

Document: SensiTHING_GATT_Description

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This document describes the GATT structure of the SensiTHING device.

Description of custom services and characteristics.

Service	Power						
Characteristic	Battery						
Description	The characteristic describes the property of the battery of the device. Its voltage, capacity, and charging status. When the NOTIFY property is enabled, the notifications are sent to the client at a frequency of 1 Hz.						
UUID	6ecd5f-8539-4ba1-af35-41d333468d34						
Value type	hex						
Value length	6						
Property	Notify						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Voltage	0 - 3	Float LE	3	4.5	Volt	
	Capacity	4	uint8	0	100	Percent	0% - Battery is fully discharged, 100% - Battery is fully charged.
	Charging state	5	uint8	0	1	Boolean	0 - The battery does not charge, 1 - The battery is charging.

Service		Humidity Sensor					
Characteristic		Humidity					
Description	The characteristic provides a relative value of humidity. When the NOTIFY property is enabled, the notifications are sent to the client at a frequency of 1 Hz.						
UUID	269b76f2-7351-4de9-8581-12ebe6abd9dd						
Value type	hex						
Value length	1						
Property	Notify						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Humidity	0	uint8	0	100	Percent	

Service		Thermometer					
Characteristic		Temperature Measurement					
Description	The characteristic describes the current temperature. When the NOTIFY property is enabled, the notifications are sent to the client at a frequency of 1 Hz.						
UUID	c334d7df-0ed5-4f9a-9f8e-e84f79954dbe						
Value type	hex						
Value length	4						
Property	Notify						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Temperature	0 - 3	Float LE	-40	150	Degrees Celsius	

Characteristic		Alert					
Description	The characteristic indicates when the temperature is outside the specified limits. The notification is sent only when the status is changed.						
UUID	7ebc88f9-1e5e-4805-87ad-e3b370dbe7e9						
Value type	hex						
Value length	1						
Property	Indicate						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Alert status	0	uint8	0	1	Boolean	0 - The temperature is within the specified limits, 1 - The temperature is above or below the specified limits.

Characteristic		Alert Limits					
Description	The characteristic allows setting of the minimum and maximum temperature values. If the temperature goes beyond these values, the client will receive a notification if they are allowed.						
UUID	91e13f5b-5657-43b8-b70a-5d12e222976b						
Value type	hex						
Value length	2						
Property	Write						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Min limit	0	int8	-40	127	Degrees Celsius	
	Max limit	1	int8	-40	127	Degrees Celsius	

Service		Smoke Sensor					
Characteristic		Smoke Measurement					
Description	The characteristic provides the value of the optical sensors of the smoke sensor. The data is measured in two modes (Time Slot A / B). The ratio of these values indicates smoke. When the NOTIFY property is enabled, the notifications are sent to the client at a frequency of 25 Hz.						
UUID	8ef07f96-b69c-4acf-a27d-873fc0b611b0						
Value type	hex						
Value length	5						
Property	Notify						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Time Slot A	0 - 1	uint16 LE	0	65535	-	
	Time Slot B	2 - 3	uint16 LE	0	65535	-	
	Presence of smoke	4	uint8	0	1	Boolean	0 - No smoke 1 - Smoke is present

Service	Accelerometer						
Characteristic	Accelerometer Measurement						
Description	The characteristic provides acceleration values along three axes - XYZ. When the NOTIFY property is enabled, the notifications are sent to the client at a frequency of 50 Hz.						
UUID	4f951936-c189-4e53-89ce-9ac2e5f1f91b						
Value type	hex						
Value length	12						
Property	Notify						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	X axis	0 - 3	Float LE	-8	8	G	
	Y axis	4 - 7	Float LE	-8	8	G	
	Z axis	8 - 11	Float LE	-8	8	G	
Characteristic	Alert						
Description	The characteristic displays activity and inactivity detection. Notifications are sent to the client once, when the state changes, if notifications are allowed.						
UUID	b5dea35e-3dba-40fc-b03b-2c3a9a5da4ab						
Value type	hex						
Value length	1						
Property	Indicate						
Data format	Name	Bytes	Format	Min value	Max value	Dimension	Note
	Alert status	0	uint8	0	1	Boolean	0 - Inactivity state 1 - Activity state

Service	GpioAdcDac					
Characteristic	GpioAdcDac Control					
Description	The characteristic provides the values of the logical inputs / outputs and the value of the ADC. Allows setting of the value of the logic outputs and the value of the DAC. When the NOTIFY property is enabled, the notifications are sent to the client at a frequency of 10 Hz.					
UUID	5b9803e5-c62b-4a55-b151-3d4b26d1f5dc					
Value type	hex					
Value length	3					
Property	Write					
Data format	Name	Bytes	Format	Min value	Max value	Note
	OUT index	0	uint8	0	7	2 - Logic out 0, 3 - Logic out 1, 5 - DAC, 7 - Red LED
	OUT value	1 - 2	uint16 LE	0	4095	If the index field is 2, 3 or 7. Valid values are 0 and 1.
Property	Notify					
Data format	Name	Bytes	Format	Min value	Max value	Note
	Logic IN/OUT state	0	uint8	-	-	This field is bit mask. The bit values correspond to the values at the logic inputs / outputs of the chip. Bits that can be set: 0 - Logic input 0, 1 - Logic input 1, 2 - Logic out 0, 3 - Logic out 1, 7 - Red led.
	ADC value	1 - 2	uint16 LE	0	4095	

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