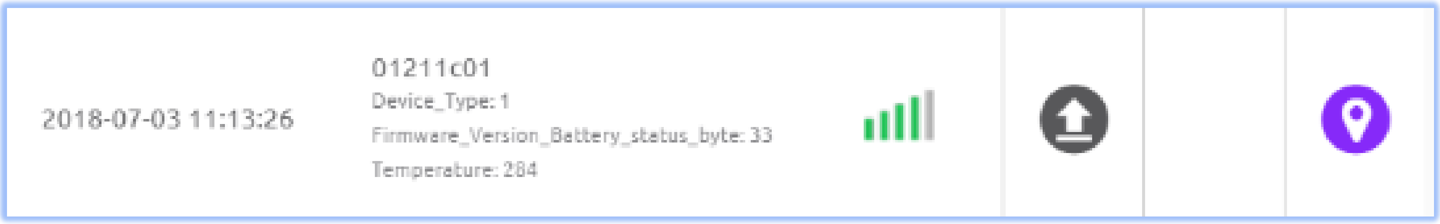
Enless Wireless
M2M & IoT Wireless Expert

SIGFOX TRANSMITTERS DATAFRAME DECODING – V1.0

TEMPERATURE TRANSMITTERS

TX TEMP AMB SIGFOX 200-001 / TX TEMP AMB SIGFOX HP 100-001
TX TEMP INS SIGFOX 300-001 / TX TEMP INS SIGFOX HP 100-003



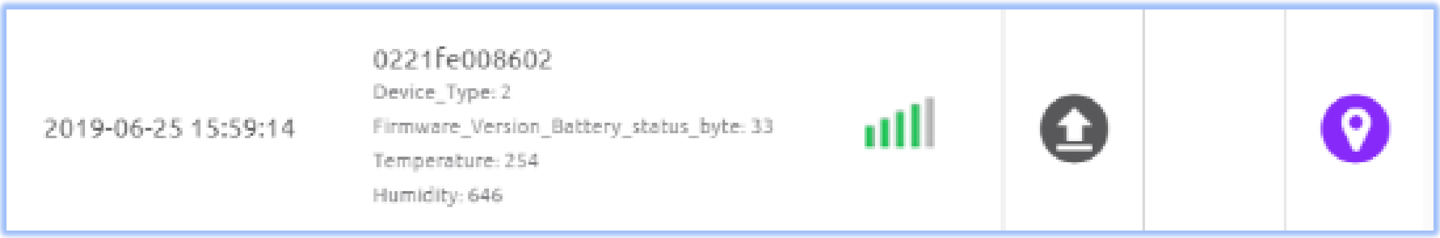
Dataframe example : **01211c01**

01 = transmitter's type (temperature)
21 = firmware version and battery status. 21(hexa) = 0010 0001(binary)
- 0010(binary) = 2(hexa) = firmware version n°2
- 0001(binary) = 1(hexa) = battery OK (if 0, LOW battery)

1c01 = temperature value. Invert bytes = 011c(hexa) = 284(decimal)/10 = 28,4°C

TEMPERATURE AND HUMIDITY TRANSMITTERS

TX TEMP/HUM AMB SIGFOX 200-002
TX TEMP/HUM AMB SIGFOX HP 100-002



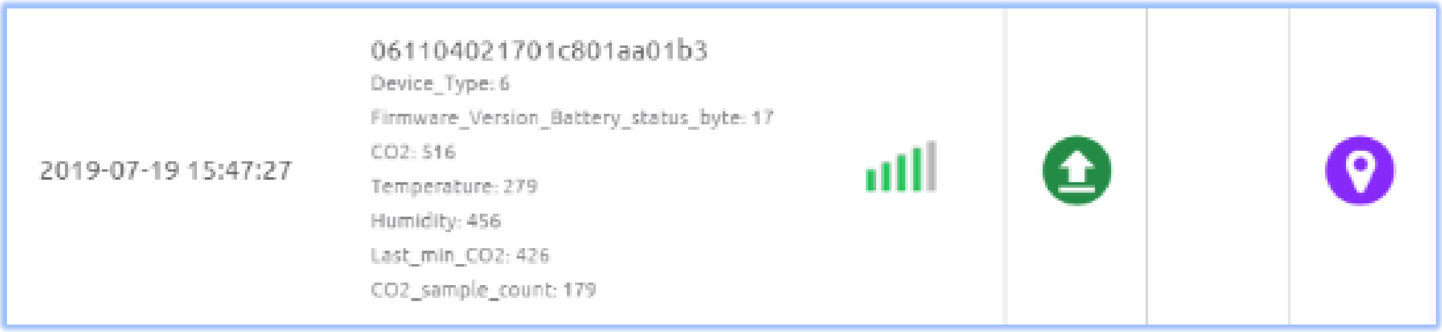
Dataframe example : **0221fe008602**

02 = transmitter's type (temperature et humidity)
21 = firmware version and battery status. 21(hexa) = 0010 0001(binary)
- 0010(binary) = 2(hexa) = firmware version n°2
- 0001(binary) = 1(hexa) = battery OK (if 0, LOW battery)

fe00 = temperature value. Invert bytes = 00fe(hexa) = 254(decimal)/10 = 25,4°C
8602 = humidity value. Invert bytes = 0286 (hexa) = 646(decimal)/10 = 64,6%rH

