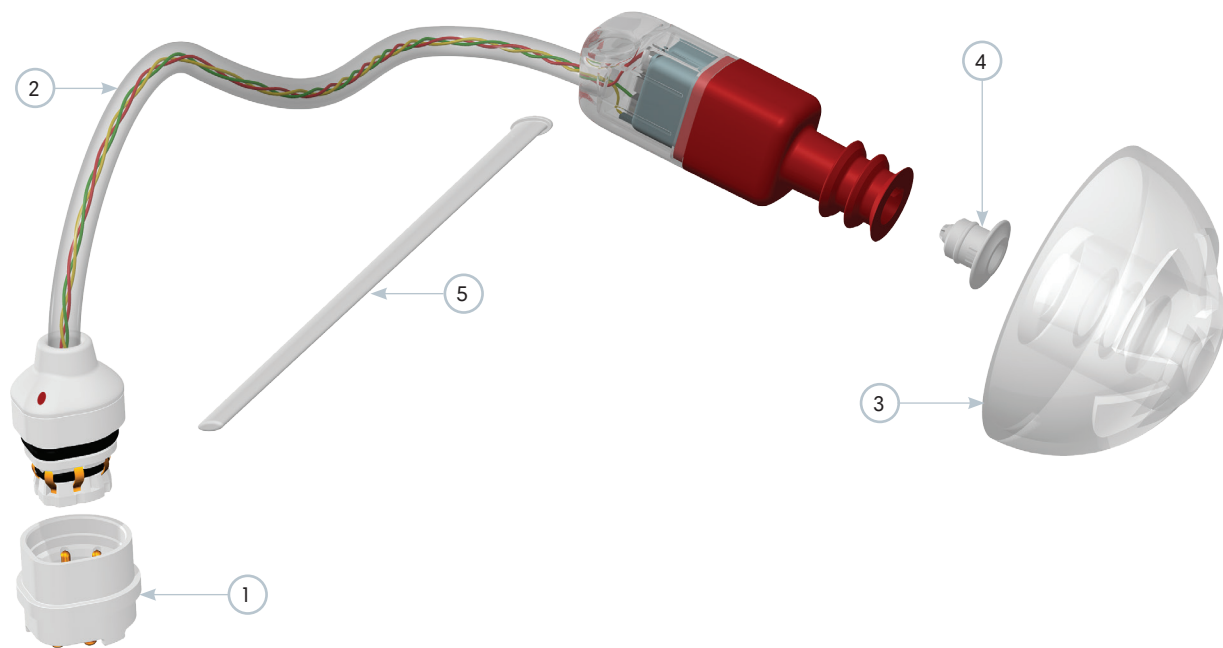




RIC-4400



Features

- Generic RIC module for mild gain hearing loss
- Low vibration high gain 4400 dual receiver
- Future proof CS8X plug/socket with 8 terminals
- State-of-the-art receiver housing

List of components

- 1. CS8X socket w/ 8 terminals
- 2. RIC module
- 3. Ear dome
- 4. Wax protection
- 5. Sportslock

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Sonion reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

