Release Note

MY BEACON
Bluetooth Low Energy
FIRMWARE

This document deals with the versions below:

VERSIONS
V2.1.0 Version Release date : 07/15/2019
V2.0.0 Version Release date : 05/27/2019
V1.0.0 Version Release date : 06/21/2018

This firmware is active on the following products:

Blue PUCK ID
IDF25240
Blue PUCK T
IDF25241
Blue PUCK RHT
IDF25242
Blue PUCK MAG
IDF25243
Blue PUCK MOV
IDF25244
Blue PUCK BUZZ
IDF25245
Blue PUCK DI
IDF25246
Blue PUCK AI
IDF25248
Blue PUCK DO
IDF25247
Blue PUCK T EN12830
IDF30241

Blue COIN ID
IDF10240
Blue COIN T
IDF10241
Blue COIN MAG
IDF10243
Blue COIN MOV
IDF10244

Blue SLIM ID
IDF03240

V2.1.0 VERSION

1 NEW FEATURES

1.1 MAJOR

- Added the option to protect ***NFC-write*** with a ***password***. This way the NFC configuration parameters can be modified only by authenticated write. This NFC password is a number formatted on 32-bits (between 0 and 4 294 967 295). *Protection enable* and *password configuration* are set by ***Device Manager*** tools made by ELA Innovation.
- Added the option to configure a ***password*** to use on ***BLE connected mode*** with EN12830 commands. This password is written right after the commands sent to the tag and allows to do certain actions while being authenticated. The configuration of this password is done on the NFC configuration with ***Device Manager*** tools. The password length is strictly ***10 characters***.
    - Example: « *READ_DATA* ***PASSWORD_1*** »: Return whole EN12830 datalogger.

  The complete list of BLE connected-mode commands using this password is available on the *BLE User Guide*.
- Added implementation of temperature datalogger compliant to EN12830 standard. Hence, some new BLE connected mode commands are available:
    - « *DATALOGGER_START* ***PASSWORD_1*** *04/06/2019 16:46:00 +01:00* »: Sending the current date and start the datalogger from scratch.
    - « *READ_DATA* ***PASSWORD_1*** »: Return complete datalogger.
    - « *DATALOGGER_STOP* ***PASSWORD_1*** »: Datalogger stop (but keep the saved values until a new datalogger start command is issued)
    - « *READ_START_DATE* ***PASSWORD_1*** »: Reading of datalogger start date.
- The datalogger EN12830-compliant is available on Blue EN12830 products. The datalogger format is described on the *BLE User Guide*.
- Added a CRC on the EN12830 datalogger. This is used to check the integrity of data transmitted.

1.2 MINOR

- Added the option to implement a temperature calibration on Blue EN12830 products. This calibration is made by a 2nd-degree polynomial function aT^2+bT+c, where a, b and c are configurable by NFC. The new commands are:
  - « *READ_CALIB_COEF* ***PASSWORD_1*** »: Return the calibration coefficients and date of modification.
  - « *SET_CALIB_EN* ***PASSWORD_1*** *1*»: Temperature calibration activation (1) or deactivation (0).
  - « *READ_CALIB_EN* ***PASSWORD_1*** »: Return the temperature calibration activation state.

- It is possible to send a report of target values and measured values to the tag through NFC. It will be saved on the tag and will be available for reading on BLE connected mode, using the following commands:
  - « *READ_REPORT_VAL* ***PASSWORD_1*** »: Return the target and measured values stored on the tag.
  - « *READ_REPORT_RES* ***PASSWORD_1*** »: Return the calibration result stored on the tag.
- Added implementation of battery voltage measure command on BLE connected mode, using the following command:
  - « *GET_BATT_VOLTAGE* »: Return battery voltage in mV.

2 IMPROVEMENTS

Set of minor enhancements to improve the overall operation of the product.

2.1 MAJOR

- New syntax for some BLE connected mode commands:
  - "***L***" (simple reading of datalogger data) is now "***LOG_DL***"
  - "***RST***" (deletion of datalogger data) is now "***LOG_RST***"
  - "***TOR_ON***" (activation of Digital output) is now "***DIGI_ON***"
  - "***TOR_OFF***" (deactivation of Digital output) is now "***DIGI_OFF***"

2.2 MINOR

- Datalogger data are no longer erased when they are transmitted over BLE connected mode.
- Sensor data are now stored on the datalogger even when a peripheral is connected to the tag. However, the data are not stored when the datalogger is currently transmitting its data.
- NFC formats name TOR IN and TOR OUT are now modified to match their commercial name. ***TOR IN*** is now named ***Digi IN***, and ***TOR OUT*** is now named ***Digi OUT***.

3 CORRECTIONS

Minor malfunction general corrections to improve the overall operation of the product.

3.1 MAJOR

- In iBeacon format, byte 0x03 value have been modified from ***0x04*** (*BR/EDR not supported*) to ***0x06*** (*BR/EDR not supported + General discoverable mode*).

3.1 MINOR

- Correction of an issue that sometimes caused the tag to restart when it was placed on an NFC-field without change any settings.
- The indication of the number of data present on the simple datalogger (non-EN12830) has been removed.

