

## BeanDevice® 4G Connectivity

### IOT Gateway 4G Connectivity

PRODUCT VIDEO



USER GUIDE



QUICK START



MECHANICAL DRAWING



STEP FILE



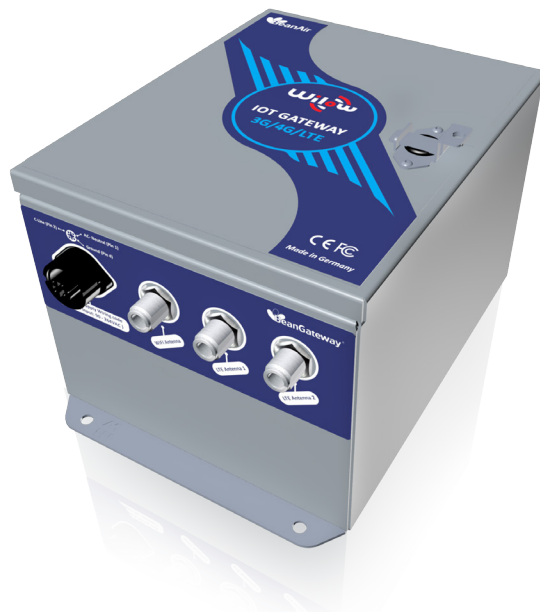
3G  
4G LTE

WiFi®  
CERTIFIED

2 year  
Warranty

MADE IN GERMANY

CE FC R 001-A08148



292 mm



203 mm



9.3Kg

169 mm



## 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.



BeanDevice® 4G Connectivity

APPLICATIONS



Structural Health Monitoring

Ground Vibration Monitoring



Land Surveying

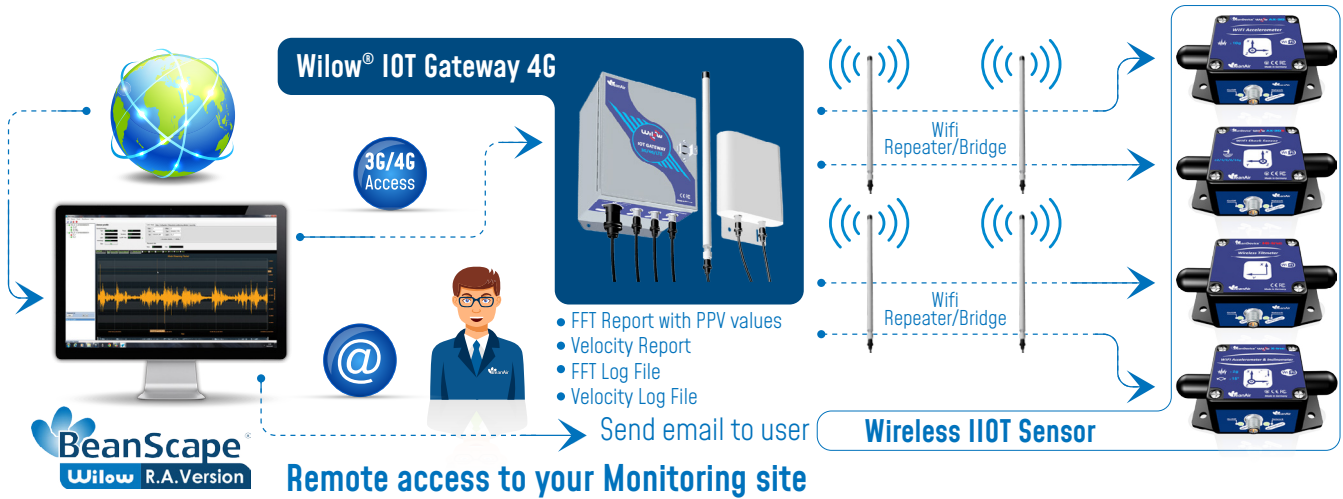


REMOTE ACCESS TO YOUR MONITORING SITE

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®**.

