

# LHG LTE18 kit



## LHG LTE18 kit (LHGGM&EG18-EA)

### Safety Warnings

Before you work on any equipment, be aware of the hazards involved with electrical circuitry, and be familiar with standard practices for preventing accidents.

Ultimate disposal of this product should be handled according to all national laws and regulations.

All installation methods for mounting an access point on any wall surface are subject to the acceptance of local jurisdiction.

The Installation of the equipment must comply with local and national electrical codes.

This product is intended to be mounted outdoors on a pole. Please read the mounting instructions carefully before beginning installation. Failure to use the correct hardware and configuration or to follow the correct procedures could result in a hazardous situation for people and damage to the system.

Use only the power supply and accessories approved by the manufacturer, which can be found in the original packaging of this product.

Read the installation instructions before connecting the system to the power source.

We cannot guarantee that no accidents or damage will occur due to the improper use of the device. Please use this product with care and operate at your own risk!

In the case of device failure, please disconnect it from power. The fastest way to do so is by unplugging the power plug from the power outlet.

It is the customer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, cabling requirements, and Dynamic Frequency Selection (DFS) requirements. All Mikrotik radio devices must be professionally installed.

This is a class A device. In a domestic environment, this product might cause radio interference in which case the user might be required to take adequate measures.

**Exposure to Radio Frequency Radiation:** This MikroTik equipment complies with the FCC, IC, and European Union radiation exposure limits set forth for an uncontrolled environment. This MikroTik device should be installed and operated no closer than 130 centimeters from your body, occupational user, or the general public.

### Quickstart

1. While holding the unit by its central column, apply force to the tab, which holds the latch closed, until the latch pops open.
2. Insert the SIM card into the slot, with chips facing UP.
3. Assemble the case by attaching legs to the base of the unit, please see the [Case assembly](#) paragraph.
4. Mount the unit in your desired place, please see the [Mounting](#) paragraph.
5. Connect an Ethernet cable to the Ethernet port, and connect the other end of the Ethernet cable to the included PoE injector.
6. Plug the PoE injector into your PC.
7. Plug the included power supply into the PoE injector to start up the device. please see the [powering](#) paragraph.
8. Set LAN computer IP configuration to *automatic* (DHCP).
9. Open <https://192.168.188.1> in your web browser to start the configuration.
10. User name: *admin* and there is no password by default you will be logged in automatically to the Quick Set screen.
11. Update the device by clicking the "Check for updates" button on the right side and updating your RouterOS software to the latest version to ensure the best performance and stability. Must have a valid SIM card inserted.
12. To manually update the device, please go to <https://mikrotik.com/download>
13. Choose ARM64 packages for this device and download them to your PC.
14. Upload downloaded packages to the WebFig "Files" menu and reboot the device.
15. Updating your RouterOS software to the latest version will ensure the best performance, stability, and security updates.

16. Set up your router password in the bottom field "Password" to the right and repeat it in the field "Confirm Password", it will be used to log in next time.
17. Click on the "Apply Configuration" to save changes.

## Case assembly

1. Attach the two legs to the LHG case by sliding them onto the respective sides, the legs are different and cannot be exchanged (when looking at the product place it that the cover for the Ethernet port is in front of you, leg marked R is for the right side, leg marked L is for the left side).
2. Snap the assembled LHG unit to the grid in the appropriate central location.
3. Fix the two legs in place with included two self-thread screws (Phillips screwdriver PH2).

The package also contains a grounding cable connector and a 5-degree angle adapter, for easier up or downward tilt adjustment. See [Mounting](#) paragraph.

## Powering

The device accepts powering from:

PoE in 802.3af/at

Supported input Voltage 12-57 V

Power adapter nominal voltage 24 V

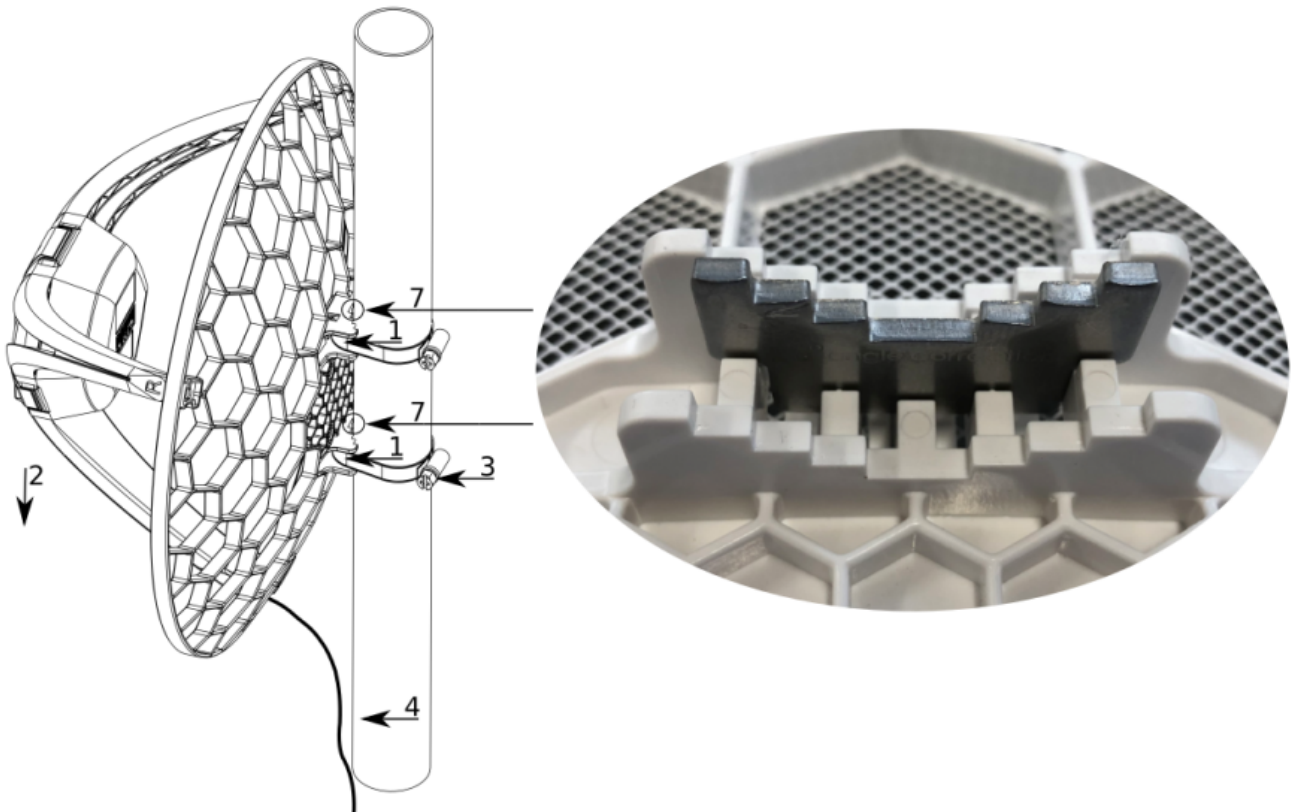
Power adapter nominal current 0.8 A

Max power consumption 8 W

Connecting to a PoE Adapter:

1. Connect the Ethernet cable from the device to the PoE+DATA port of the PoE adapter;
2. Connect an Ethernet cable from your local network (LAN) to the PoE adapter;
3. Connect the power cord to the adapter, and then plug the power cord into a power outlet.

## Mounting



1. Slide the included metallic mounting rings into the two slots on the back of the antenna dish.

2. Attach the unit to a pole, with the Ethernet port pointing downward.
3. Use a PH2 screwdriver to tighten the rings.
4. Fix the Ethernet cable to the pole using zip ties, less than one meter from the unit, to avoid the cable being pulled out of the port.
5. Check mounting angle and positioning.
6. Optional: If required, before mounting the unit, you can insert the included 5-degree adjustment adapter into the top or bottom slot where the mounting ring is inserted. This will create an additional upward or downward angle when the unit is tightened to a vertical pole.
7. Insert a 5-degree angle adapter to one of the slots and remount the unit.

When mounting outdoors, please ensure that any cable openings are directed downwards. Use POE injector and proper grounding, this device has a specially designed grounding connector under the port cover. Recommended using shielded Cat5/6 cable. The IP rating scale for this device is IP54. *Warning! This equipment should be installed and operated with a minimum distance of 120 cm between the device and your body. The operation of this equipment in the residential environment could cause radio interference.*

## Configuration

Once logged in, we recommend clicking the "Check for updates" button in the QuickSet menu, as updating your RouterOS software to the latest version ensures the best performance and stability. For wireless models, please make sure you have selected the country where the device will be used, to conform to local regulations.

