



WB3-900/WB5-900

3KM Wireless Digital Bridge/5KM Wireless Digital Bridge Quick Installation Manual V1.0

Thank you for purchasing our product. Hope you will have fun using it!
Please read this user manual thoroughly before using, and keep it properly.

I. Preparations in advance

1. Location Requirements: Keep away from high-voltage equipment ($\geq 30\text{m}$), dense trees ($\geq 10\text{m}$), and metal obstacles ($\geq 0.5\text{m}$) to avoid interference and signal loss.

2. Space Requirements: Never mount against walls. Leave $\geq 30\text{cm}$ clearance around the device to prevent signal absorption by walls.

3. Height Above Obstacles:

Basic height requirements (distance between devices): 1km: $\geq 3.6\text{m}$ above obstacles; 2km: $\geq 5.1\text{m}$ above obstacles; 3km: $\geq 6.2\text{m}$ above obstacles; 4km: $\geq 7.2\text{m}$ above obstacles; 5km: $\geq 8.1\text{m}$ above obstacles; 6km: $\geq 8.8\text{m}$ above obstacles.

Adjustments for special scenarios: +20%-30% height near forests/metal obstacles; +15% height in rainy conditions; +10% height in general areas.

4. Installation & Alignment: Choose an open, unobstructed area. Align with the target device as precisely as possible (better alignment = stronger signal, higher stability, faster speed). Adjust tilt angle if there's a height difference between devices.

5. Spacing for Multiple Units: Same bracket: stagger by $\geq 1\text{m}$; Same direction: stagger by $\geq 1.5\text{m}$; Dense deployment: stagger by $\geq 3\text{m}$.

6. Bandwidth Configuration: Default bandwidth: 80MHz (auto-selects optimal channel on startup). For multiple bridge pairs: set different digital display values to prevent crosstalk. For large quantities: log in to the management page, switch to 20/40MHz bandwidth, and pair manually.

7. 48V 802.3af/at PoE Power Supply: PoE power requires 8-core fully connected network cables. Cat5e/Cat6 cables support transmission up to $\geq 90\text{m}$.

8. Network Planning: Assign static IPs to bridges for easier management. Configure VLANs properly to isolate broadcast domains.

9. Lightning Protection: Install within the 45° protection range of a lightning rod. Treat network cables with lightning protection to prevent damage from lightning strikes.

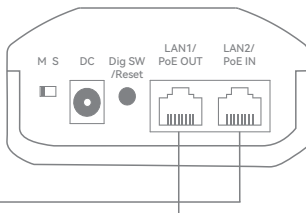
II. Device connection

48V PoE Power Adapter



Router, Switch, Computers,
and other network devices.

WB3-900



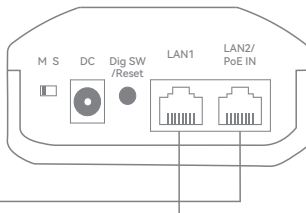
Routers, switches, computers, and other network
devices that support 48V PoE power supply.

48V PoE Power Adapter



Router, Switch, Computers,
and other network devices.

WB5-900



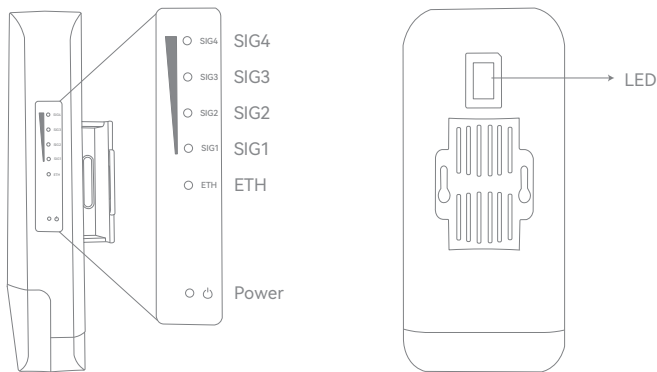
Router, Switch, Computers,
and other network devices.

Instructions:

1. For 12V DC local power supply: Simply connect the DC adapter—no need for an additional PoE power adapter.
2. The bridge's LAN1 port does not support PoE power supply and cannot power other devices.

3. The bridge LAN2 Port supports IEEE 802.3af/at PoE, works with standard 48V; powerable directly via a standard 48V PoE switch over Ethernet.
4. After connecting the bridge's cables, push up the bridge's port cover to restore it to its original position.
5. The LAN1 port of WB3-900 supports PoE output, while the LAN1 port of WB5-900 does not.
6. The LAN2 port of WB3-900/WB5-900 support PoE input.

