

BeanDevice® 4G Connectivity

IOT Gateway 4G Connectivity

PRODUCT VIDEO



USER GUIDE



QUICK START



MECHANICAL DRAWING



STEP FILE



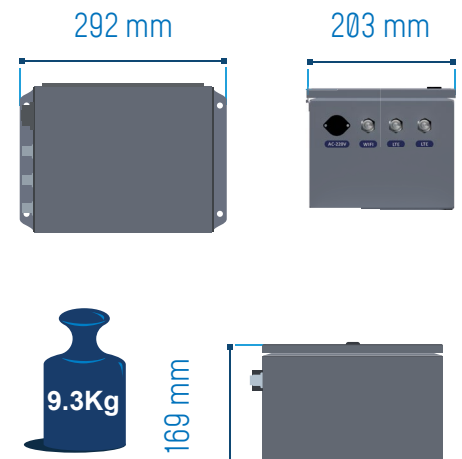
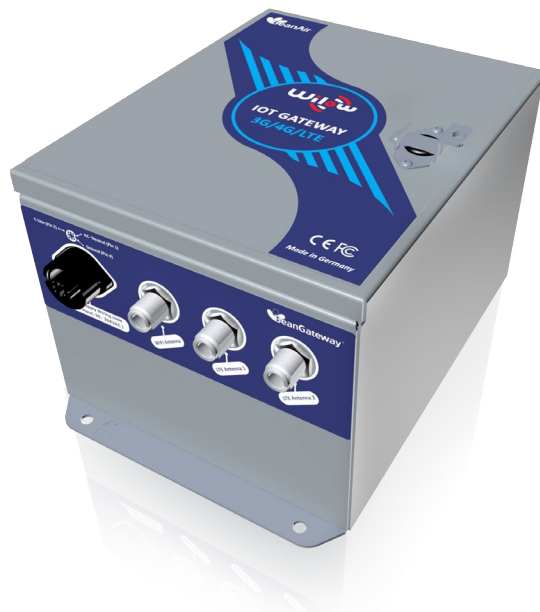
3G
4G LTE

WiFi®
CERTIFIED

2 year
Warranty

MADE IN GERMANY

CE FC R 001-A08148



OVERVIEW AND MAIN FEATURES

IOT Gateway with 4G connectivity compatible with Wilow® IIOT Sensors.

- 4G Connectivity CAT4 up to 150 Mbps
- 4G Antenna (2x2 MIMO)
- WIFI connectivity (IEEE 802.11 b/g/n) 2.4GHz with WDS (Wireless Distribution System) with WIFI AP/ Station / Bridge available
- High Gain and Waterproof omnidirectional antenna - 9dBi
- UPS Battery (Lead Acid Battery 12Ah)
- Waterproof (IP66 | Nema 6) steel casing (LxWxh: 65x59x35mm, 9 Kg)
- Operating temperature (-15°C to +50°C)

A RUGGEDIZED OUTDOOR IOT GATEWAY FOR YOUR MONITORING SITE

The **Wilow® IOT Gateway** is a ruggedized outdoor (IP67) IOT gateway designed for Structural Health Monitoring and Land surveying applications.

It integrates both WIFI and 4G wireless protocols, and allows a very easy connection to our **Wilow® IIOT sensors**. Thanks to WDS (Wireless Distribution System) function, user can quickly setup a wireless bridging with other WIFI Bridges/Repeaters.

The combination of MQTT protocol and 4G connectivity enable effortless data transmission from the sensor to the cloud. The **BeanScape® Wilow®**, a supervision software dedicated to IIOT sensors, can display in real-time all the collected data from the monitoring site.

The **Wilow® IOT Gateway** is power supplied from an external AC Power supply (90 ~ 264VAC) and comes with UPS Battery. The internal Lead-acid battery provides instantaneous protection from external power supply interruptions, the wireless sensors activities are maintained during this time.



