LHG series

The LHG is an outdoor wireless router with a built-in directional antenna. It can be used as a CPE or for point to point links (use RouterOS wireless mode "bridge" to work as a single-client AP for point to point scenarios).

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 5 degree angle adapter. More detailed instructions available on the product page on https://mikrotik.com/products/.

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.
2. 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. Set LAN computer IP configuration to *automatic* (DHCP).
5. Default IP address of the unit is 192.168.88.1, 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 wireless client 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 opened by default.

In case IP connection is not available, Winbox can be used to connect to the MAC address of the device.

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: http://mt.lv/help

Powering

The device accepts powering only from Passive PoE injectors.

Extension slots and ports

*   One 10/100 Ethernet port, 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 2x2 MIMO wireless device with built-in grid antenna.

Buttons and jumpers

The reset button has three functions:

*   Hold this button during boot time until LED light starts flashing, release the button to reset RouterOS configuration (total 5 seconds).
*   Keep holding for 5 more seconds, LED turns solid, release now to turn on CAPs mode (total 10 seconds).
*   Or keep holding the button for 5 more seconds until until LED turns off, then release it to make the RouterBOARD look for Netinstall servers (total 15 seconds).

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 ⏚) 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 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: Exposure to Radio Frequency Radiation.

20 cm minimum distance has to be maintained between the general public. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

Antenna Installation. WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

Approved antennas: Mikrotik Dual Polarity, Directional (9.0 dBi and 16.0 dBi), Short Backfire, Directional (21 dBi) and Parabolic Dish (24.5 dBi and 27.0 dBi)

FCC ID numbers: TV7LHG5ACD

OEM statement.

This module is intended for OEM installations only. As such the OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove install or modify the module. This module is limited to installations in mobile or fixed applications. OEM integrators may utilize antennas of like an equal or lesser gain as appearing in the list in this document (reference 47 CFR, paragraph 15.204(c)(4) for further information on this topic. The MikroTik OEM RF Module complies with Part 15 of the FCC rules and regulations.

OEM Modules have been certified by the FCC for use with other products without any further certification (as per FCC section 2.1091). Separate approval is required for other operating configurations including portable configurations with respect to 47CFR paragraph 2.1093 and different antenna configurations. The OEM is required to comply with all 47CFR labeling instructions and requirements for the finished products.

Changes or modifications not expressly approved by MikroTik could void the OEM authority to install or operate the equipment. OEMs must test their final product to comply with unintentional radiators (FCC section 15.107 and 15.109) before declaring compliance of their final product to Part 15 of the FCC Rules.

WARNING: the OEM must ensure that the FCC labeling requirements are met. This includes a clearly visible label on the outside of the OEM enclosure specifying the appropriate MikroTik OEM RF Module FCC identifier for this product as well as any other required FCC notices as presented below.

Contains FCC ID: TV7LHG5ACD
This enclosed device complies with 47CFR paragraph 15 C of the FCC rules and regulations. 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.

Labeling and text information should be of a size of type large enough to be readily legible, consistent with the dimensions of the equipment and the label.

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.

IC numbers: 7442A-LHG5ACD

LE-LAN device restriction:

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Les dispositifs fonctionnant dans la bande de 5 150 à 5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux

Les utilisateurs devraient aussi être avisés, d'une part, que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) des bandes de 5 250 à 5 350 MHz et de 5 650 à 5 850 MHz et, d'autre part, que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs de RL-EL

CE declaration of conformity

CE

Maximum Output Power (EIRP) in 5470 - 5725 MHz is 27dBm.
Manufacturer: Mikrotikls SIA, Pernavas street 46, Riga, Latvia, LV1009.

Full Declaration of Conformity (DoC) may be obtained by visiting our product page on https://mikrotik.com