III. Indicators, Buttons, and Interface Explanations



Indicators	Description
SIG1 SIG2 SIG3 SIG4	Master Bridge: The number of illuminated indicator lights corresponds to the transmit power level: more lights = stronger power. - Default State: Maximum power output (SIG1-SIG4 steady on). - High Output Power: 100% power output (SIG1-SIG4 steady on). - Medium Output Power: 75% power output (SIG1-SIG3 steady on). - Low Output Power: 50% power output (SIG1-SIG2 steady on). Slave Bridge: The number of illuminated indicator lights corresponds to the RSSI-more lights mean a stronger signal. - RSSI < -85dBm: Only SIG1 stays steady on. - -85dBm ≤ RSSI < -75dBm: SIG1-SIG2 stay steady on. - -75dBm ≤ RSSI < -65dBm: SIG1-SIG3 stay steady on. - RSSI ≥ -65dBm: SIG1-SIG4 stay steady on. Connection failure: SIG1-SIG4 show a flowing light effect (lights flash sequentially).
ETH	LAN1/LAN2 Port Status Indicator: - Port is connected and data is transmitting: The indicator flashes. - Port is disconnected: The indicator is off.
	Power Status Indicator: - Power is on: The indicator stays steady on. - Power is off: The indicator is off.
	LED: Short press the [Digital SW/Reset Button]: it increments the LED display value by 1, cycling through 0-9-A-F.

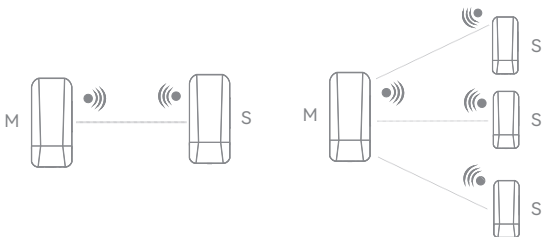
I/O	Description
M S	DIP switch set to "M" : device switches to "Master" mode; Set to "S" : device switches to "Slave" mode.
DC	12V DC Power Port: positive inside, negative outside.
Dig SW/Reset	When device is powered on and working: - Short press the button: Digital display value increments sequentially, cycling through "0→9→A→F"; configuration takes effect about 15 seconds. - Long press the button for 6+ seconds: Device resets to factory settings and reboots; reboot completes about 60 seconds.
LAN1/LAN2	LAN1: WB3-900: Data transmission and PoE output interface; WB5-900: Data transmission interface. LAN2: Data transmission and PoE input interface; Both 10/100/1000 Mbps auto-adaptive.

IV. Bridge pairing

1. Set one bridge dip switch to "M" and the other bridge dip switch to "S";
2. After powering on the bridges, briefly press the "Dig SW/Reset" button, the value on the LED display will increase by one with each press;
3. Adjust the value on the LED display of the Master bridge first, then set the value on the LED display of the other Slave bridges to match the value of the Master bridge.

This will successfully pair the all bridges.

After successful pairing: slave bridge's SIG indicator stays steady on.



V. LED Value

1. LED display values range from 0~9~A~F (16 groups total). Each group corresponds to a default connection name and password, unrelated to channels.
2. Modifying the “Link Name/Password” via the management page won’t change the LED display value. Adjusting the LED display value again will automatically revert the “Link Name/Password” to the default values.

VI. Login Bridge

1. Wired connect your computer to the bridge’s PoE Power adapter LAN port or the bridge’s LAN2 port.
2. Set your computer’s wired network card IP to 192.168.1.X (X = 1~253, not 101 or 102) with subnet mask 255.255.255.0.
3. Open a browser, enter 192.168.1.101 (Master Bridge) / 192.168.1.102 (Slave Bridge) in the address bar, press Enter. On the login page, enter “admin” as the password and click [Login] to access the device.

Note:

1. IP addresses: Master Bridge – 192.168.1.101; Slave Bridge – 192.168.1.102.
2. These are fixed addresses, permanently stored in the device and unaffected by user changes to network interface addresses.

VII. FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 25cm between the radiator and your body.

IC Warning

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is

subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs sans licence qui sont conformes aux RSS sans licence d'Innovation, Sciences et Développement économique Canada.

L'exploitation est soumise aux deux conditions suivantes: (1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences qui pourraient causer un fonctionnement indésirable de l'appareil.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Tous les changements ou modifications non expressément approuvée par le responsable de la conformité pourrait vider l'utilisateur est habilité à exploiter l'équipement.

ISED Radiation Exposure Statement:

This equipment complies with ISED RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 25cm between the radiator&your body.

Cet appareil est

Conforme aux limites d'exposition de rayonnement RF ISED établies pour un environnement non contrôlé. Cet émetteur ne doit pas être co-implanté ou fonctionner en onjunction avec toute autre antenne ou transmetteur.

Cet équipement doit être installé et utilisé avec une distance minimale de 25cm entre le radiateur et votre corps.