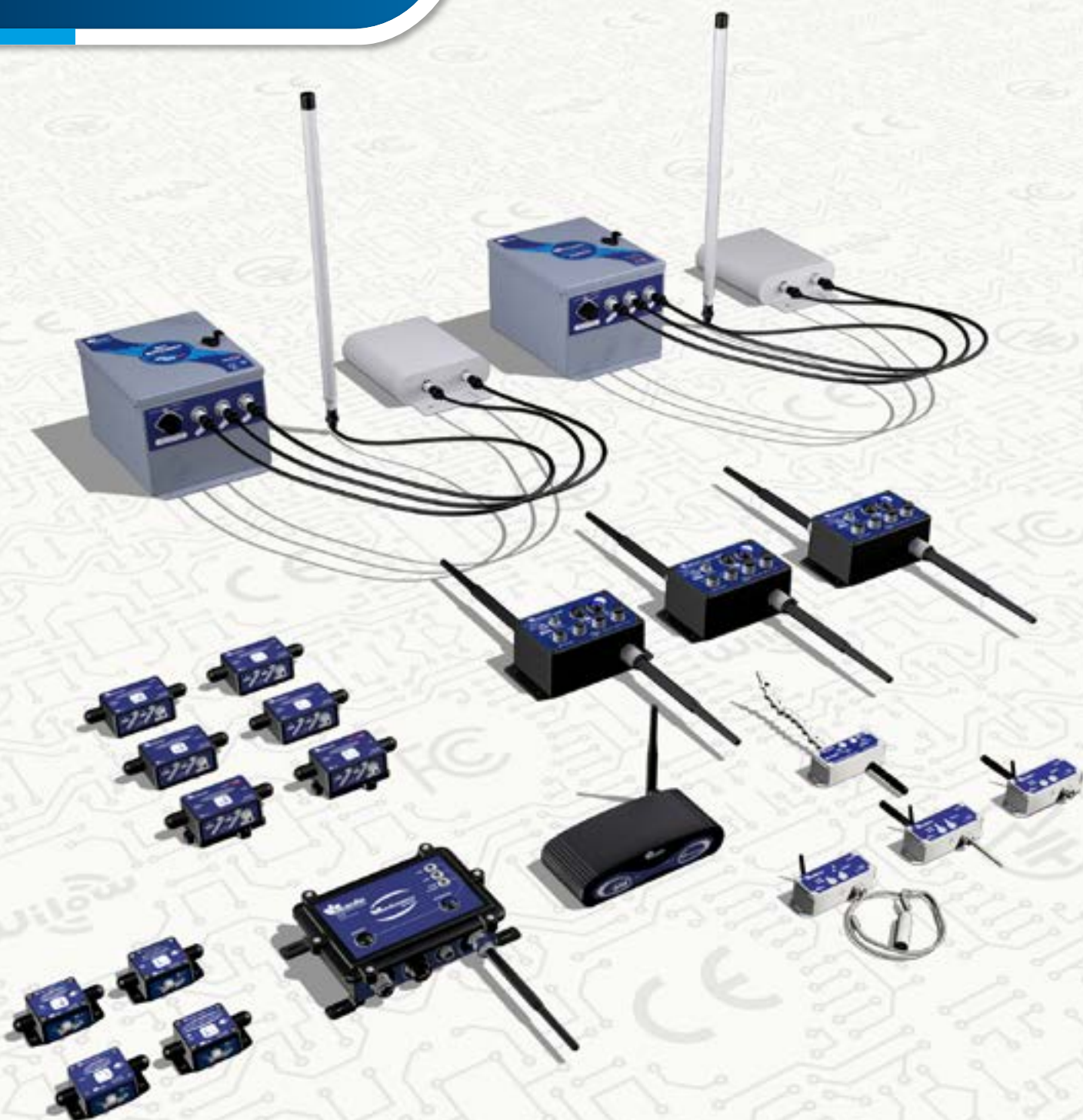
					
Period technical assistance	6 months	6 months	1 year	1 year	1 year
Free of cost ?	✓	✓	✗	✗	✗
Number of managed Beandevic® Wilow	35	5	35	unlimited	unlimited
Real-time graph display	✗	✓	✓	✓	✓
Alarm notification by email: System and Data Acquisition alarms	✗	✗	✓	✓	✓
Streaming with Event-Trigger (S.E.T.) mode	✗	✓	✓	✓	✓
Real-Time FFT, Real-Time Velocity	✗	✗	✗	✓	✓
Automatic reports by email (Waveform, FFT, PPV, Particle Velocity)	✗	✗	Only Waveform report	✓	✓
Remote access (based on MQTT Architecture)	✗	✗	✗	✗	✓
Integrated MQTT Broker	✗	✗	✗	✗	✓
MQTT full services (Diagnostics, Measurement and remote configuration)	✓	✓	✓	✓	✓

Minimum system requirements

- 2.33GHz or faster x86-compatible processor
- Microsoft® Windows® XP (32-bit), Windows Server® 2003 (32-bit), Windows Server 2008 (32-bit), Windows Vista® (32-bit), Windows 7 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit)
- 4GB of RAM
- 10 GB of disk space
- 1 GB of graphics memory



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