

JUNO BSX OPERATING HOURS COUNTER PAYLOAD DESCRIPTION EN

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 header contains information about the version and status of the sensor and also contains a master measurement value. This measurement value can simply be assumed to be the current measurement value. The header is followed by an additional payload section that contains further information, such as special parameters for the measurement principle or settings for position and opening detection. Not every sensor has an additional payload section.

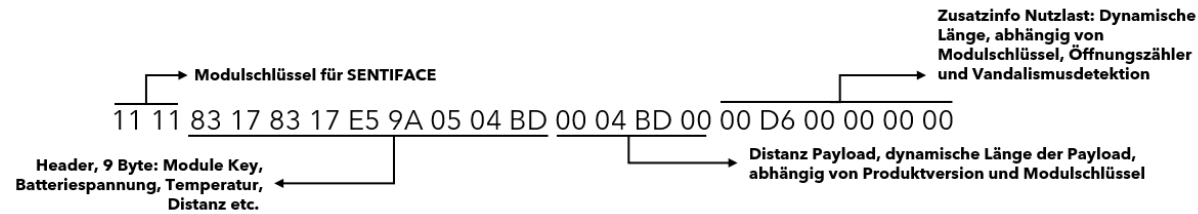
Terms	Description
Byte No.	Byte number starting at 1
Alias	Comprehensible name of the variable
Description	Description of the variable
Designation	Designation in the data converter
Unit	Unit of the variable
Data hub .json key	Key in .json when using the data hub

STRUCTURE OF THE MODULE KEY

Byte 1		Byte 2	
Bit 7 - 4	Bit 3 - 0	Bit 7 - 4	Bit 3 - 0
Base 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, etc.)

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 JUNO)



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

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
Description	Module key	Module key	Uplink counter	Battery Voltage	Battery Voltage	Temperature	Alarm flag	Alarm Flag	Measurement Status	Pressure mbar	Pressure mbar

PORT ASSIGNMENT FOR WIFI SSID SCAN PAYLOAD, GNSS SCAN PAYLOAD, AND REGULAR PAYLOAD

Feature	LoRaWAN port	Description
GNSS Scan Payload	192	Raw data (satellite ID, time, etc.) is sent to the geolocation backend.
WIFI SSID Scan Payload	197	Scanned MAC addresses + RSSI data are transmitted for location tracking.
Regular telemetry data	1	Regular payload data from the sensor, such as temperature, relative humidity, angle, battery voltage, etc.

Example of the WIFI SSID scan payload:

```

27  {
28    "correlation_ids": [
29      "gs:uplink:813X25NFV6V7W4N3NYFZC7R"
30    ],
31    "received_at": "2025-06-06T08:28:07.602296081Z",
32    "uplink_message": {
33      "session_key_id": "AZdBG9Zf0R4vwZawK/d+8Q==",
34      "f_port": 197,
35      "f_cnt": 41,
36      "firm_payload":
37        "AbqsHwkUdq62yPCegvM9zAAksQ05vasMuBX9AzmLACSxA5iB",
38      "decoded_payload": {
39        "access_points": [
40          {
41            "mac": "AC:1F:09:14:0E:AE",
42            "rssi": -70
43          },
44          {
45            "mac": "C8:F0:9E:02:F3:3D",
46            "rssi": -74
47          },
48          {
49            "mac": "00:24:B1:03:B9:8D",
50            "rssi": -84
51          },
52          {
53            "mac": "0C:B8:15:FD:03:39",
54            "rssi": -85
55          },
56          {
57            "mac": "00:24:B1:03:98:81",
58            "rssi": -91
59          }
60        ],
61        "format": 1
62      },
63      "rx_metadata": [
64        {
65          "gateway_ids": {

```

DECODING OF WIFI SSID SCAN AND GNSS SCAN DATA

The following providers can be recommended for decoding WIFI SSID SCAN and GNSS SCAN data:

- Semtech LoRa Cloud (discontinued at the end of July 2025)
- AWS
- Tencent
- Traxmate
- Sentinum

Local databases can be used for on-prem applications.