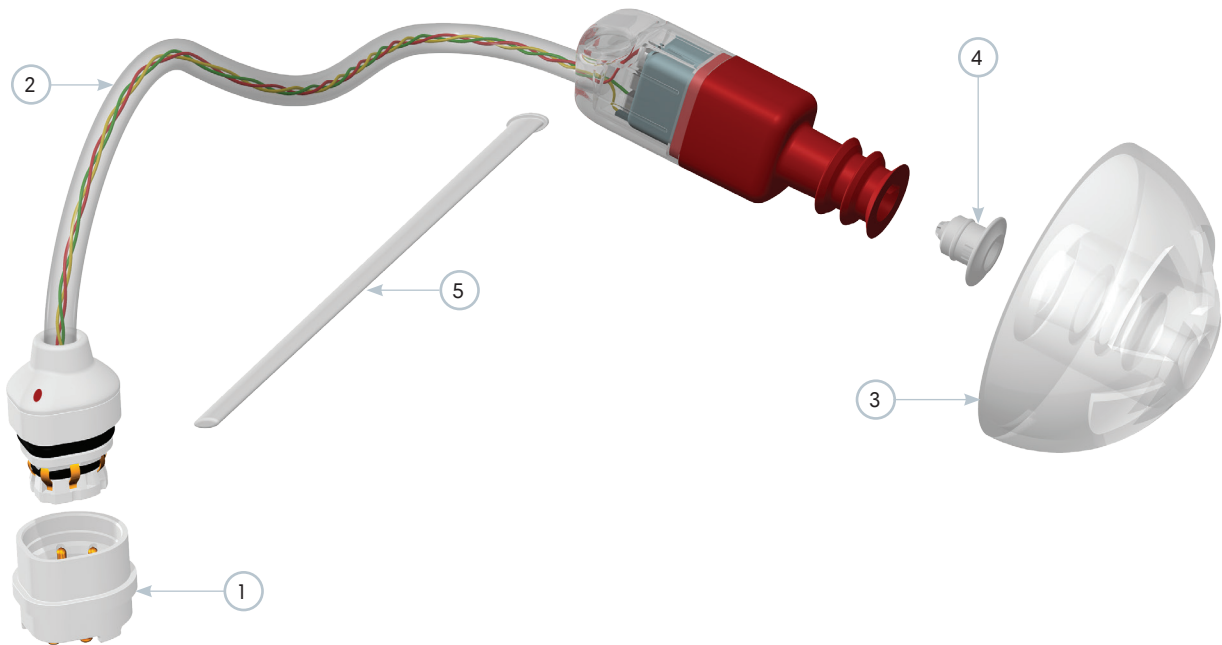
1. History Revision

Revision Number / Date	Change from last revision
001/2014-10-10	First released version

2. Product Description

RIC-4400 module and accessories

Item	Description	Additional info
1	CS8X Socket	See CS8X Data Sheet
2	RIC-Module (CS8X plug, tube, litz wires, receiver housing with 4400 receiver and wax protection)	See Product Configuration Table
3	Ear domes, different types and sizes available	See variant offering in table on page 5
4	CeruSTOP™ compatible wax protection	Included in RIC-Module
5	Sportslock	Optional



Receiver Housing

State-of-the-art receiver housing design:

- 1. Designed for the 4400 receiver series and optimized cross section for improved fit rates
- 2. Specially designed angled tube for easier placement in the ear canal
- 3. Designed for CeruSTOP™ compatible wax filter systems
- 4. Designed for sportlock as optional accessory
- 5. The front part of the left and right side receiver housings will have blue and red colors respectively.
The color of the rear housing part can be customized



UniTip Domes

The following UniTip Domes are specially designed for RIC-4400 and RIC-E50D

UniTip Domes Offering	
UniTip Domes Type	Short
Open 5 mm	
Open 7 mm	
Open 10 mm	
Closed 12 mm	

3. Mechanical Specifications

Connection force, initial:

Part	Requirement Specification / Test method	Acceptance criteria
Plug and Socket	Connection and disconnection force	9.5 ± 3 N
Tube	Pull force @ 15 N	Elongation ≤ 2.2 mm
Tube to receiver housing	Pull force @ 15 N	No electrical failures
Tube to plug housing	Pull force @ 15 N	No electrical failures
Tube to receiver housing	Wiggle test (bend ± 90°) 30.000 cycles	No electrical failures, no visual defects
	Wiggle test (twist ± 90°) 30.000 cycles	No electrical failures, no visual defects
Complete RIC module	Pull test (single test) @ 15 N	No electrical failures
	Pull test (50 cycles) @ 0-12.5 N	No electrical failures
	Pull test (single test) @ 25 N	No separation of parts
Ear Domes	Disconnection force, open domes	4 N min.
	Disconnection force, closed domes	5 N min.

