



## LORATECH Outdoor Gateway ALU Start Guide Manual

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### **IMPORTANT!**

**Do not power-on the gateway without the antenna connected! The LoRa radio may be damaged!**



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## 1 First run

Connect the antenna to the device with coaxial cable (impedance 50Ω, connector N-female). Link the data cable (cat5e FTP recommended) with the included PoE adapter injector.

## 2 Setting up an IP address

- After powering up, the gateway is going to try to obtain an IP-address by using a DHCP discovery procedure.
- If the network does not support DHCP, the gateway will use the fallback address of 192.168.1.77.
- The gateway can be configured using the web interface. Enter the gateway address in the web browser and log in with the default combination (loratech / loratech).
- Alternatively, an SSH client can be used. Connect in with the SSH client (e.g. PUTTY) with default login (loratech / loratech). However, you can not make any changes to the settings through this connection.
- Status page appears after login. It displays a summary of information about the gateway.

Figure 1: Status page

The screenshot shows the Loratech web interface. On the left is a navigation menu with options: Status page (selected), Network setup, LoRaWAN setup, System, Helpdesk, and Logout. The main content area is titled 'Status page' and contains three panels:

- System Information:** System Time: 13.25.05 14.12.2018; Uptime: 14 minutes; Load Average: 0, 0, 0; Temperature: 29,1 °C; Humidity: 29,3 %; Firmware Version: 37c65ca; Helpdesk SSH tunnel: not running
- Network:** LAN: IP address: 192.168.1.77; MAC Address: B8:27:ED:00:00:1A; 3G/LTE: IP address: 169.228.100.100; MAC Address: 00:12:00:00:00:00
- LoRaWAN:** EUI: B827ED00001A; Servers: app.loratech.cz: 1700 / 1700

Below these panels is a 'PFWD Log (last 100 rows)' section with a scrollable log of system events:

```
Dec 14 12:23:02: INFO: [down] for server app.loratech.cz: PULL_ACK received in 37 ms
Dec 14 12:23:02: INFO: [up] PUSH_ACK for server app.loratech.cz received in 48 ms
Dec 14 12:23:02: ##### END #####
Dec 14 12:23:02: # Manual GPS coordinates: latitude 0.00000, longitude 0.00000, altitude 0 m
Dec 14 12:23:02: # Invalid gps time reference (age: 1544790163 sec)
Dec 14 12:23:02: ### [GPS] ###
Dec 14 12:23:02: # TX errors: 0
Dec 14 12:23:02: # RF packets sent to concentrator: 0 (0 bytes)
Dec 14 12:23:02: # PULL_RESP(onse) datagrams received: 0 (0 bytes)
Dec 14 12:23:02: # PULL_DATA sent: 3 [100,00% acknowledged]
Dec 14 12:23:02: ### [DOWNSTREAM] ###
Dec 14 12:23:02: # PUSH_DATA acknowledged: 0.00%
Dec 14 12:23:02: # PUSH_DATA datagrams sent: 1 (190 bytes)
Dec 14 12:23:02: # RF packets forwarded: 0 (0 bytes)
Dec 14 12:23:02: # CRC_OK: 0.00%, CRC_FAIL: 100.00%, NO_CRC: 0.00%
Dec 14 12:23:02: # RF packets received by concentrator: 1
Dec 14 12:23:02: ### [UPSTREAM] ###
```

- IP address can be set up in *Network setup* menu.

Figure 2: Network setup

- To save the settings press the Save button. After doing so we are going to be prompted to confirm *Apply changes* in the top right corner of the window.