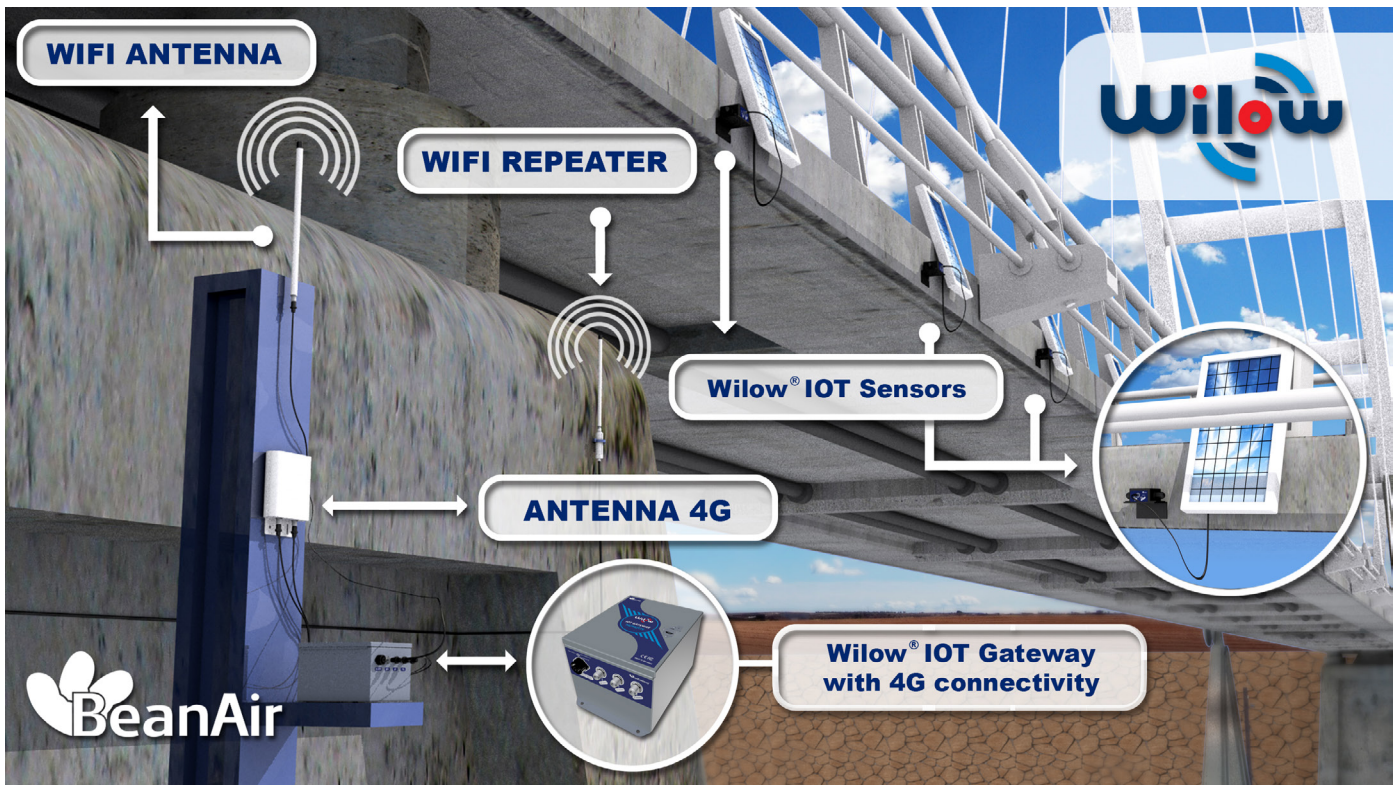
**BeanDevice® 4G Connectivity**



**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.



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

### 3G/4G CONNECTIVITY SPECIFICATIONS

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

**TECHNICAL SPECIFICATIONS**
**WIFI CONNECTIVITY SPECIFICATIONS**

Wireless Protocol	IEEE 802.11 b/g
WIFI configuration	Wireless AP, Station If <b>WDS Option is present:</b> Bridge with WDS (Wireless Distribution System)
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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	<b>Frequency range</b> 2400-2500MHz <b>Gain:</b> 9dBi, <b>VSWR</b> < 1.2 <b>Impedance</b> 50 Ohm, Polarization Vertical <b>Beamwidth:</b> Vertical plane 15°, Horizontal plane 360° <b>Dimensions:</b> 540x23 mm, Weight: 0.61 kg <b>Connector:</b> N female, Wind load: (170km/h) 11 N

**3G/4G CONNECTIVITY SPECIFICATIONS**

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**TECHNICAL SPECIFICATIONS**

**3G/4G CONNECTIVITY SPECIFICATIONS**

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

Battery	Valve Regulated Lead-Acid (VRLA) Capacity 12Ah
Battery protection	Overvoltage/Overload/Short circuit/Battery low/Battery reverse polarity
AC Voltage Range (Input)	90 to 264VAC
AC Range (Input)	0.75A/115VAC 0.5A/230VAC
Frequency Range	47 ~ 63Hz
Inrush current	Cold Start 20A/115VAC, 40A/230VAC
Safety and EMC	<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>
Socket for AC power supply	<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**

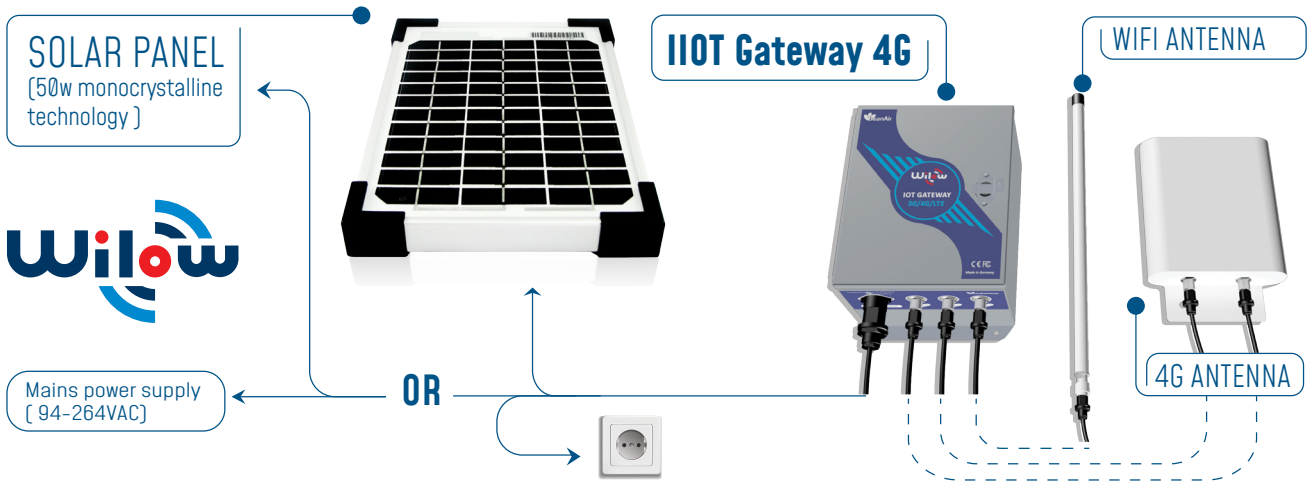
4G Antenna	1 x 4G Antenna 12dBi - with pole mounting <a href="#">Ref: WL-4G-HG-ANT-12DB</a>
WIFI Antenna	1 x High Gain Wifi Antenna 9dBi - with pole mounting kit <a href="#">Ref: HG-OMNI-OUT-7DBI</a>
External cable for WIFI Antenna	1 x N-Type cable, Cable Length: 1 meter <a href="#">Ref: CBL-ANT-1M</a>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

**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**



**WILLOW® 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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