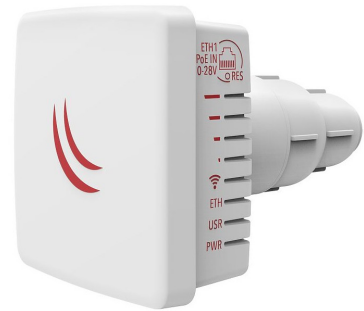


LDF 2

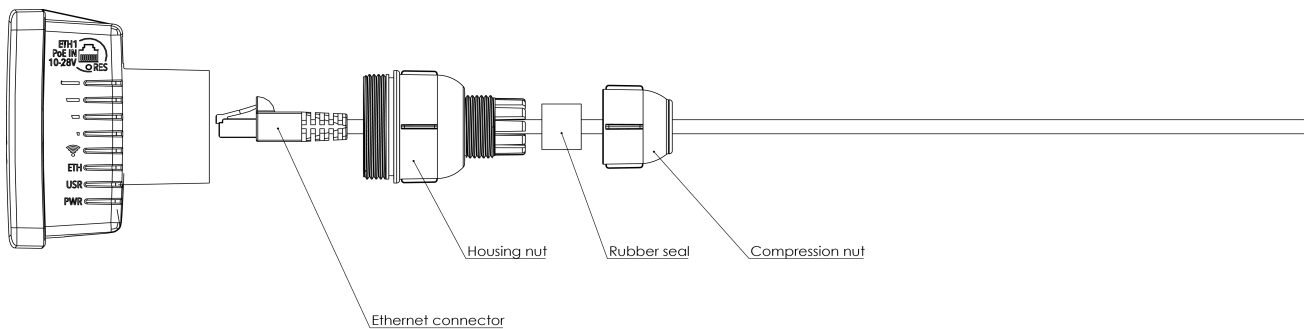
The LDF (Lite dish feed) is an outdoor wireless system with a built-in antenna, meant to be installed on satellite offset dish antennas.

Assembly

The device is compatible with standard offset dishes, commonly used for satellite television. The offset mount is universal at 40 mm diameter, and the LDF can easily be placed inside it. To attach the Ethernet cable to the LDF unit, follow these steps:



1. Assemble all components as shown in the illustration. If using pre-made cables, cut the rubber seal on one side, to put it onto the cable. Self crimped cables should be crimped after the seal is on the cable;
2. Connect Ethernet cable to Ethernet connector on LDF;
3. Attach Housing nut to LDF body by rotating clockwise;
4. Slide rubber seal into housing nut, then close the waterproof gland by turning compression nut clockwise.



Assembling on dish

Please ensure to mount the LDF unit on the offset mount in the proper position as shown in the picture to the right. Unit facing upwards to the dish.



The dish will act as a reflector, amplifying the signal. The final position of your assembly should be placed and installed on the pole or wall as shown on the picture to the left.

Mounting

The IP rating scale for this device is IP54.

The Device designed to use outdoors, please ensure that any cable openings are directed downwards. Use POE injector with Cat6 cable. Installation infrastructure (towers and masts), as well as the router itself, to be properly grounded.



Mounting and configuration of this device should be done by a qualified person.

Warning! This equipment should be installed and operated with a minimum distance of 40 cm between the device and your body. Operation of this equipment in the residential environment could cause radio interference.

Powering

The device accepts 10-28 V \approx DC input from passive Power over Ethernet injectors. The device does not work with IEEE802.3af compliant 48 V power injectors. A PoE injector is included in the package.

Maximum power consumption 7 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.

First steps

1. Connect an Ethernet cable to the Ethernet port, connect the other end of the Ethernet cable to a PoE injector. Plug the PoE injector into your PC or into your local network switch. Plug the power adapter into the PoE injector to start your device.
2. Set your computer IP configuration to automatic (DHCP).
3. Once connected to the network, open <http://192.168.88.1> in your web browser to start configuration, since there is no password by default, you will be logged in automatically.
4. We recommend clicking the “Check for updates” button and updating your RouterOS software to the latest version to ensure the best performance and stability.
5. Choose your country and to apply country regulation settings and set up your password on the screen that loads.
6. Depending on the antenna used, you must set its gain in the RouterOS software to ensure that EIRP meets the limit set by the local authorities. This is done in the Wireless menu:
 - Click on the “WebFig” tab;
 - Choose “Wireless” on the left side menu;
 - Click on the interface;
 - Enter “**Antenna Gain**” in the field;
 - Click OK.

