APOLLON Q PP PAYLOAD DESCRIPTION

This chapter describes the structure of the telemetry data. The number of bytes in the payload depends on the configuration of the sensor. The structure of the data depends on which sensors are present in your product. In principle, each version has a header. This has information about the version and status of the sensor and also contains a master measured value. This measured value can simply be assumed to be the current measured value. The header is followed by an additional payload part that contains further information, such as special parameters for the measuring principle or settings for position and opening detection. Not every sensor has an additional payload part.

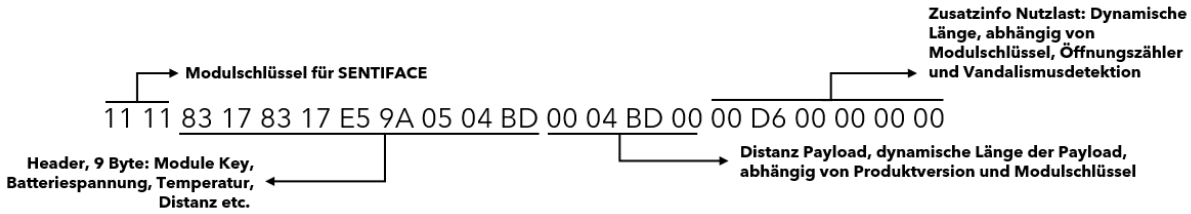
Terms	Description Byte No.
Byte No.	Byte number starting at 1
Alias	Comprehensible name of the variable
Description of the variable	Description of the variable
Designation	Designation in the Dataconverter
Unit	Unit of the variable
Datahub .json key	Key in the .json when using the data hub

STRUCTURE OF THE MODULE KEY

Byte 1		Byte 2	
Bit 7 - 4	Bit 3 - 0	Bit 7 - 4	Bit 3 - 0
Basic ID module e.g. Sentiface, Senticom, Sentivisor	Major version (SW/HW version)	Minor version (SW/HW version)	Product version (sensors, e.g. TH, THL, ACC, ...)

The module key of the SENTIFACE module can be taken from the first 2 bytes of each uplink. The module key is required for the downlink.

UPLINK EXAMPLE (NOT APPLICABLE FOR APOLLON Q PP)



The following payload example is given for the Helios pressure sensor:

```
11 11 FE 1A D5 95 06 03 00 23 BE
```

bytes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
HEX	11	11	FE	1A	D5	95	06	03	00	23	BE
Module description	Module key	Module key	Uplink Counter	Battery Voltage	Battery Voltage	Temperature	Alarm Flag	Alarm Flag	Measurement Status	Pressure mbar	Pressure mbar

(i)APOLLON Q PP PAYLOAD DESCRIPTION

Byte number	Alias Name	Byte Description	Unit	Designation in the payload decoder	Module key	Datahub .json Key
1 - 2	Module key	Byte 1 • 4 bit MSB: Module code. For Mioty exclusively "Sentiface" telemetry module, i.e. always 0x1. • 4 bit LSB: Major version. FW of the same major version but larger minor version remain compatible with older decoders. However, the number of bytes may change! Byte 2 • 4 bit MSB: Minor version. New SW versions may incrementally add new telemetry to the data packet. • 4 Bit LSB: Sub / Product Version. With Helios, these bits encode the specific configuration of connected sensors.		module_key	XXX1	module_key
3	Uplink counter	Protocol-independent uplink counter that reaches a maximum of 255. After that, the counter starts again at 0.		uplink_counter	XXX1	uplink_counter
4 - 5	Battery voltage	Current voltage of the battery in millivolts //Voltage in volts battery_voltage: (dataBytes[3] << 8 | dataBytes[4]) / 1000.0	mV	battery_voltage	XXX1	battery_voltage
6	Internal temperature	Internal temperature of the sensor + 128 //Temp. in °C internal_temperature: dataBytes[5] - 128.	°C	internal_ temperature	XXX1	internal_ temperature

Byte number	Alias Name	Byte Description	Unit	Designation in the payload decoder	Module key	Datahub .json Key
7	Alarm variable	Variable that indicates whether error codes and values are being transmitted. An error occurs with values >16 255: Internal hardware error ToF For all values <16 are levels that were measured		alarm	XXX1	alarm
8	Status object, ToF sensor status	Status of the sensor in relation to the last measured value • 0: Valid range • 2/4: Out of bounds • 5: Hardware fail • 7: Wrapped target • 8: Algorithm fail • 14: Invalid range • 99: More than one valid target detected		object_status	XXX1	object_status
9 - 10	Distance	Distance to the current object in mm	mm	object_distance	XXX1	object_distance
11 - 12	Object sigma	Minimum variance and standard deviation with which a target is perceived as a target. If the sigma is too small, the probability of false detections increases		object_sigma	XXX1	object_sigma
13 - 14	Object signal	Minimum number of photons, minimum reflectivity that must come back from the target in order to be recognized as a target		object_signal	XXX1	object_signal
15 - 16	Object Ambient	Ambient light of the target, not qualitative		object_ambient	XXX1	object_ambient

DECODING EXAMPLES (FEBRIS)

Payload: 11 11 CE 14 8E 07 EE 1D 00 02 03 D6 01 D1 00

Bytes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
HEX	11	11	CE	14	8E	07	EE	1D	00	02	03
Module description	Module key	Module key	Uplink counter	Battery Voltage	Battery Voltage	Internal temperature	Internal temperature	Rel. humidity	Dew point	Dew point	Air pressure

Bytes	**12**	**13**	**14**	**15**
HEX	D6	01	D1	00
Description	Air pressure	CO2	CO2 ALARM	Alarm

```
"uplink_message": {
  "session_key_id": "AYY660iFsk5LInv+xd6AVg==",
  "f_port": 1,
  "f_cnt": 211294,
  "frm_payload": "ESPOFI4Esx0D1gHRAAABZg==",
  "decoded_payload": {
    "alarm": 0,
    "base_id": 1,
    "battery_voltage": 5.262,
    "co2_ppm": 465,
    "dew_point": 2,
    "humidity": 29,
    "internal_temperature": 20.299999999999997,
    "major_version": 1,
    "minor_version": 2,
    "networkBaseType": "lorawan",
    "networkSubType": "tti",
    "pressure": 982,
    "product_version": 3,
    "up_cnt": 206
  },
```