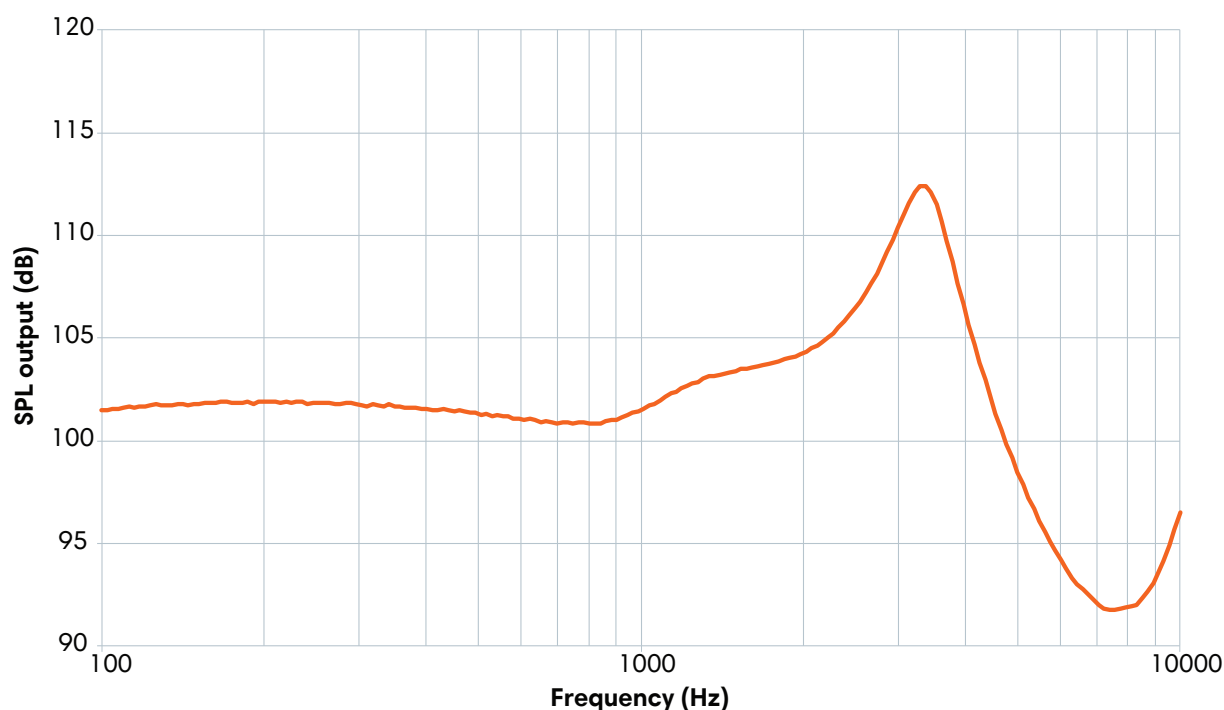
4. Acoustical Specifications – RIC-4400

Detailed acoustical data for the 44AA030G receiver integrated in the receiver housing with wax protection are presented separately.

- For complete 4400 receiver details refer to the data sheet on www.sonion.com

Typical response curve for the RIC-Module

Refer to specifications section for measurement conditions



Specifications

Acoustic loading: IEC 711 coupler without tubing with FCQ Coupler ring – custom part

Constant voltage drive of 0.30 V rms (eq. with 0.35 mVA @ 500 Hz)

Measurement with wax filter

Environmental conditions: 23° C 50% RH

Acoustic Parameters		Frequency [Hz]			SPL Output [dB rms]			Comments
		Min	Typ	Max	Min	Typ	Max	
Sensitivity @ 200 Hz			200		98.5	101.5	104.5	
Sensitivity @ 500 Hz			500		98.5	101	103.5	
Sensitivity @ 1000 Hz			1000		98.5	101	103.5	
Peak		3050	3250	3450				
Valley		6950	7550	8150				
THD	@ 1/3 peak			6				
	@ 1/2 peak			6				
Max output @ peak frequency						122		0.92 V rms

