Senstream, Inc. Research Ring Technical Specifications

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The Research Ring by Senstream is a revolutionary research platform that enables the capture of high-quality data from numerous physiological signals on a single, small, user-friendly device. Research-grade in a friendly consumer form factor, the Research Ring collects electrodermal activity (EDA, aka GSR) data, pulse (with an optical sensor), electrocardiogram (ECG), acceleration, and temperature.

Product Name	Research Ring
Model	-AT01

Dimensions	in / oz	mm / grams	Diagram
Height	1.68	42.7	
Width	1.26	32.2	
Depth	0.44	11.4	
Weight	0.32	9	

Sizing	
Finger Size Range	Ring size 6-13 US (52-70 EU) with interchangeable shims

Temperature Range	
Operating Range	0 - 45° C

Materials	Description
Housing material and shims	Teijin Panlite polycarbonate is certified ISO10993 for biocompatibility and rated UL94-V0
Electrodes	Stainless Steel 430 with Nickel and Gold plating

Sensors	Description	Metric	Max Sampling Rate*	Bandwidth
PPG	Photoplethysmography (green LED)	Heart Rate - optical	400 Hz	0.33-200 Hz
EDA	Electrodermal Activity (two electrode single finger)	skin conductance (μSiemens)	400 Hz	DC-20 Hz
ECG	Electrocardiogram (3 electrode)	Heart Rate - electrical	800 Hz	0.33-320 Hz
Temp	Body Temperature (epidermal thermistor)	Celsius or Fahrenheit	20 Hz	0 - 45° C
Motion	Accelerometry	units of gravity	50 Hz	0 - 4 g

* Not all sampling rates may be run concurrently. Consult the Senstream App for defined sessions or contact Senstream for more info.

** Accelerometry using the Research Ring's IMU requires Ring firmware Ver 1.2.0 and App Ver 1.1 or later

Connectivity	Description
BLE	Bluetooth Low-Energy (Class B digital device, pursuant to part 15 of the FCC Rules)
Firmware	Firmware updates available w/ Senstream iOS App (16.6 or later)
Cloud [charts.senstream.com]	Senstream's application can automatically upload your data to our cloud application for storage analysis, downloading, or connection to other cloud solution through an API

Battery and Power	Description
Run time	Can exceed 8 hours depending channels and sampling rates
Charge time	2 hours from completely depleted device
Charge Cable	USB-A Charge cable with custom magnetic coupling (Note: USB power adaptor not included)