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APPLICATIONS



Structural Health Monitoring

Ground Vibration Monitoring



Land Surveying

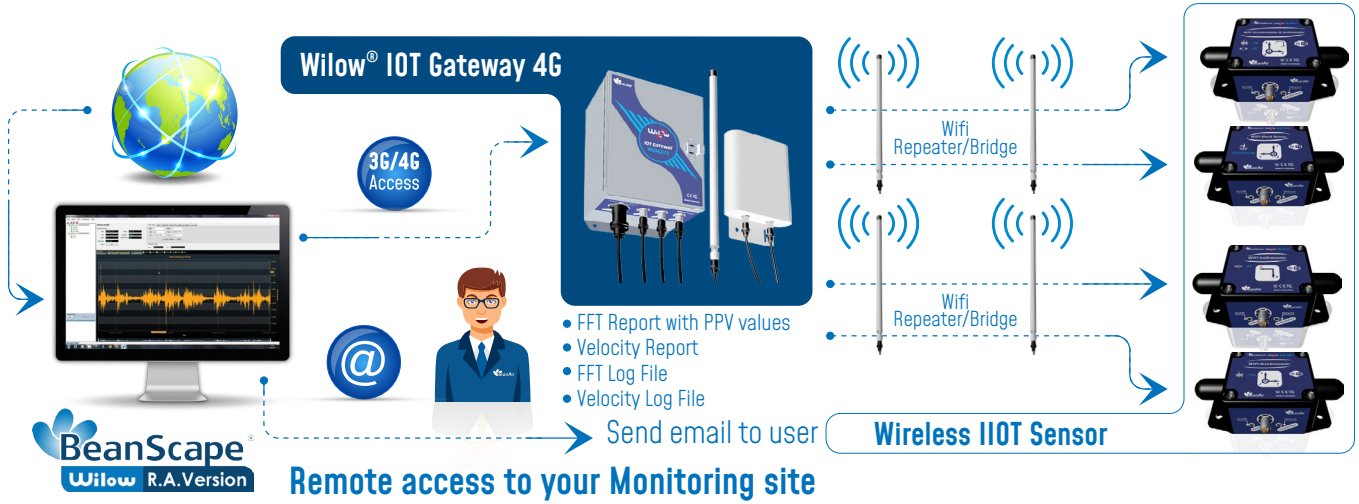


REMOTE ACCESS TO YOUR MONITORING SITE

Ready for IOT (Internet of things) applications, [Wilow®](#) devices integrates MQTT (Message Queuing Telemetry Transport) data frame, a lightweight and open-source Internet of Things protocol. User can quickly setup an affordable and scalable IOT application.

Our new [Wilow® IOT Gateway](#) comes with 4G connectivity and can be remotely connected to our supervision software [BeanScape® Wilow®](#).