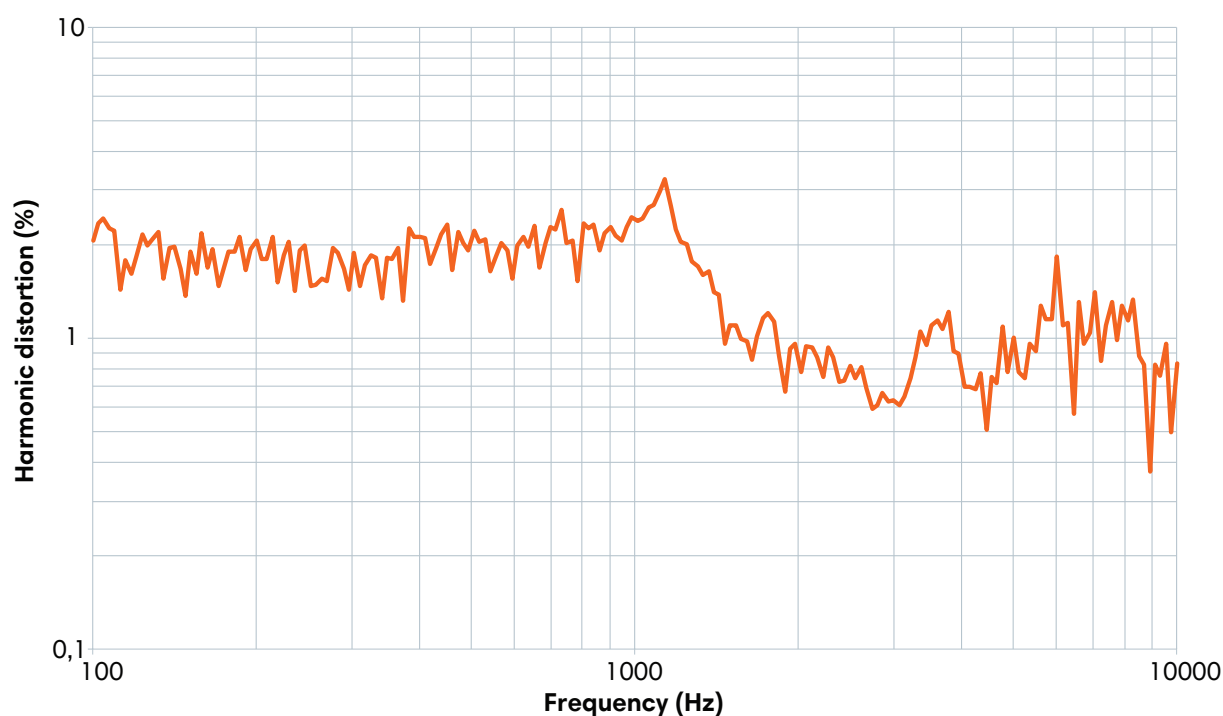
Electric Parameters	Min	Typ	Max	Unit	Comments
Impedance @ 1000 Hz	256	320	384	Ω	
Impedance @ 500 Hz	200	250	300	Ω	
DC resistance @ 20 C	174	218	262	Ω	
DC bias current range	Zero Bias				

Additional Parameters	Min	Typ	Max	Unit	Comments
Shock Resistance	10000			g	

A positive voltage applied to the negative terminal (-) will result in an increase in pressure at the sound outlet.

Typical THD curve

Refer to specifications section for measurement conditions



5. Material Specifications

All materials comply with ISO 10993-1
Biocompatibility: All materials

Tube	
Material	PA11
Wires	
Litz	3 twisted litz bundles of 7 strands each with 0,032 mm diameter Litz colors: red, green and amber color
Receiver housing	
Rear Housing	PA66
Front Housing	PA66, red or blue colored
Receiver	4400, Spoutless