RouterOS includes many configuration options in addition to what is described in this document. We suggest starting here to get yourself accustomed to the possibilities: <https://mt.lv/help>. In case an IP connection is not available, the Winbox tool (<https://mt.lv/winbox>) can be used to connect to the MAC address of the device from the LAN side (all access is blocked from the Internet port by default).

For recovery purposes, it is possible to boot the device for reinstallation, see a section [Reset button](#).

## Accessories

The package includes the following accessories that come with the device:



24 V 0.8 A  
power adapter

K-LHG  
fastening set

PoE injector

2x hose clamps

## Expansion slots and ports

- Product code LHGGM&EG18-EA
- CPU 88F3720 800 MHz
- CPU architecture ARM 64bit
- Size of RAM 256 MB
- Storage 16 MB flash
- Number of 1G Ethernet ports 1
- LTE modem R11mL-EG18-EA
- TAC 86981604
- LTE category 18 (1.2Gbps Downlink, 150Mbps Uplink)
- LTE FDD bands 1 (2100MHz) / 3 (1800MHz) / 5 (850MHz) / 7 (2600MHz) / 8 (900 MHz) / 20 (800MHz) / 28 (700MHz) / 38 (2600MHz) / 40 (2300MHz) / 41 (2500MHz)
- 3G category R8 (42.2Mbps Downlink, 11.2Mbps Uplink)
- 3G bands 1 (2100MHz) / 3 (1800MHz) / 5 (850MHz) / 8 (900MHz)
- Micro SIM slot 1
- Dimensions 391 x 391 x 227 mm
- Operating system RouterOS v7, License level 3
- Operating temperature -40°C to +70°C

## Reset button

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 CAP mode. The device will now look for a CAPsMAN server (total of 10 seconds);
- Or Keep holding the button for 5 more seconds until LED turns off, then release it to make the RouterBOARD look for Netinstall servers (total of 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.

## Operating system support

The device supports RouterOS software version 7.2. The specific factory-installed version number is indicated in the RouterOS menu /system resource. Other operating systems have not been tested.



To avoid pollution of the environment, please separate the device from household waste and dispose of it in a safe manner, such as designated waste disposal sites. Familiarize yourself with the procedures for the proper transportation of the equipment to the designated disposal sites in your area.

## UKCA marking



## CE Declaration of Conformity

BG	С настоящото Mikrotikls SIA декларира, че този тип радиосъоръжение LHGGM&EG18-EA е в съответствие с Директива 14/53/EC. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
CS	Tímto Mikrotikls SIA prohlašuje, že typ rádiového zařízení LHGGM&EG18-EA je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
DA	Hermed erklærer Mikrotikls SIA, at radioudstyrstypen LHGGM&EG18-EA er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
DE	Hiermit erklärt Mikrotikls SIA, dass der Funkanlagentyp LHGGM&EG18-EA der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
EL	Με την παρούσα ο/η Mikrotikls SIA, δηλώνει ότι ο ραδιοεξοπλισμός LHGGM&EG18-EA πληροί την οδηγία 2014/53/EE. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
EN	Hereby, Mikrotikls SIA declares that the radio equipment type LHGGM&EG18-EA is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
ES	Por la presente, Mikrotikls SIA declara que el tipo de equipo radioeléctrico LHGGM&EG18-EA es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
ET	Käesolevaga deklareerib Mikrotikls SIA, et käesolev raadioseadme tüüp LHGGM&EG18-EA vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
FI	Mikrotikls SIA vakuuttaa, että radiolaitetyyppi LHGGM&EG18-EA on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>