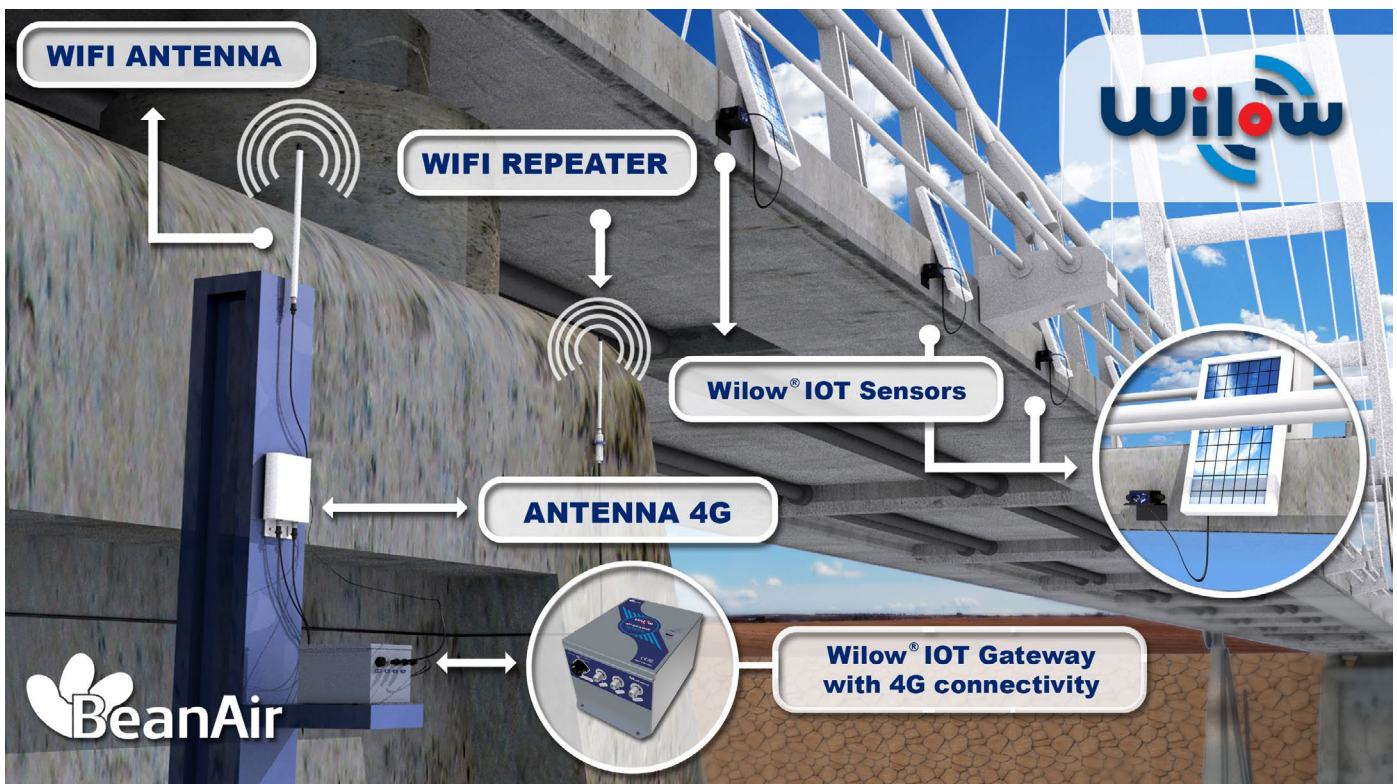
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EXTEND YOUR WIRELESS RANGE BY DEPLOYING A MULTI-HOP WIRELESS IIOT SENSORS

Need to deploy a wireless sensor network on a 3 or 4 spans bridge ? No worry, you can easily extend your wireless range by deploying a multi-hop wireless network.

Our Wilow® product line is compatible with WIFI Bridge/Repeater, user can connect up to 7 WIFI Repeater/Bridge with a wireless range up to 2km between each WIFI Repeater/Bridge.



BeanDevice® 4G Connectivity

TECHNICAL SPECIFICATIONS

PRODUCT REFERENCE

WILOW-WIFI-IOT-GATEWAY-4G-OPT1-PWR

OPT1: Option for WDS function - wireless distribution system (not available if you choose Solar Power Supply)

PWR – External Power supply

***MPWR:** Mains power supply with UPS Battery (Input: 90 to 264VAC)

***SOLAR** - Solar Power supply

Example 1: WILOW-IOT-GATEWAY-4G-MPWR, Mains Power supply

Example 2: WILOW-IOT-GATEWAY-4G-WDS-MPWR, Mains power supply, WDS function

Example 3: WILOW-IOT-GATEWAY-4G-SOLAR, Solar Power Supply

WIFI CONNECTIVITY SPECIFICATIONS

Wireless Protocol	IEEE 802.11 b/g
WIFI configuration	Wireless AP, Station If WDS Option is present: Bridge with WDS (Wireless Distribution System)
Operating frequency	2412-2462 MHz
Sensitivity	-74dBm to -90 dBm
DataRate	6 to 4 Mbps
Output power	If WDS Option is present: 28 dBm If WDS option not present: 20dBm
High Gain Ominidirectionnal WIFI Antenna	Frequency range 2400-2500MHz Gain: 9dBi, VSWR < 1.2 Impedance 50 Ohm, Polarization Vertical Beamwidth: Vertical plane 15°, Horizontal plane 360° Dimensions: 540x23 mm, Weight: 0.61 kg Connector: N female, Wind load: (170km/h) 11 N