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 with 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: <http://mt.lv/help>. In case IP connection is not available, the Winbox tool (<http://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 section [Buttons and Jumpers](#).

Extension slots and ports

- Integrated wireless 2.4 GHz, 802.11b/g/n.
- One 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.

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 CAP mode. The device will now look for a CAPsMAN server (total 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 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.

Specifications

For more information about this product, specifications, pictures, downloads and test results please visit our web page: https://mikrotik.com/product/ldf_2

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.

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

This equipment is to be installed by trained and qualified personnel, as per these installation instructions. The installer is responsible for obtaining any required local or national safety inspections of the structural integrity of the installation by the local authority/inspection department.

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

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

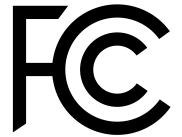
This unit is intended to be mounted outdoors on a pole. Please read the mounting instructions carefully before beginning installation. **Failure to use the correct hardware and configuration or to follow the correct procedures could result in a hazardous situation to people and damage to the system.**

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.

Operating system support

The device supports RouterOS software version 6. The specific factory-installed version number is indicated in the RouterOS menu `/system resource`. Other operating systems have not been tested.

Federal Communication Commission Interference Statement



FCC ID TV7LDF2ND

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.

40 cm minimum distance has to be maintained between the antenna and the occupational user. 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.

List of approved antennas:

- 25 dBi Dish Winegard model: DS2076

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: Exposure to Radio Frequency Radiation.

This equipment complies with the IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 40 cm between the radiator and any part of your body.

Cet équipement est conforme aux limites d'exposition au rayonnement IC définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 40 cm entre le radiateur et toute partie de votre corps.

CAN ICES-3 (B)/NMB-3(B)

This radio transmitter 7442A-LDF2ND has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

List of approved antennas:

- 25 dBi Dish antenna, Winegard Model: DS2076

CE Declaration of Conformity



Manufacturer: Mikrotikls SIA, Brivibas gatve 214i Riga, Latvia, LV1039.

BG	С настоящото Mikrotikls SIA декларира, че този тип радиосъоръжение RouterBOARD е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: https://mikrotik.com/products
CS	Tímto Mikrotikls SIA prohlašuje, že typ rádiového zařízení RouterBOARD je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: https://mikrotik.com/products
DA	Hermed erklærer Mikrotikls SIA, at radioudstyrstypen RouterBOARD er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: https://mikrotik.com/products
DE	Hiermit erkläre Mikrotikls SIA, dass der Funkanlagentyp RouterBOARD der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: https://mikrotik.com/products
EL	Με την παρούσα ο/η Mikrotikls SIA, δηλώνει ότι ο ραδιοεξοπλισμός RouterBOARD πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: https://mikrotik.com/products
EN	Hereby, Mikrotikls SIA declares that the radio equipment type RouterBOARD is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://mikrotik.com/products
ES	Por la presente, Mikrotikls SIA declara que el tipo de equipo radioeléctrico RouterBOARD es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: https://mikrotik.com/products
ET	Käesolevaga deklareerib Mikrotikls SIA, et käesolev raadioseadme tüüp RouterBOARD vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: https://mikrotik.com/products
FI	Mikrotikls SIA vakuuttaa, että radiolaitetyyppi RouterBOARD on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: https://mikrotik.com/products
FR	Le soussigné, Mikrotikls SIA, déclare que l'équipement radioélectrique du type RouterBOARD est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: https://mikrotik.com/products
HR	Mikrotikls SIA ovime izjavljuje da je radijska oprema tipa RouterBOARD u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: https://mikrotik.com/products
HU	Mikrotikls SIA igazolja, hogy a RouterBOARD típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: https://mikrotik.com/products
IT	Il fabbricante, Mikrotikls SIA, dichiara che il tipo di apparecchiatura radio RouterBOARD è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: https://mikrotik.com/products
IS	Hér með lýsir Mikrotikls SIA yfir því að RouterBOARD er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 2014/53/EU. Fullur texti ESB samræmisýfirlýsing er að finna á eftirfarandi netfangi: https://mikrotik.com/products
LT	Aš, Mikrotikls SIA, patvirtinu, kad radijo įrenginių tipas RouterBOARD atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: https://mikrotik.com/products
LV	Ar šo Mikrotikls SIA deklarē, ka radioiekārta RouterBOARD atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: https://mikrotik.com/products
MT	B'dan, Mikrotikls SIA, niddikjara li dan it-tip ta' taghmir tar-radju RouterBOARD 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: https://mikrotik.com/products
NL	Hierbij verklaar ik, Mikrotikls SIA, dat het type radioapparatuur RouterBOARD conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: https://mikrotik.com/products
NO	Mikrotikls SIA erklærer herved at utstyret RouterBOARD 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: https://mikrotik.com/products
PL	Mikrotikls SIA niniejszym oświadczam, że typ urządzenia radiowego RouterBOARD jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: https://mikrotik.com/products
PT	O(a) abaixo assinado(a) Mikrotikls SIA declara que o presente tipo de equipamento de rádio RouterBOARD está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: https://mikrotik.com/products
RO	Prin prezenta, Mikrotikls SIA declară că tipul de echipamente radio RouterBOARD este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: https://mikrotik.com/products
SK	Mikrotikls SIA týmto vyhlasuje, že rádiové zariadenie typu RouterBOARD je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: https://mikrotik.com/products
SL	Mikrotikls SIA potrjuje, da je tip radijske opreme RouterBOARD skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: https://mikrotik.com/products
SV	Härmed försäkras Mikrotikls SIA att denna typ av radioutrustning RouterBOARD överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: https://mikrotik.com/products

MPE statement

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 40 cm between the radiator and your body. In RouterOS you must specify your country, to make sure local wireless regulations are observed.

Frequency bands terms of use

Frequency range (for applicable models)	Channels used	Maximum Output Power (EIRP)	Restriction
2412-2472 MHz	1 - 13	20 dBm	Without any restriction to use in all EU Member States
5150-5250 MHz	26 - 48	23 dBm	Restricted to indoor use only*
5250-5350 MHz	52 - 64	20 dBm	Restricted to indoor use only*
5470-5725 MHz	100 - 140	27 dBm	Without any restriction to use in all EU Member States

* 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!

Note. Information contained here is subject to change. Please visit the product page on www.mikrotik.com for the most up to date version of this document.



BG. Инструкции: Свържете адаптера на захранване, за да включите устройството. Отворете 192.168.88.1 в уеб браузър, за да настроите продукта. Повече информация в <http://mt.lv/help-bg>

CS. Návod k použití: Připojte napájecí adaptér k zapnutí přístroje. Otevřete 192.168.88.1 ve webovém prohlížeči pro konfiguraci produktu. Více informací najdete v <http://mt.lv/help-cs>

DA. Instruktionsbog: Tilslut strømadapteren for at tænde for enheden. Åbn 192.168.88.1 i en webbrowser til at konfigurere produktet. Mere information i <http://mt.lv/help-da>

DE. Bedienungsanleitung: Verbinden Sie das Netzteil, um das Gerät einzuschalten. Öffnen Sie 192.168.88.1 in einem Web-Browser, um das Produkt zu konfigurieren. Weitere Informationen im <http://mt.lv/help-de>

EL. εγχειρίδιο οδηγιών: Συνδέστε τον προσαρμογέα τροφοδοσίας για να ενεργοποιήσετε τη μονάδα. Ανοίξτε 192.168.88.1 σε ένα πρόγραμμα περιήγησης στο Web για να διαμορφώσετε το προϊόν. Περισσότερες πληροφορίες στο <http://mt.lv/help-el>

EN. Instruction manual: Connect the power adapter to turn on the device. Open 192.168.88.1 in your web browser, to configure it. More information on <http://mt.lv/help>

ES. Manual de instrucciones: Conecte el adaptador de alimentación para encender la unidad. Abra 192.168.88.1 en un navegador web para configurar el producto. Más información en <http://mt.lv/help-es>

ET. Kasutusjuhend: Ühendage toiteadapter seadme sisselülitamiseks. Avatud 192.168.88.1 in veebilehitseja seadistada toodet. Rohkem teavet <http://mt.lv/help-et>

FI. Käyttöohje: Kytke virtalähde päälle laitteen. Avaa 192.168.88.1 in selaimen määrittää tuotteen. Lisää tietoa <http://mt.lv/help-fi>