[EN] English	Hereby, MIKROTĪKLS SIA declares that the radio equipment RBwAPG-60ad is in compliance with Directive 2014/53/EU
[BG] Bulgarian	С настоящето, MIKROTĪKLS SIA декларира, че RBwAPG-60ad е в съответствие със съществените изисквания и другитеприложими разпоредби на Директива 2014/53/EC.
[CZ] Czech	MIKROTĪKLS SIA tímto prohlašuje, že RBwAPG-60ad splňuje základní požadavky a všechna příslušná ustanoveni Směrnice 2014/53/ES.
[DK] Danish	Undertegnede MIKROTĪKLS SIA erklærer herved, at følgende udstyr RBwAPG-60ad overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EF.
[DE] German	Hiermit erklärt MIKROTĪKLS SIA dass sich das Gerät RBwAPG-60ad in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EG befindet.
[EE] Estonian	Käesolevaga kinnitab MIKROTĪKLS SIA seadme RBwAPG-60ad vastavust direktiivi 2014/53/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
[GR] Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Ο ΚΑΤΑΣΚΕΥΑΣΤΗΣ MIKROTĪKLS SIA ΔΗΛΩΝΕΙ ΟΤΙ RBwAPG-60ad ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΚ
[ES] Spanish	Por la presente, MIKROTĪKLS SIA declara que este RBwAPG-60ad cumple con los requisitos esenciales y otras exigencias relevantes de la Directiva 2014/53/EC.
[IT] Italian	Con la presente MIKROTĪKLS SIA dichiara che questo RBwAPG-60ad è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/CE.
[LV] Latvian	Ar šo MIKROTĪKLS SIA deklarē, ka RBwAPG-60ad atbilst Direktīvas 2014/53/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
[LT] Lithuanian	Šiuo MIKROTĪKLS SIA deklaruoja, kad šis RBwAPG-60ad atitinka esminius reikalavimus ir kitas 2014/53/EB Direktyvos nuostatas
[HU] Hungarian	A MIKROTĪKLS SIA ezzennel kijelenti, hogy a RBwAPG-60ad típusú beren-dezés teljesíti az alapvető követelményeket és más 2014/53/EK irányelvben meghatározott vonatkozó rendelkezéseket.
[NL] Dutch	Hierbij verklaart MIKROTĪKLS SIA dat het toestel l RBwAPG-60ad in overeenstemming is met de essentiële eisen en de andere relevante bepalin-gen van richtlijn 2014/53/EG.
[PL] Polish	Niniejszym MIKROTĪKLS SIA deklaruje że RBwAPG-60ad jest zgodny z zasadniczymi wymaganiami i innymi właściwymi postanowieniami Dyrektywy 2014/53/EC.
[PT] Portuguese	Eu, MIKROTĪKLS SIA declaro que o RBwAPG-60ad cumpre os requisitos essenciais e outras provisões relevantes da Directiva 2014/53/EC.
[RO] Romanian	Prin prezenta, MIKROTĪKLS SIA declară că aparatul RBwAPG-60ad este în conformitate cu cerinţele esenţiale şi cu alte prevederi pertinente ale Directivei 2014/53/CE.
[SK] Slovak	MIKROTĪKLS SIA týmto vyhlasuje, že RBwAPG-60ad spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/ES.
[SI] Slovenian	MIKROTĪKLS SIA izjavlja, da je ta RBwAPG-60ad v skladu z bistvenimi zahtevami in drugimi relevantnimi določili direktive 2014/53/ES.
[FI] Finish	MIKROTĪKLS SIA vakuuttaa täten että RBwAPG-60ad tyyppinen laite on direktiivin 2014/53/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
[SE] Swedish	Härmed intygar MIKROTĪKLS SIA att denna RBwAPG-60ad är i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EG.
[NO] Norwegian	MIKROTĪKLS SIA Erklærer herved at RBwAPG-60ad er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EF.