3G/4G CONNECTIVITY SPECIFICATIONS

LTE	<ul style="list-style-type: none"> - LTE FDD: B1/B3/B5/B7/B8/B20 - LTE TDD: B38/B40/B41 - LTE CAT4 up to 70 Mbps DL - LTE CAT4 up to 50 Mbps UL - Class 3 (23dBm±2dB) for LTE FDD - Class 3 (23dBm±2dB) for LTE TDD
UMTS/DC-HSPA+	<ul style="list-style-type: none"> - 850/900/2100 MHz - DC-HSPA+ mode: Max 42Mbps (DL) Max 5.76Mbps (UL) - UMTS mode: 384 kbps DL, 384 kbps UL - TD-SCDMA: Max 4.2Mbps (DL) Max 2.2Mbps (UL) - Power Class 3 (24dBm +1/-3dB) for UMTS bands - Class 3 (24dBm+1/-3dB) for TD-SCDMA
GSM/GPRS/EDGE	<ul style="list-style-type: none"> - 900/1800 Mhz - GPRS/EDGE Multi-slot Class 12 - Power Class E2 (27dBm ±3dB) for GSM 900 - Power Class E2 (26dBm +3/-4dB) for DCS 1800 - Power Class 4 (33dBm ±2dB) for GSM 900 - Power Class 1 (30dBm ±2dB) for DCS 1800

TECHNICAL SPECIFICATIONS

WIFI CONNECTIVITY SPECIFICATIONS

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3G/4G CONNECTIVITY SPECIFICATIONS

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UMTS/DC-HSPA+	<ul style="list-style-type: none"> - 850/900/2100 MHz - DC-HSPA+ mode: Max 42Mbps (DL) Max 5.76Mbps (UL) - UMTS mode: 384 kbps DL, 384 kbps UL - TD-SCDMA: Max 4.2Mbps (DL) Max 2.2Mbps (UL) - Power Class 3 (24dBm +1/-3dB) for UMTS bands - Class 3 (24dBm+1/-3dB) for TD-SCDMA
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TECHNICAL SPECIFICATIONS

3G/4G CONNECTIVITY SPECIFICATIONS

<p>Omnidirectional 4G Antenna</p>	<p>Omnidirectional 4G Antenna (2x2 MIMO) Weather-resistant and UV-resistant plastic / PVC enclosure VSWR < 1.8 Impedance: 50 Ohm Beamwidth: 360° Horizontal - 20° Vertical Gain : 8dBi @ 800 MHz 12dBi @ 1800MHz 12dBi @ 2600MHz Frequency: 791-862 MHz (2G, 4G) 1700 - 2100 MHz (3G, 4G) 2500 - 2700 (4G) Connectors: 2 x N female Mounting Kit: U-clamp for 30-50mm diameter handles</p>
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AC POWER SUPPLY WITH UPS BATTERY (REF: BGTW-4G-MPWR-OUT ONLY)

<p>Battery</p>	<p>Valve Regulated Lead-Acid (VRLA) Capacity 12Ah</p>
<p>Battery protection</p>	<p>Overvoltage/Overload/Short circuit/Battery low/Battery reverse polarity</p>
<p>AC Voltage Range (Input)</p>	<p>90 to 264VAC</p>
<p>AC Range (Input)</p>	<p>0.75A/115VAC 0.5A/230VAC</p>
<p>Frequency Range</p>	<p>47 ~ 63Hz</p>
<p>Inrush current</p>	<p>Cold Start 20A/115VAC, 40A/230VAC</p>
<p>Safety and EMC</p>	<p>Safety standards: UL60950-1, TUV EN60950-1 approved Withstand Voltage: I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC Isolation Resistance TANCE: I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH EMC emission: Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3 EMC immunity: Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A</p>
<p>Socket for AC power supply</p>	<p>Industrial and Waterproof Socket Circular Socket CA 3 GD - Hirschmann Rated Voltage: 400VA Rated Current:16A</p>

TECHNICAL SPECIFICATIONS

SOLAR PANEL POWER SUPPLY WITH UPS BATTERY [-SOLAR OPTION IS SELECTED]

