

((SENSONEO))

**Sigfox**

# Payload Description

Quatro Sensor, Single Sensor 3.0.  
[www.sensoneo.com/knowledge](http://www.sensoneo.com/knowledge)



## Quatro and Single sensor 3.0 payload description for Sigfox

### TX data structure

Offset	Name	Type	Note	Size in B	Description
0	c_id	uint32_t	Sensor ID (little endian)	4	Convert from little endian to big endian
4	events	uint8_t	Events (see table below)	1	see Events table below
5	sonar0	uint8_t	value * 2 = distance [cm]	1	hex to decimal * 2 = measured distance in cm
6	sonar1	uint8_t	value * 2 = distance [cm]	1	hex to decimal * 2 = measured distance in cm
7	sonar2	uint8_t	value * 2 = distance [cm]	1	hex to decimal * 2 = measured distance in cm
8	sonar3	uint8_t	value * 2 = distance [cm]	1	hex to decimal * 2 = measured distance in cm
9	voltage	uint8_t	2500 + value * 10 = voltage [mV]	1	2500 + (value from hex to decimal * 10) = voltage in mV
10	temperature	uint8_t	temperature [°C]	1	hex to decimal is temperature in degrees of celsius
11	tilt	uint8_t	sensor tilt [°]	1	hex to decimal (not used in single sensor FW)
12	tx_event	uint8_t	Event count	1	Number of events

### Events

HEX	Event	Description
0x01	SENS_EVENT_MEASURE	Measurement ended
0x02	SENS_EVENT_FIRE	Temperature threshold
0x04	SENS_EVENT_TILT	Tilt threshold
0x08	SENS_EVENT_SLAVE	Slave device TX
0x10	SENS_EVENT_LOWBAT	Battery Low
0x20	SENS_EVENT_GPSFIX	GPS fix done
0x40	SENS_EVENT_STARTUP	After startup or reboot

### Payload example

42009070017f7f7f7f7017e2	
42009070	42 00 90 70 ----> 70900042
01	01 from Events table = measurement ended
7f	7f (hex) = 127 (dec) ; 127 * 2 = <b>254 cm</b>
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7f	7f (hex) = 127 (dec) ; 127 * 2 = <b>254 cm</b>
70	70 (hex) = 112 (dec) ; 2500 + (112 * 10) = <b>3620 mV</b>
17	17 (hex) = 23 (dec) ; temperature = <b>23°C</b>
00	hex to decimal (not used in single sensor FW)
e2	Event count



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a world that is  
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