

# WIRELESS GATEWAYS



## Low cost, low power wireless mesh networking, for monitoring and control

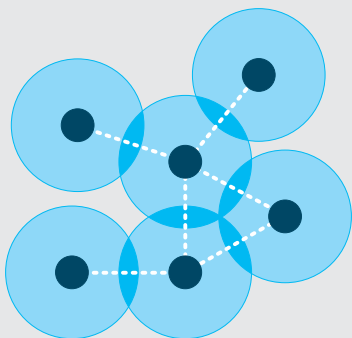
MicroPower wireless gateways enable broad-based deployment of wireless mesh networks. They offer low cost, low power solutions, and sleeper units are able to run for years on inexpensive batteries.

Wireless gateways are ideal for a host of monitoring and control applications, including:

- Smart energy/smart grid
- AMR (automatic meter readings)
- Lighting controls
- Building automation systems
- Tank monitoring
- HVAC control
- Medical devices and labs

MicroPower wireless gateway devices are ideal for applications that require low data rates and wireless networking across large areas. They employ the Modbus/RTU protocol, simplifying setup and integration with PLC's.

A key benefit of MicroPower wireless gateways is their **mesh networking** capability. Unlike Bluetooth or Wi-Fi devices, WG nodes are connected to each other by multiple pathways.



This enables routes to be created between nodes that would otherwise be out of range, so that the network can be extended across a wide area.

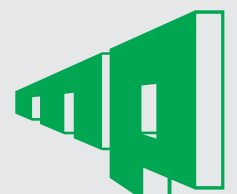
Mesh networking also increases the stability of the network, by re-routing data if any node malfunctions.

MicroPower wireless gateways are versatile and flexible, making them ideal for networking entire factories or plants. A variety of communication methods and network topologies are available to suit different needs for small, medium or large networks.

WG nodes can transmit approximately 80 meters (line of sight), and up to 97 nodes can be connected in a single network (1 base, 64 remotes and 32 sleepers).

Connections between nodes are dynamically updated and optimised through sophisticated mesh routing tables. New nodes can be added as needed, and will be automatically incorporated into an existing network.

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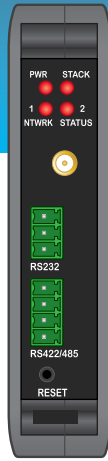
## WG - PTH

### WIRELESS PATHFINDER

(Base/Remote)

The WG-PTH wireless Pathfinder is the ideal starting point for setting up a large, Modbus-to-wireless mesh network.

This dual function unit can be used as either a base node or a remote node, and is configured as a Modbus slave device for easy integration with PLC's running Modbus/RTU protocols. The Pathfinder is ideal for industrial low speed data collection, system monitoring and equipment control.



#### GENERAL SPECIFICATIONS

<b>Voltage</b>	9-35V DC POWER SUPPLY
<b>Operating temp</b>	-40-+85°C
<b>Input/output</b>	4 x digital inputs
(OPTIONAL)	2 x digital outputs 2 x relay outputs

#### SERIAL CONNECTION

<b>Serial port</b>	RS232 & RS485/422
(CHOOSE)	Ethernet (Mod/RTU)
<b>Data rate</b>	9600, 19200, 57600 or 115200 baud
<b>Parity bit</b>	Even or none

#### RF SPECIFICATION

<b>RF data rate</b>	250Kb/s
<b>RF frequency</b>	2405-2485MHz
<b>RF channel</b>	16
<b>Spreading mthd</b>	Direct sequence
<b>Modulation</b>	0-QPSK
<b>Nodes</b>	Up to 64
<b>Tx range</b>	~80m LINE OF SIGHT
<b>Tx power</b>	+4.5dBm IN BOOST MODE
<b>Rx sensitivity</b>	-100dBm IN BOOST MODE

## WG - SLB

### WIRELESS SLEEPER

(Battery powered)

The WG-SLB wireless Sleeper is a standalone device that can be powered by long-life lithium batteries.

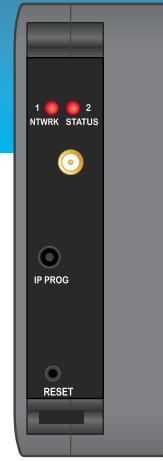
This unit sends data to the base node at user-configured intervals, and conserves power by 'sleeping' between transmissions. The WG-SLB integrates seamlessly with existing WG mesh networks, and enables additional network topologies and functions.

#### GENERAL SPECIFICATIONS

<b>Voltage (CHOOSE)</b>	3V DC LITHIUM BATTERY 9-35V DC POWER SUPPLY
<b>Operating temp</b>	-40-+85°C
<b>Analogue input</b>	2 x channels:
(USB PROGRAM)	Current (0/4-20mA) Voltage (0-10V) T/C (universal) RTD (Pt100/1000)
<b>Sleep period</b>	1, 2, 5, 15, 30 or 60 mins DIP SWITCH SELECT

#### RF SPECIFICATION

<b>RF data rate</b>	250Kb/s
<b>RF frequency</b>	2405-2485MHz
<b>RF channel</b>	16
<b>Spreading mthd</b>	Direct sequence
<b>Modulation</b>	0-QPSK
<b>Nodes</b>	Up to 32 (including WG-SLR)
<b>Tx range</b>	~80m LINE OF SIGHT
<b>Tx power</b>	+4.5dBm IN BOOST MODE
<b>Rx sensitivity</b>	-100dBm IN BOOST MODE



## WG - SLR

### WIRELESS SLEEPER

(Routing)

The WG-SLR wireless Sleeper is a standalone device that sends data to the base node at user-configured intervals.

Unlike the WG-SLB battery powered sleeper, this unit is constantly 'online', so it is able to provide routes for other remote nodes and sleepers. The WG-SLR integrates seamlessly with existing WG mesh networks, and enables additional network topologies and functions.

#### GENERAL SPECIFICATIONS

<b>Voltage</b>	9-35V DC POWER SUPPLY
<b>Operating temp</b>	-40-+85°C
<b>Analogue input</b>	2 x channels:
(USB PROGRAM)	Current (0/4-20mA) Voltage (0-10V) T/C (universal) RTD (Pt100/1000)
<b>Sleep period</b>	1, 2, 5, 15, 30 or 60 mins DIP SWITCH SELECT

#### RF SPECIFICATION

<b>RF data rate</b>	250Kb/s
<b>RF frequency</b>	2405-2485MHz
<b>RF channel</b>	16
<b>Spreading mthd</b>	Direct sequence
<b>Modulation</b>	0-QPSK
<b>Nodes</b>	Up to 32 (including WG-SLB)
<b>Tx range</b>	~80m LINE OF SIGHT
<b>Tx power</b>	+4.5dBm IN BOOST MODE
<b>Rx sensitivity</b>	-100dBm IN BOOST MODE



WG-BRO-10-V.01

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