6. Environmental Conditions

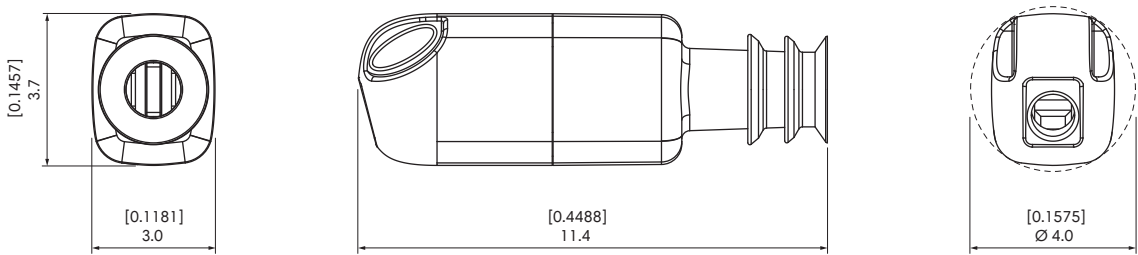
Storage	
Temperature	-40 to +60 °C
Humidity	10 to 95% RH

7. Recommended Processing Conditions

Ultrasonic cleaning must be avoided as it will damage the receiver unit.

8. Mechanical Dimensions

RIC-4400 Housing:



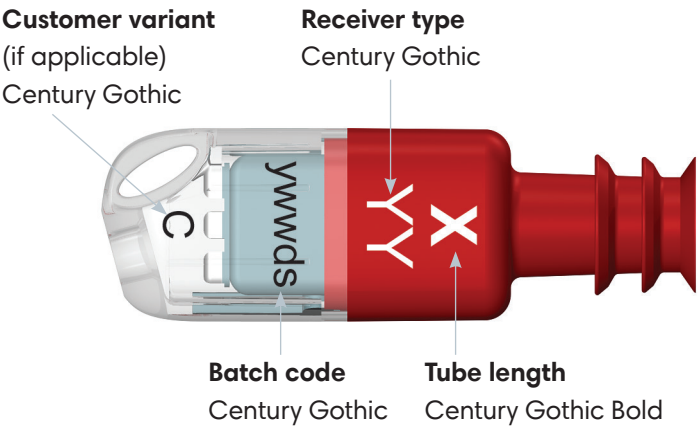
Dimensions are [inch] mm.

9. Sonion RIC Labeling

Each individual receiver housing be labeled with receiver type, tube length and batch code. In case of customer specific variants, an additional labeling code will be added. Standard labeling is shown below:

Tube length (X)	Label	Receiver Type (YY)	Label	Batch Code (ywwds)	Label
S (small)	0	Small (4400)	S	Y (year)	0-9
M (medium)	1	Medium (E50D)	M	WW (week)	1-52
L (large)	2	Power	P	D (day)	1-7
				S (shift)	a-c
				C (customer variant)	A-Z

General system:



Example:
2 S 3424bA



2		S		3424bA	
Tube length (X)	Label	Receiver Type (YY)	Label	Batch Code (ywwds)	Label
M (medium)	1	Small (4400)	S	Y (year)	3 (year 2013)
				WW (week)	42 (week 42)
				D (day)	4 (day number four = Thursday)
				S (shift)	b
				A (customer variant)	A, blue color: left ear

10. Packaging

- Separate CS8X Sockets are supplied in tape-on-reel. To be ordered separately
- Ear domes are supplied in boxes of 10 pcs each. Each box will have a label which describes the ear dome type and size (e.g. 7S). To be ordered separately
- The RIC-modules are by default delivered in trays of 50 pieces