CO2 / TEMPERATURE / HUMIDITY TRANSMITTERS

TX CO2/TEMP/HUM AMB SIGFOX HP 100-013



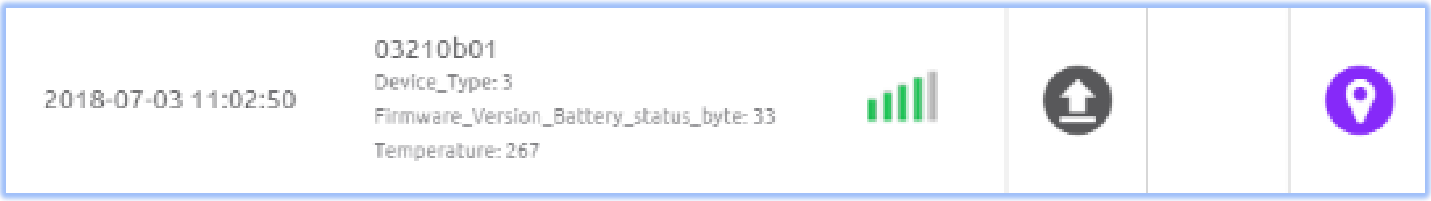
Dataframe example : **061104021701 2e01b40109**

06 = transmitter's type (CO2/temp/hum)
11 = firmware version and battery status. 11(hexa) = 0001 0001(binary)
- 0001(binary) = 1(hexa) = firmware version n°1
- 0001(binary) = 1(hexa) = battery OK (if 0, LOW battery)

0402 = CO2 value. Invert bytes = 0204(hexa) = 516ppm(decimal)
1701 = temperature value. Invert bytes = 0117 (hexa) = 279(decimal)/10 = 27,9°C
c801 = humidity value. Invert bytes = 01c8(hexa) = 456(decimal)/10 = 45,6%rH
aa01 = last minimum Co2 value. Invert bytes = 01aa(hexa) = 426ppm(decimal)
b3 = number of CO2 measurements. b3(hexa) = 179 samplings (decimal)

TEMPERATURE TRANSMITTERS (PT100)

TX TEMP CONT SIGFOX 300-002
TX TEMP CONT SIGFOX HP 100-000



Dataframe example : **03210b01**

03 = transmitter's type (PT100 temperature)
21 = firmware version and battery status. 21(hexa) = 0010 0001(binary)
- 0010(binary) = 2(hexa) = firmware version n°2
- 0001(binary) = 1(hexa) = battery OK (if 0, LOW battery)

0b01 = temperature value. Invert bytes = 010b(hexa) = 267(decimal)/10 = 26,7°C

METERING TRANSMITTERS

TX PULSE SIGFOX 300-009 / TX PULSE SIGFOX HP 100-009
TX PULSE ATEX SIGFOX 300-010 / TX PULSE ATEX SIGFOX HP 100-010
TX PULSE LED SIGFOX HP 100-011

Dataframe example : **0421c00100004e010000bb**

04 = transmitter's type (pulse)
21 = firmware version and battery status. 21(hexa) = 0010 0001(binary)
- 0010(binary) = 2(hexa) = firmware version n°2
- 0001(binary) = 1(hexa) = battery OK (if 0, LOW battery)

c0010000 = number of pulses on channel 1. Read backwards : 000001c0 (hexa) = 448 pulses (decimal)
4e010000 = number of pulses on channel 2. Read backwards : 0000014e (hexa) = 334 pulses (decimal)
bb = ignore this byte

CONTACT TRANSMITTERS (ON/OFF)

TX CONTACT SIGFOX 300-012
TX CONTACT SIGFOX HP 100-012

Dataframe example : **05216f44000036010000bb**

05 = transmitter's type (tx contact)
21 = firmware version and battery status. 21(hexa) = 0010 0001(binary)
- 0010(binary) = 2(hexa) = firmware version n°2
- 0001(binary) = 1(hexa) = battery OK (if 0, LOW battery)

6f440000 = number of contacts on channel 1. Read backwards : 0000446f (hexa) = 17519 contacts (decimal)
36010000 = number of contacts on channel 2. Read backwards : 00000136 (hexa) = 310 contacts (decimal)
bb = contact status (see below)

<u>How to decode contact status (open or closed):</u>

The last byte provides information about contact status (open or closed).
Here, the byte is BB.

The transmitter has two contact channels. This byte is a mix of information for contact n°1 and contact n°2. See explanations below.

BB (hexa) = 10111011 (binary). Split this sequence of numbers : 1011 / 1011
First half (1011) for contact n°2
Second half (1011) for contact n°1.

The number that counts to understand the contact status is the first number of each bloc.
1 = open / 0 = closed

DONC
Channel 2 = 1011 (1 → open contact).
Channel 1 = 1011 (1 → open contact)

Here, BB : 10111011 = Contact n° 2 open / Contact n°1 open