EN. Instruction manual: Connect the power adapter to turn on the device. Open 192.168.88.2/192.168.88.3 in your web browser, to configure it. More information on http://mt.lv/help **BG. Инструкция**: Свържете адаптера на захранване, за да включите устройството. Отворете 192.168.88.2/192.168.88.3 в уеб браузър, за да настроите продукта. Повече информация в http://mt.lv/help **CZ. Návod k použití**: Připojte napájecí adaptér k zapnutí přístroje. Otevřete 192.168.88.2/192.168.88.3 ve webovém prohlížeči pro konfiguraci produktu. Více informací najdete v http://mt.lv/help **DK. Instruktionsbog**: Tilslut strømadapteren for at tænde for enheden. Åbn 192.168.88.2/192.168.88.3 i en webbrowser til at konfigurere produktet. Mere information i http://mt.lv/help **FR. Mode d'emploi**: Connectez l'adaptateur d'alimentation pour allumer l'appareil. Ouvrez 192.168.88.2/192.168.88.3 dans un navigateur Web pour configurer le produit. Plus d'informations dans http://mt.lv/help **DE. Bedienungsanleitung**: Verbinden Sie das Netzteil, um das Gerät einzuschalten. Öffnen Sie 192.168.88.2/192.168.88.3 in einem Web-Browser, um das Produkt zu konfigurieren. Weitere Informationen im http://mt.lv/help **EE. Kasutusjuhend**: Ühendage toiteadapter seadme sisselülitamiseks. Avatud 192.168.88.2/192.168.88.3 in veebilehitseja seadistada toodet. Rohkem teavet http://mt.lv/help **ES. Manual de instrucciones**: Conecte el adaptador de alimentación para encender la unidad. Abra 192.168.88.2/192.168.88.3 en un navegador web para configurar el producto. Más información en http://mt.lv/help **IT. Manuale di istruzioni**: Collegare l'adattatore di alimentazione per accendere l'unità. Aprire 192.168.88.2/192.168.88.3 in un browser Web per configurare il prodotto. Maggiori informazioni in http://mt.lv/help **LV. Lietošanas instrukcija**: Pievienojiet Strāvas adapteri, lai ieslēgtu ierīci. Atvērt 192.168.88.2/192.168.88.3 ar interneta pārlūku, lai konfigurētu produktu. Plašāka informācija http://mt.lv/help **LT. Naudojimosi instrukcija**: Prijunkite maitinimo adapterį įjunkite įrenginį. Į interneto naršyklę 192.168.88.2/192.168.88.3 Atidarykite galite konfigūruoti gaminį. Daugiau informacijos rasite http://mt.lv/help **HU. Használati utasítás**: Csatlakoztassa a hálózati adaptert a készülék bekapcsolásához. Megnyitása 192.168.88.2/192.168.88.3 egy webböngészőben beállítani a terméket. Több információ http://mt.lv/help **NL. Handleiding**: Sluit voedingsadapter aan op het apparaat in te schakelen. Open 192.168.88.2/192.168.88.3 in een webbrowser om het product te configureren. Meer informatie in http://mt.lv/help **PL. Instrukcja obsługi**: Podłącz adapter zasilania, aby włączyć urządzenie. Otwórz 192.168.88.2/192.168.88.3 w przeglądarce internetowej, aby skonfigurować urządzenie. Więcej informacji w http://mt.lv/help **PT. Manual de instruções**: Conecte o adaptador de alimentação para ligar o aparelho. Abra 192.168.88.2/192.168.88.3 em um navegador da web para configurar o produto. Mais informações em http://mt.lv/help **RO. Instrucţiuni de utilizare**: Conectaţi adaptorul de alimentare pentru a porni aparatul. Deschide 192.168.88.2/192.168.88.3 într-un browser web pentru a configura produsul. Mai multe informaţii în http://mt.lv/help **SK. Návod na použitie**: Pripojte napájací adaptér k zapnutiu prístroja. Otvorte 192.168.88.2/192.168.88.3 vo webovom prehliadači pre konfiguráciu produktu. Viac informácií nájdete v http://mt.lv/help **SI. Navodila**: Priključite napajalnik za vklop naprave. Odprite 192.168.88.2/192.168.88.3 v spletnem brskalniku nastaviti izdelek. Več informacij v http://mt.lv/help **FI. Käyttöohje**: Kytke virtalähde päälle laitteen. Avaa 192.168.88.2/192.168.88.3 in selaimen määrittää tuotteen. Lisää tietoa http://mt.lv/help **SE. Instruktionsmanual**: Anslut nätadaptern för att slå på enheten. Öppna 192.168.88.2/192.168.88.3 i en webbläsare för att konfigurera produkten. Mer information på http://mt.lv/help **NO. Bruksanvisningen**: Koble strømadapteren for å slå på enheten. Åpne 192.168.88.2/192.168.88.3 i en nettleser for å konfigurere produktet. Mer informasjon på http://mt.lv/help **GR. εγχειρίδιο οδηγιών**: Συνδέστε τον προσαρμογέα τροφοδοσίας για να ενεργοποιήσετε τη μονάδα. Ανοίξτε 192.168.88.2/192.168.88.3 σε ένα πρόγραμμα περιήγησης στο Web για να διαμορφώσετε το προϊόν. Περισσότερες πληροφορίες στο http://mt.lv/help