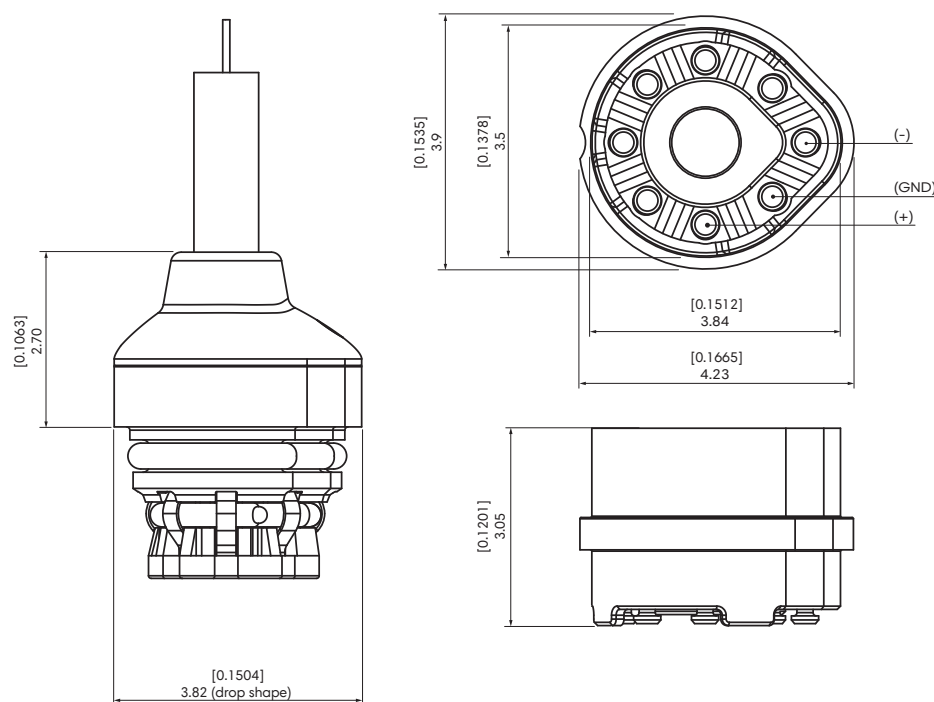
9. Configuration Table – RIC-4400

Applicable for complete RIC-4400 Modules

Part	Parameters	Options	Comments
CS8X Socket	Terminal Style	1. Reflow SMD terminals 2. Rigid terminals 3. Flexible terminals	For flexible terminals a back reinforcement is required. Number of wires, pin assignment and color coding to be agreed with customer.
	Number of Terminals	Standard design	The CS8X Socket will always have 8 terminals installed.
	Housing Style	Standard design	Full flange
	Plastic Color	Standard design	Color matching not possible in LCP. Uncolored LCP only, color matching not possible in LCP
CS8X Plug	Number of Terminals	Standard design	The CS8X Plug will always have 8 terminals installed.
	Plug Top Style	Standard neutral design for Ø1.0mm tube	A Ø1.0/0.5mm tube will accommodate up to 8 unshielded litz wires.
	Plug Top Color	1. Translucent 2. Custom color	1. Standard: Translucent plug top 2. Custom: Different plug top colors available upon agreement

The CS8x Plug/Socket combination has been certified according to IP57 (the certification is not part of the release criteria).

Part	Parameters	Options	Comments
Receiver	4400 receiver variants	1. 44AA007G 2. 44AA015G 3. 44AA030G	Enter preferred receiver type. Please refer to the rec-4400 data sheet for more details on the individual receiver types
Tube	Tube lengths and shapes	Size 00L Size 01L Size 02L Size 00R Size 01R Size 02R	The standard offering comes in three sizes 00, 01 and 02.
Sportslock	Sportslock	1. With 2. Without	Optional Sportslock
Wax Protection	Pre-installed	Standard filter	Designed for any CeruSTOP™ compatible wax filter
Ear Domes	UniTip Ear Domes	UniTip domes come in 5, 7, 10 and 12 mm in diameter	UniTip Ear Domes must be ordered separately
Pin assignment in plug	The number and position of the terminals are fixed	The number of wires (2-8) and positioning on the terminals can be customized	The flexible 2-8 wire connections are prepared for additional in-ear RIC functions or can be used for receiver identification



Dimensions are in [inch] mm. First angle projection.

Note:

The drawings illustrates the main external dimensions. We refer to our 3D CAD files for the exact and complete dimensions.