FR	Le soussigné, Mikrofikls SIA, déclare que l'équipement radioélectrique du type LHGGM&EG18-EA est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
HR	Mikrofikls SIA ovime izjavljuje da je radijska oprema tipa LHGGM&EG18-EA u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
HU	Mikrofikls SIA igazolja, hogy a LHGGM&EG18-EA típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
IT	Il fabbricante, Mikrofikls SIA, dichiara che il tipo di apparecchiatura radio LHGGM&EG18-EA è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
IS	Hér með lýsir Mikrofikls SIA því yfir að LHGGM&EG18-EA er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 2014/53/EU. Fullur texti ESB samræmisýfirlýsingar er að finna á eftirfarandi veffangi: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
LT	Aš, Mikrofikls SIA, patvirtinu, kad radijo įrenginių tipas LHGGM&EG18-EA atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
LV	Ar šo Mikrofikls SIA deklarē, ka radioiekārta LHGGM&EG18-EA atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
MT	B'dan, Mikrofikls SIA, niddikjara li dan it-tip ta' tagħmir tar-radju LHGGM&EG18-EA huwa konformi mad-Direttiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformità tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li ġej: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
NL	Hierbij verklaar ik, Mikrofikls SIA, dat het type radioapparatuur LHGGM&EG18-EA conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
NO	Mikrofikls SIA erklærer herved at utstyret LHGGM&EG18-EA er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53 /EU. Den fulle teksten til EU-samsvarserklæringen er tilgjengelig på følgende internetadresse: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
PL	Mikrofikls SIA niniejszym oświadcza, że typ urządzenia radiowego LHGGM&EG18-EA jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
PT	O(a) abaixo assinado(a) Mikrofikls SIA declara que o presente tipo de equipamento de rádio LHGGM&EG18-EA está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
RO	Prin prezenta, Mikrofikls SIA declară că tipul de echipamente radio LHGGM&EG18-EA este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
SK	Mikrofikls SIA týmto vyhlasuje, že rádiové zariadenie typu LHGGM&EG18-EA je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
SL	Mikrofikls SIA potrjuje, da je tip radijske opreme LHGGM&EG18-EA skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>
SV	Härmed försäkrar Mikrofikls SIA att denna typ av radioutrustning LHGGM&EG18-EA överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: <a href="https://mikrotik.com/products">https://mikrotik.com/products</a>

Operating Frequency / Maximum output power Betriebsfrequenz / maximale Ausgangsleistung Fréquence de fonctionnement / puissance de sortie maximale Frecuenza operativa / massima potenza di uscita Frecuencia de funcionamiento / potencia de salida máxima Рабочая частота / максимальная выходная мощность	WCDMA Band I	2100 MHz / 24dBm ± 2.7 dB
	WCDMA Band III	1800 MHz / 24dBm ± 2.7 dB
	WCDMA Band V	850 MHz / 24dBm ± 2.7 dB
	WCDMA Band VIII	900 MHz / 24dBm ± 2.7 dB
	LTE Band 1	2100 MHz / 23dBm ± 2.7 dB
	LTE Band 3	1700 MHz / 23dBm ± 2.7 dB
	LTE Band 5	850 MHz / 23dBm ± 2.7 dB
	LTE Band 7	2600 MHz / 23dBm ± 2.7 dB
LTE Band 8	900 MHz / 23dBm ± 2.7 dB	

LTE Band 20	800 MHz / 23dBm ± 2.7 dB
LTE Band 28	700 MHz / 23dBm ± 2.7 dB
LTE Band 38	2600 MHz / 23dBm ± 2.7 dB
LTE Band 40	2300 MHz / 23dBm ± 2.7 dB
LTE Band 41	2500 MHz / 23dBm ± 2.7 dB

This MikroTik device meets Maximum TX power limits per ETSI regulations. For more detailed information see Declaration of Conformity above / Dieses MikroTik-Gerät erfüllt die maximalen Sendeleistungsgrenzwerte gemäß ETSI-Bestimmungen. Weitere Informationen finden Sie oben in der Konformitätserklärung. Nähere Informationen finden Sie oben in der Konformitätserklärung / Cet appareil MikroTik respecte les limites de puissance TX maximale via les réglementations ETSI. Pour plus d'informations, voir la déclaration de conformité ci-dessus / Questo dispositivo MikroTik soddisfa i limiti di potenza massima TX tramite le normative ETSI. Per informazioni più dettagliate consultare la Dichiarazione di conformità sopra / Este dispositivo MikroTik cumple con los límites máximos de potencia TX a través de las normas ETSI. Para obtener información más detallada, consulte la Declaración de conformidad anterior / Это устройство MikroTik соответствует ограничениям максимальной мощности передачи согласно правилам ETSI. Для получения более подробной информации см. Декларацию соответствия выше.

***(EN) Technical Specifications / (DE) Technische Spezifikationen / (FR) Spécifications techniques /***

***(IT) Specifiche tecniche / (ES) Especificaciones técnicas / (RU) Технические характеристики:***

Product Power Input Options	Power Adapter Output Specification (PSU)		Degrees of protection provided by enclosure (IP Code)	Operating Temperature
	Voltage	Current		
PoE In Ethernet Port = 12-57 V DC	24 V	0.8 A	IP55	-40°..+70°C