V2.0.0 VERSION

1 NEW FEATURES

1.1 MAJOR

- New Sensor features:
  - **TOR IN**: digital input measurement 0-3V (available on *Blue PUCK DI* product)
  - **Analog IN**: analog input measurement 0-5V (available on *Blue PUCK AI* product)
  - **TOR OUT**: digital output command (available on *Blue PUCK DO* product)

  Refer to the "BLE *Frames specifications*" document for further information and details about transmitted data.
- **Datalogger feature** for sensors formats **TOR IN**, **Analog IN** and **TOR OUT**. Current datalogger commands (L, RST), are valid for these new formats.
- The tag can transmit its data through ***Manufacturer Specific Data*** field present in BLE frames. The ELA Innovation *Company Identifier* is 0x0757. Refer to the "BLE *Frames specifications*" document for further information.

1.3 MINOR

- New commands in *connected mode*:
  - *TOR_OUT* format output activation is set by the **TOR_ON** command.
  - *TOR_OUT* format output deactivation is set by the **TOR_OFF** command.
  - It is possible to erase *TOR_IN* counter data with the command **RAZ_COUNT**.

- **MAG**, **MOV**, **TOR_IN** and **TOR_OUT** formats now send a complementary BLE service, named Alert Status (UUID **0x2A3F**). This service is sent right after the sensor data and is used to differentiate formats which data were sent onto the same service. Refer to the "BLE *Frames specifications*" document for further information.

2 IMPROVEMENTS

Set of minor enhancements to improve the overall operation of the product.

2.1 MAJOR

- BLE *connected mode* improvements :
  - It is now possible to specify an activation time (in seconds) for **LED_ON**, **BUZZ_ON** and **TOR_ON** commands. This time can be between 1 and 2147483 seconds.
    - Example: ***LED_ON 15*** -> This command will make the LED blink for 15 seconds, then the LED will go OFF.
    - Example: ***TOR_ON 15*** -> This command will activate the tag TOR output for 15 seconds (connection of output TOR_OUT to the ground), then the *TOR_OUT* output will be released.

  It is still possible to send **LED_ON**, **BUZZ_ON** and **TOR_ON** commands without time argument. Doing this will activate the output until a deactivation command is sent.

2.2 MINOR

- The tag now stores its configuration parameters. If the NFC memory is erased, the tag will reboot and recover its parameters that were configured before.
- The NFC configuration will now only show the sensor formats that are available on the product.

3 CORRECTIONS

Minor malfunction general corrections to improve the overall operation of the product.

3.1 MAJOR

- There are no more restrictions on the Device Name of the tag.

V1.0.0 VERSION

1. NEW FEATURES

1.1 MAJOR

- Sensor features **RHT**, **MAG**, **MOV** and **ANG**. See the "Frames specifications" document for further information.
- **Datalogger feature** for sensors format **RHT**, **MAG**, **MOV** and **ANG**.

1.2 MINOR

- LED-management commands for Blue PUCK **ID** product

  The commands are: **LED_ON** to turn on the LED, **LED_OFF** to turn off the LED.

- Data-erasing command for the Datalogger feature, for the Blue PUCK **T**, **RHT**, **MAG**, **MOV** and **ANG** products

  The command to erase datalogger data is **RST**.

- The datalogger feature is now optional and must be set through NFC configuration.

2. IMPROVEMENTS

Set of minor enhancements to improve the overall operation of the product.

2.1 MAJOR

- The **Advertising Interval** (AdvRec) and the **Datalogger interval** (LogRec) are now in the unit **seconds**. The advertising interval can be configured between 0,1 and 10,0 seconds and the datalogger interval can be configured between 10 and 84600 seconds (equiv. to 24h).

- The datalogger's **Timestamp** has been modified to the following format:

  JJd:HHh:MMm:SSs:data where **JJ** is the number of days, **HH** is the number of hours, **MM** is the number of minutes and **SS** is the number of seconds elapsed since the start of the data saving.

  Example: **0d0h0m30s:2993** -> 30 seconds after the start of the data saving, the datalogger returns a temperature measure of 29.93°C.

- **The JSON NFC configuration format has been split in two product families**, the **Id** family and the **Sensor** family. That means that **the Blue PUCK ID tag does not have the same JSON format than the Blue PUCK T, RHT, MAG, MOV and ANG tags**.

2.2 MINOR

- Specific text marker located at the beginning and end of a datalogger transmission:

  When the datalogger data are downloaded, the tag sends the string **DATA_START** before sending the data. It also finalizes its data sending with the string **END_OF_DATA**, located after the last data.

- The number of data present on the datalogger is provided when the data are downloaded:
  - When we receive the first datalogger data frame, located before the **DATA_START**, the tag sends the string "**NB data to get: x**" where x is the number of data written on the datalogger memory.

- It is now possible to change the Advertising Interval through NFC without reset the tag. This is only possible for this parameter. Hence, the data written in the datalogger memory will not be lost.
- The battery service (0x180F) is now sent in the « Scan Response » frame when the battery capacity drops down below 15%.
- The Device Name of the tag, configured through NFC, is sent in the « Scan Response » frame, in the **iBeacon** and **Eddystone** formats.

3. CORRECTIONS

Minor malfunction general corrections to improve the overall operation of the product.

3.1 MAJOR

- The tag no longer reset when near an NFC-field. However, the Advertising is stopped while the tag is on an NFC-field.

3.2 MINOR

- Device Name:

  The tag now accepts a Device name that contains the following strings: **EN**, **Power**, **Format**, **Name**, **LogEN**, **AdvRec**, **LogRec**, **UUID**, **Major**, **Minor**, **NID**, **BID**, **AccThres**. These strings are case-sensitive.

Watch out, the Device Name cannot be these words.

Example: Device name = "**Format 50**" -> **OK**, Device Name = "**Format**" -> **NOT OK**

- The negative temperature is now correctly displayed on the datalogger, with the right value and sign.