

# Dragino Settings: Send repeater data to ThingsBoard via MQTT (without TTN)

Power the gateway and connect it to the internet.

**ABP settings** within RepeaterNode.ino and Gateway:

Add a key with an ASCII string decoder and matching keys:

devAddr = Dev ADDR

nwkSKey = Network Session Key

appSKey = APP Session Key

```
RepeaterNode.ino
1  // ETH Zürich
2  // Global Health Engineering Lab
3  // Masterthesis Voeten Jerun
4  // Repeater Node Skript
5  // August 2025
6
7  #include <SPI.h>
8  #include <LoRa.h>
9  #include <lorawan.h>
10 #include <avr/wdt.h> // for watchdog timer
11
12 #define PB_PIN A0 // Analog pin for battery voltage measurement
13 const int LEDPinRed = 9; // Red LED pin
14 const int LEDPinGreen = 10; // Green LED pin
15
16 // ABP credentials (Activation by Personalisation)
17 const char *devAddr = " "; // Device address for LoRaWAN ABP
18 const char *nwkSKey = " "; // Network session key
19 const char *appSKey = " "; // Application session key
20
21 const uint8_t node = 3; // Node identifier for this device: repeater node
22
```

DRAGINO

LoRa ▾ LoRaWAN ▾ MQTT ▾ TCP ▾ Custom Network ▾ OpenVPN ▾ System ▾ LogRead ▾ Home Logout

### Decrypt ABP End Node Packets

Enable ABP Decryption ☒

Add Key

Dev ADDR:

APP Session Key:

Network Session Key:

Decoder:

Batch Add

Delete Key

Dev ADDR:

ABP Keys:

Dev ADDR	APP Session Key	Network Session Key	Decoder
<div><div></div><div>1 ASCII</div></div>			

## MQTT Client settings

Get the access token of your device in ThingsBoard and set required information within MQTT Client Configuration

Access token = User ID

Geräte-Zugangsdaten

Zugangsdaten-Typ

Access token

X.509

MQTT Basic

Zugangstoken\*

Abbrechen

Speichern

DRAGINO

LoRa

LoRaWAN

MQTT

TCP

Custom

Network

OpenVPN

System

LogRead

Home

Logout

MQTT Client Configuration

MQTT Server Profile

General

Broker Address [-h]

mqtt.eu.thingsboard.cloud

Broker Port [-p]

1883

User ID [-u]

Key [-key]

Password [-P]

Password

Show

Certificate [--cert]

CA File [--cafile]

Client ID [-i]

dragino-2987ba

Publish

Enable Publish

Quality of Service [-q]

QoS 0

Topic Format [-t]

v1/devices/me/telemetry

Data Format [-m]

JSON

Subscribe

Enable Subscribe

Quality of Service [-q]

QoS 0

Topic Format [-t]

CLIENTID/#

Current Mode:LoRaWAN MQTT

Save&Apply

Cancel

## MQTT Channel settings – add Channel

Local ID = devAddr in *.ino* script

Remote ID = ME

API Key = access token in ThingsBoard

The screenshot shows the 'MQTT Channel Management' page in the DRAGINO web interface. The page has a navigation bar at the top with links for LoRa, LoRaWAN, MQTT, TCP, Custom, Network, OpenVPN, System, LogRead, Home, and Logout. The main content area is titled 'MQTT Channel Management' and contains three sections: 'Add Channel', 'Auto Add Channel', and 'Delete Channel'. The 'Add Channel' section has input fields for 'Local ID:', 'Remote ID:', and 'API Key:', followed by an 'ADD\_CHAN' button. The 'Auto Add Channel' section has an 'AUTO\_ADD' button. The 'Delete Channel' section has a 'Local ID:' input field with the value '260BA674' and a 'DELETE' button. Below these sections is a 'Channels Mapping:' section with a table header showing 'Local ID', 'Remote ID', and 'API Keys'. The table is currently empty, with only the header row visible.

With this system overview, the forwarding to ThingsBoard worked:

