# LHG 60 series

The LHG 60 is an outdoor wireless router with a built in directional antenna which works in the 60GHz spectrum. It can be used as a CPE to connect to MikroTik devices that work in 60GHz access point mode.

## **Assembly**

Attach the two legs to the LHG case, then snap the assembled LHG unit to the grid in the appropriate locations. Fix the legs in place with two self thread screws (Included, use Phillips screw driver PH2). The package also contains a grounding cable connector and a precision alignment mount. Alignment instructions available on the product page on <a href="https://mikrotik.com/products/">https://mikrotik.com/products/</a>.

### Connecting

- 1. Open the ethernet door to connect an ethernet cable to the ethernet port, connect the other end of the ethernet cable to the included PoE injector (LHG Lite60), or a 802.3af/at power source (supported only by the LHG 60G model).
- Plug the PoE injector into your network switch or ISP internet outlet.
- 3. Plug the included power supply into the PoE injector to start up the device.
- 4. For configuration purposes, set your computer IP configuration to static in the range of 192.168.88.0-254 (/24 or 255.255.255.0)
- 5. Default IP address of the unit is 192.168.88.3/24, open this address in your web browser to start configuration. The username is admin and there is no password.

The device is preconfigured as a w60g station, and all you need to do is select the AP to connect to and set a device password. You can do this in the quickSET tab that is loaded by default. In case IP connection is not available, Winbox can be used to connect to the MAC address of the device. We recommend clicking the "Check for updates" button and updating your RouterOS software to the latest version to ensure the best performance and stability.

In case you wish to boot the device from network, for example to use MikroTik Netinstall, hold the RESET button of the device when starting it, until the LED light turns off, then the device will start to look for Netinstall servers.

More information about using RouterOS and connecting to this device in our documentation: <a href="http://mt.lv/help">http://mt.lv/help</a>

# **Powering**

The LHG Lite60 only accepts 12-30 V power from Passive PoE injectors (one power supply and PoE injector are included). The LHG 60G accepts 12-57 V 802.3af/at powering and also Passive PoE. Both models can consume up to 5 W at maximum load.

### **Extension Slots and Ports**

- One ethernet (10/100 Mbit or Gigabit, depends on model), supporting automatic cross/straight cable correction (Auto MDI/X), so you can use either straight or cross-over cables for connecting to other network devices.
- One Integrated w60g interface with built in antenna.

# **Buttons and Jumpers**

RouterBOOT reset button has the following functions. Press the button and apply the power, then:

- Release the button when green LED starts flashing, to reset RouterOS configuration to defaults.
- Release the button when the LED turns solid green to clear all configuration and defaults.
- Release the button after LED is no longer lit (~20 seconds) to cause device to look for Netinstall servers (required for reinstalling RouterOS over network).

Regardless of the above option used, the system will load the backup RouterBOOT loader if the button is pressed before power is applied to the device. Useful for RouterBOOT debugging and recovery.

The device includes a grounding connection (marked  $\stackrel{\perp}{=}$ ) which you should connect to the grounding installation of the tower or building where the device will be used. This is to substantially reduce risk of ESD and lightning damage.

### **Operating System Support**

The device only supports RouterOS software with the version number at or above what is indicated in the RouterOS menu /system resource. Other operating systems have not been tested.

#### **Federal Communication Commission Interference 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 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.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's 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.

This device and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

IMPORTANT: IMPORTANT: Exposure to Radio Frequency Radiation. 20 cm minimum distance has to be maintained between the antenna and user. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

FCC identifiers: TV7LHGG60AD, TV7LHGG-60AD, TV7LHG60AD

# **Industry Canada**

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Radio Cert. No.: 7442A-LHGG60AD, 7442A-LHGG-60AD, 7442A-LHG60AD