### 3 Setting up LoRa servers

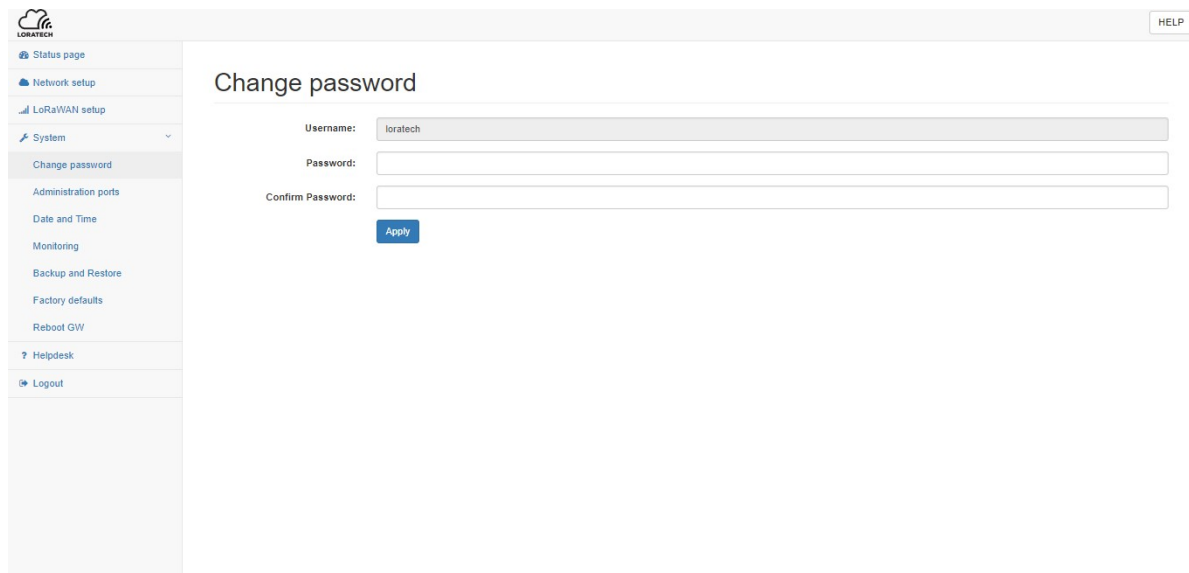
To get EUI and setting up your name, email, GPS coordinates and servers, use the *LoRaWAN setup* menu.

Figure 3: LoRaWAN setup

## 4 Changing the password

It is recommended to change your password as soon as possible! The password can be changed in the *System* menu and the *Change password* submenu.

Figure 4: Change password



The screenshot shows the LoRaTech web interface. On the left is a navigation menu with the following items: Status page, Network setup, LoRaWAN setup, System (expanded), Change password (highlighted), Administration ports, Date and Time, Monitoring, Backup and Restore, Factory defaults, Reboot GW, Helpdesk, and Logout. The main content area is titled 'Change password' and contains three input fields: 'Username:' with the value 'loratech', 'Password:', and 'Confirm Password:'. Below the fields is a blue 'Apply' button. A 'HELP' button is visible in the top right corner of the interface.