JUNO BSX OPERATING HOURS COUNTER LORAWAN PAYLOAD DESCRIPTION

ITEM CODE	FEATURES
S-JUNO-IX-LOEU-BSX-BM	INDUSTRIAL JUNO IP69k Operating Hours Counter with Magnetic Field Sensor LoRaWAN®
S-JUNO-IX-MIOTY-BSX-BM	INDUSTRIAL JUNO IP69k Operating hours counter with magnetic field sensor mioty®
S-JUNO-IX-NBM1-BSX-BM	INDUSTRIAL JUNO IP69k Operating hours counter with magnetic field sensor Cellular
S-JUNO-IX-LOEU-BSX-BM-TH	INDUSTRIAL JUNO IP67 operating hours counter and TH sensor, temperature and relative humidity with magnetic field sensor LoRaWAN® - only available on request and MOQ
S-JUNO-IX-MIOTY-BSX-BM-TH	INDUSTRIAL JUNO IP67 Operating hours counter and TH sensor, temperature and relative humidity with magnetic field sensor mioty® - only available on request and MOQ -
S-JUNO-IX-NBM1-BSX-BM-TH	INDUSTRIAL JUNO IP67 operating hours counter and TH sensor, temperature and relative humidity with magnetic field sensor Cellular - only available on request and MOQ -
S-JUNO-IX-LOEU-BSX	INDUSTRIAL JUNO IP69k operating hours counter and TH sensor, temperature and relative humidity with magnetic field sensor LoRaWAN®
S-JUNO-IX-MIOTY-BSX	INDUSTRIAL JUNO IP69k operating hours counter with vibration and magnetic field sensor mioty®
S-JUNO-IX-NBM1-BSX	INDUSTRIAL JUNO IP69k Operating hours counter with vibration and magnetic field sensor Cellular
S-JUNO-IX-LOEU-BSX-TH	INDUSTRIAL JUNO IP67 operating hours counter with vibration and magnetic field sensor LoRaWAN® - only available on request and MOQ -
S-JUNO-IX-MIOTY-BSX-TH	INDUSTRIAL JUNO IP67 operating hours counter with vibration and magnetic field sensor mioty® - only available on request and MOQ -
S-JUNO-IX-NBM1-BSX-TH	INDUSTRIAL JUNO IP67 operating hours counter with vibration and magnetic field sensor Cellular - only available on request and with MOQ -

Byte number	Alias name	Description	Unit	Designation in Payload Decoder	Module key	Datahub .json Key
1 - 2	Module key	Byte 1: 4 bits MSB: Module code. For Mioty, exclusively "Sentiface" telemetry module, i.e., always 0x1. 4 bits LSB: Major version. FW of the same major version but higher minor version remain compatible with older decoders. However, the number of bytes may change! Byte 2: 4 bits MSB: Minor version. New SW versions may incrementally add new telemetry to the data packet. 4 bits LSB: Sub/product version. In Helios, these bits encode the specific configuration of the connected sensors.		module_key	XXX1	module_key
3	Uplink counter	Uplink counter: Protocol-independent uplink counter that goes up to a maximum of 255. After that, the counter starts again at 0.		uplink_counter	XXX1	uplink_counter
4	Battery voltage	Current battery voltage in millivolts //Voltage in volts battery_voltage: (dataBytes[3] << 8 dataBytes[4])/1000.0	mV	battery_voltage	XXX1	battery_voltage
6	Internal temperature	Temperature of the sensor: Internal_temperature = bytes[6] - 128; For this sensor, this value is the temperature value of the controller and an inaccurate temperature value +/-2°C	°C	internal_temperature	XXX1	internal_temperature
7 - 10	Operating time	Operating time in seconds until reset via command or battery replacement		operating_seconds	XXX1	operating_seconds
11	Cycles	Cycles, how often the machine has been started/launched		cycles	XXX1	Cycles

15- 16	ON/OFF rate	Ratio between ON time and OFF time since the last uplink, e.g., 10 -(/100)-> 0.1%		utilization_rate	XXX1	utilization_rate
17	Activity	Indicates whether an activity has been detected		is_active	XXX1	is_active
18 - 19	Temperature	Exact temperature value decoded.temperature = ((bytes[idx++] << 8) bytes[idx++]) / 10 - 100 ONLY FOR TH VERSION	°	temperature	XXX1	temperature
20	Relative humidity	Relative humidity ONLY FOR TH VERSION	%RH	humidity	XXX1	humidity