Battery	Valve Regulated Lead-Acid (VRLA) Capacity 12Ah
Solar panel technology	Monocrystalline 50W, anodized aluminum frame. Surface protection with ESG solarglass. Dimensions (LxWxH): 650mm x 505mm x 35mm
Solar charging controller	Maximum Input current: 10A Power consumption < 2.5mA , Led switch on Nominal voltage :12VDC Led displays: battery full and charging
Socket for Solar Panel Connection	Industrial and Waterproof Socket Circular Socket CA 3 GD - Hirschmann Rated Voltage: 400VA Rated Current: 16A

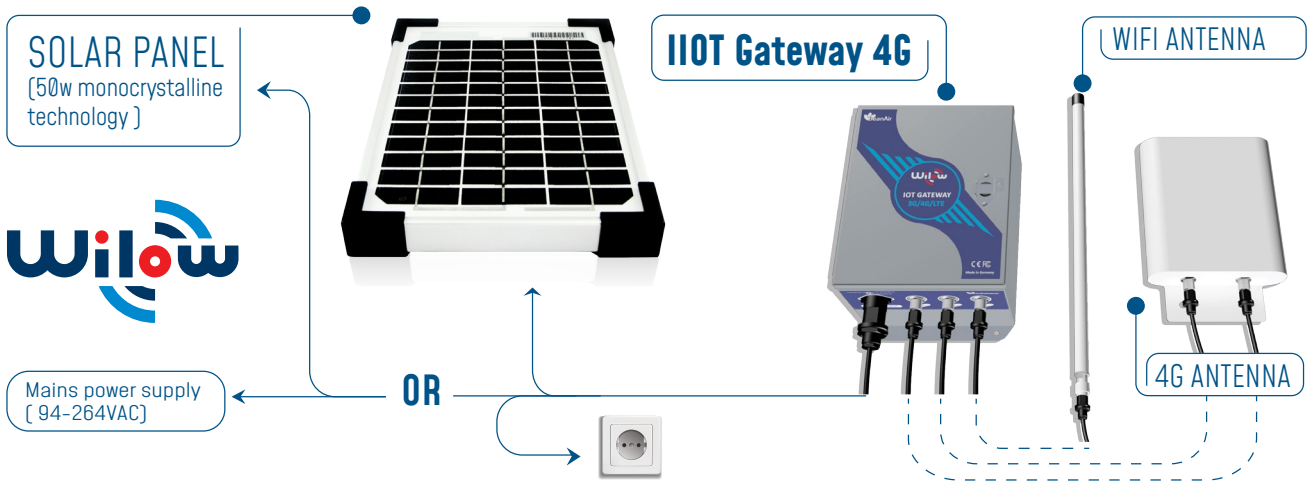
INCLUDED ACCESSORIES

4G Antenna	1 x 4G Antenna 12dBi - with pole mounting Ref: WL-4G-HG-ANT-12DB
WIFI Antenna	1 x High Gain Wifi Antenna 9dBi - with pole mounting kit Ref: HG-OMNI-OUT-7DBI
External cable for WIFI Antenna	1 x N-Type cable, Cable Length: 1 meter Ref: CBL-ANT-1M
External cable for LTE Antenna	2 x N-Type cable, Cable Length: 1 meter Ref: CBL-ANT-1M
Waterproof Plug for AC Power Input (-MPWR option is selected)	1 x Circular Connector Hirschmann CA 3LS, Waterproof IP67 Ref: WL-CA3LS-PLUG

ENVIRONMENTAL AND MECHANICAL

Casing	Steel enclosure with padlock adapter, Light gray color
Dimensions	25.4 cm x 20.3 cm x 15.24 cm
Weight	9.3 kg
IP/NEMA Rating	IP66 Nema 6
Mounting Process	Screw mounting
Operating Temperature	Battery Charging: -15°C to 50°C Battery Discharging: -20°C to 60°C
Norms & Radio Certifications	. CE Labelling Directive R&TTE (Radio) ETSI EN 300 328 (Europe) . FCC Part 15.247 (North America) . IC RS210 . ROHS - Directive 2002/95/EC

BeanDevice® 4G Connectivity



WILOW® IOT GATEWAY FRONT VIEW

Input voltage: 90-264VAC for mains power supply or 12VDC for solar panel

Wifi 2.4GHz Antenna

4G LTE MIMO Antenna



Wilow IOT Gateway with 3G/4G/LTE Overview

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