FR. Mode d'emploi: Connectez l'adaptateur d'alimentation pour allumer l'appareil. Ouvrez 192.168.88.1 dans un navigateur Web pour configurer le produit. Plus d'informations dans <http://mt.lv/help-fr>

HR. Uputa za uporabu: Prikjučite napajanje i uključite uređaj. Za konfiguraciju uređaja u pregledniku otvorite 192.168.88.1. Više informacija je na <http://mt.lv/help-hr>

HU. Használati utasítás: Csatlakoztassa a hálózati adaptert a készülék bekapcsolásához. Megnyitása 192.168.88.1 egy webböngészőben beállítani a terméket. Több információ <http://mt.lv/help-hu>

IT. Manuale di istruzioni: Collegare l'adattatore di alimentazione per accendere l'unità. Aprire 192.168.88.1 in un browser Web per configurare il prodotto. Maggiori informazioni in <http://mt.lv/help-it>

IS. Notkunarhandbók: Tengdu straumbreytirinn til að kveikja á tækinu. Opnaðu 192.168.88.1 í vafranum þínum til að stilla það. Nánari upplýsingar á <http://mt.lv/help-is>

NO. Instruksjonsmanual: Koble strømadapteren for å slå på enheten. Åpne 192.168.88.1 i nettleseren din for å konfigurere den. Mer informasjon på <http://mt.lv/help-no>

LT. Naudojimosi instrukcija: Prijunkite maitinimo adapterį įjunkite įrenginį. Į interneto naršyklę 192.168.88.1 Atidarykite galite konfigūruoti gaminį. Daugiau informacijos rasite <http://mt.lv/help-lt>

LV. Lietošanas instrukcija: Pievienojiet Strāvas adapteri, lai ieslēgtu ierīci. Atvērt 192.168.88.1 ar interneta pārlūku, lai konfigurētu produktu. Plašāka informācija <http://mt.lv/help-lv>

MT. Manwal tal-istruzzjoni: Qabbad l-adapter tal-qawwa biex iddawwar it-tagħmir. Iftaħ 192.168.88.1 fil-web browser tiegħek, biex jiġi kkonfigurati. Aktar informazzjoni fuq <http://mt.lv/help-mt>

NL. Handleiding: Sluit voedingsadapter aan op het apparaat in te schakelen. Open 192.168.88.1 in een webbrowser om het product te configureren. Meer informatie in <http://mt.lv/help-nl>

PL. Instrukcja obsługi: Podłącz adapter zasilania, aby włączyć urządzenie. Otwórz 192.168.88.1 w przeglądarce internetowej, aby skonfigurować urządzenie. Więcej informacji w <http://mt.lv/help-pl>

PT. Manual de instruções: Conecte o adaptador de alimentação para ligar o aparelho. Abra 192.168.88.1 em um navegador da web para configurar o produto. Mais informações em <http://mt.lv/help-pt>

RO. Instrucțiuni de utilizare: Conectați adaptorul de alimentare pentru a porni aparatul. Deschide 192.168.88.1 într-un browser web pentru a configura produsul. Mai multe informații în <http://mt.lv/help-ro>

SK. Navodila: Priključite napajalnik za vklop naprave. Odprite 192.168.88.1 v spletnem brskalniku nastaviti izdelek. Več informacij v <http://mt.lv/help-sk>

SL. Návod na použitie: Pripojte napájací adaptér k zapnutiu prístroja. Otvorte 192.168.88.1 vo webovom prehladači pre konfiguráciu produktu. Viac informácií nájdete v <http://mt.lv/help-sl>

SV. Instruktionsmanual: Anslut nätadaptern för att slå på enheten. Öppna 192.168.88.1 i en webbläsare för att konfigurera produkten. Mer information på <http://mt.lv/help-sv>

NO. Bruksanvisningen: Koble strømadapteren for å slå på enheten. Åpne 192.168.88.1 i en nettleser for å konfigurere produktet. Mer informasjon på <http://mt.lv/help-no>

RU. Руководство по эксплуатации: подключите адаптер питания чтобы включить устройство. Откройте 192.168.88.1 в своем веб-браузере для конфигурации. Дополнительная информация <http://mt.lv/help-ru>

CN. 说明书: 连接电源适配器以打开设备。在 Web 浏览器中打开 192.168.88.1 进行配置。有关 <http://mt.lv/help-zh> 的更多信息