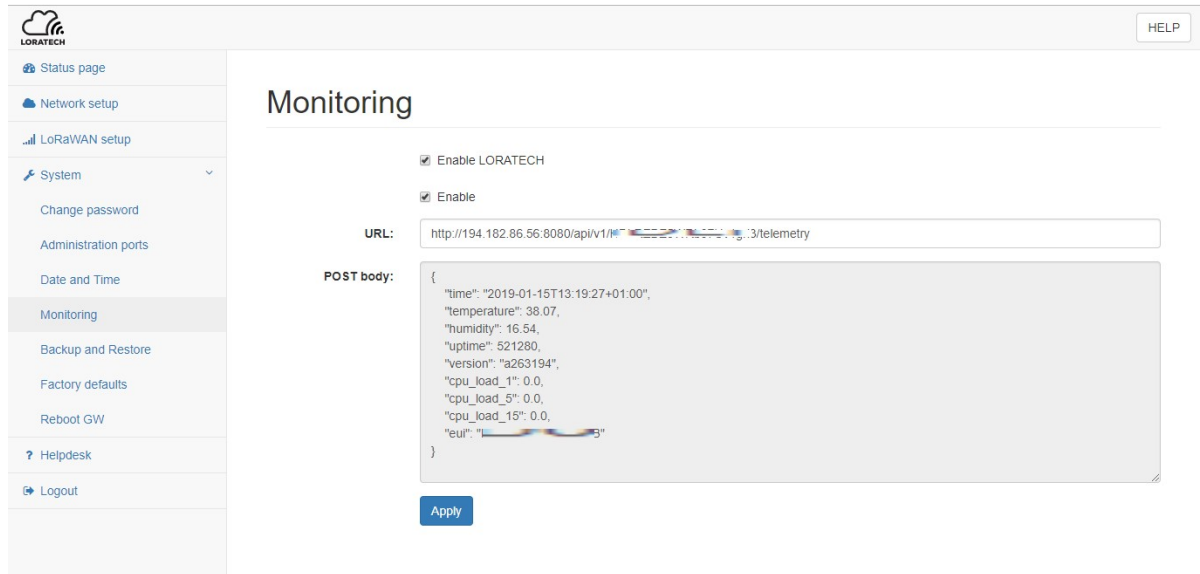
## 5 Monitoring

To setting up monitoring your gateway use the *Monitoring* submenu in the *System* menu. Enter the URL by following the pattern:

*http://194.182.86.56:8080/api/v1/AccessToken/telemetry*

The *Access Token* can be obtained in the ThingsBoard, visualization environment, where we will set up a new device in *DEVICES* Then, tap to enter the device settings and press the *COPY ACCESS TOKEN* button to save the mentioned code to the clipboard, the code needs to be inserted into the edited URL.

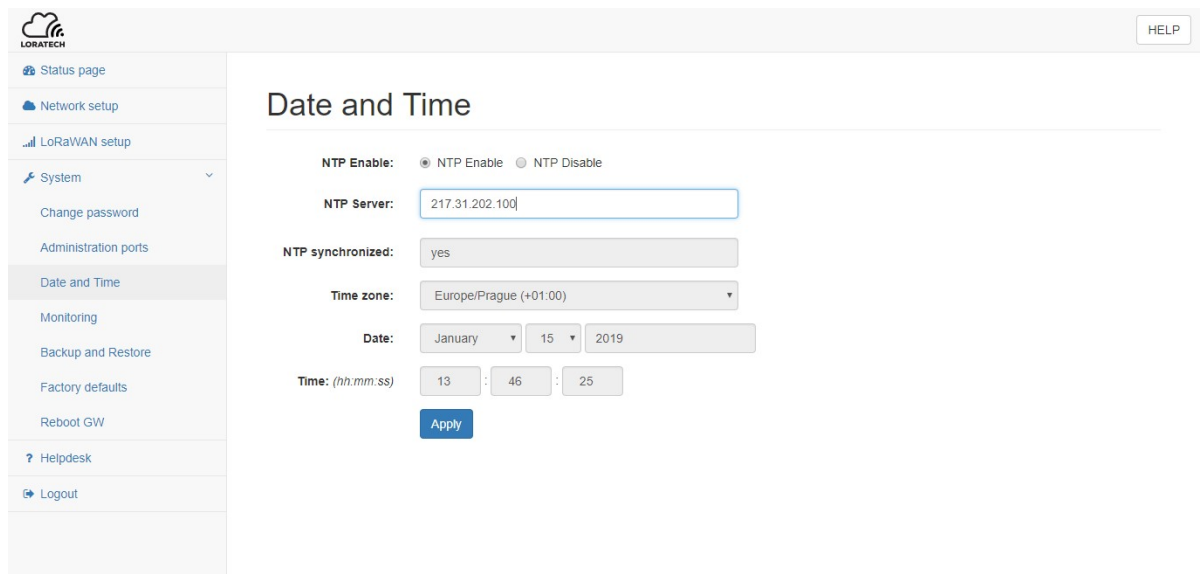
Figure 5: Monitoring



## 6 Date and Time

For setting up date and time in your gateway and setting up NTP server use the *Date and Time* submenu in the *System* menu.

Figure 6: Date and Time



## 7 Setting up 4G connection (optional)

The configuration for GSM / LTE can be set at the bottom of the *Network setup* menu window.

# LORATECH Outdoor Gateway ALU

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