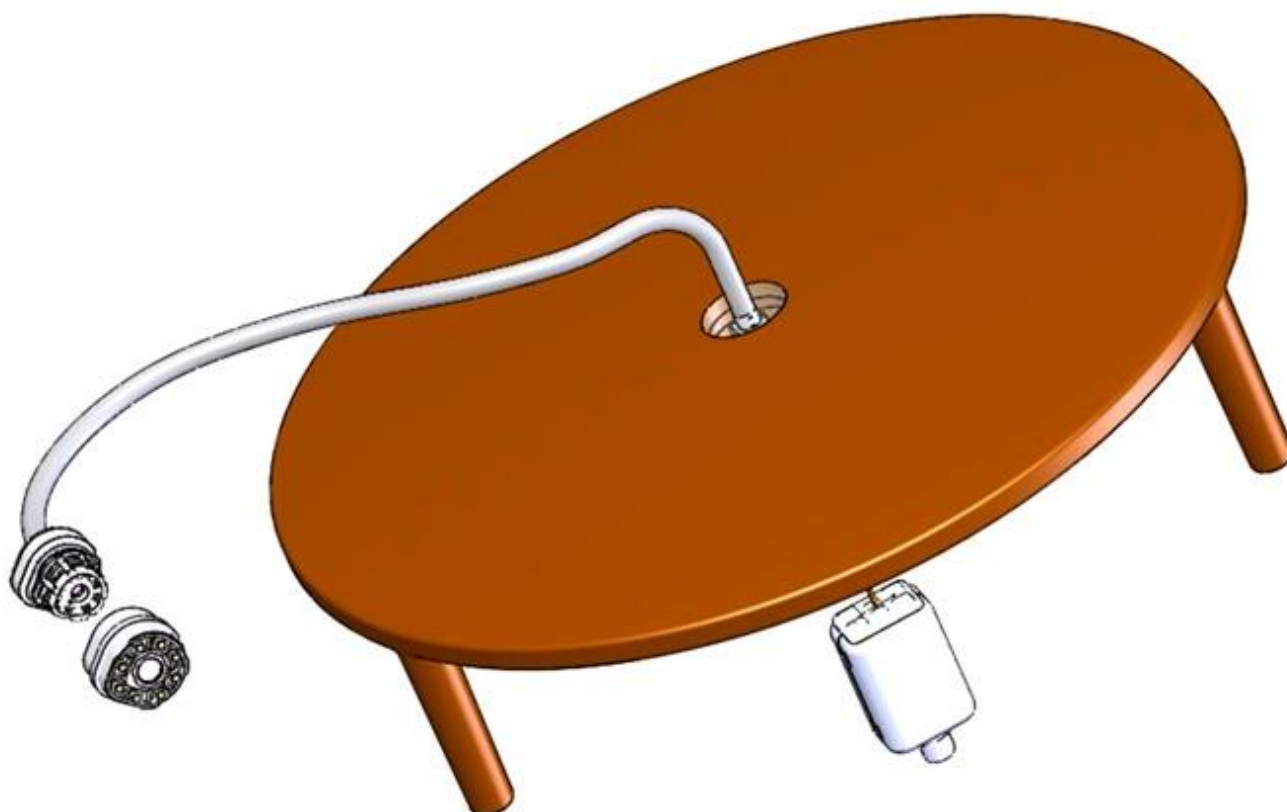


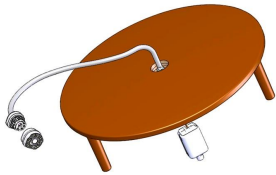


RIC E90D with Faceplate

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

Description

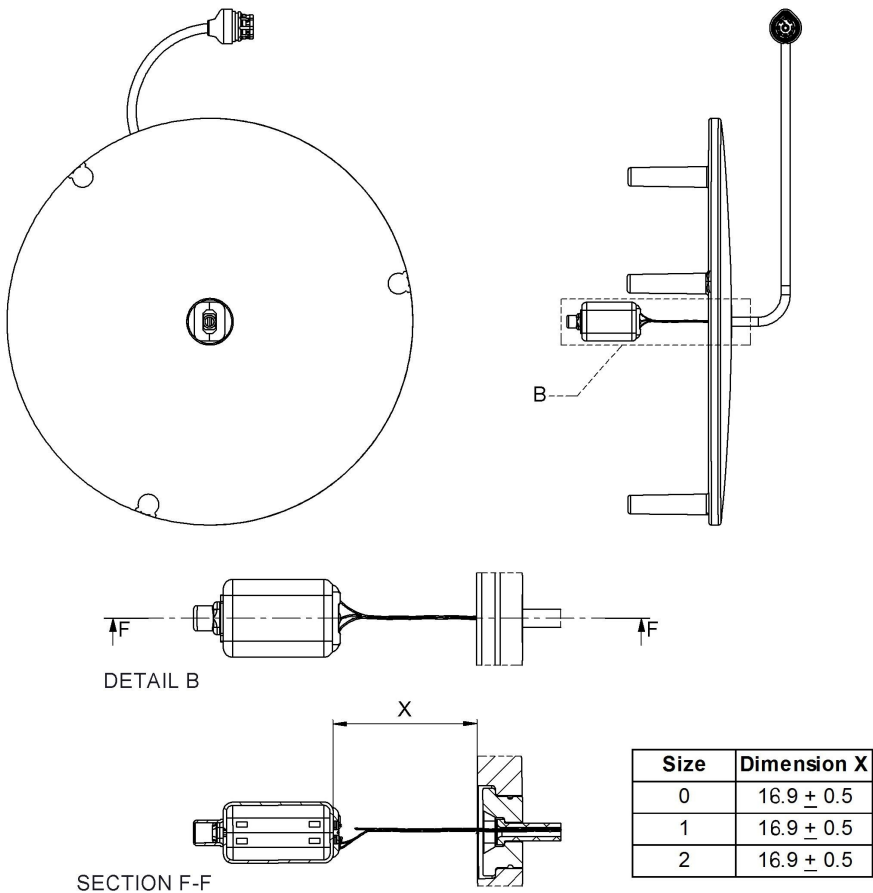
Generic RIC in three sizes, small, medium, and large, future proof CS8X plug/socket with 8 terminals. Dual receiver, series pre-wired, with reversed motor position for decreased magnetic radiation and longitudinal vibration. For more details about the receivers see the data sheets of these receivers.



Speaker unit sizes

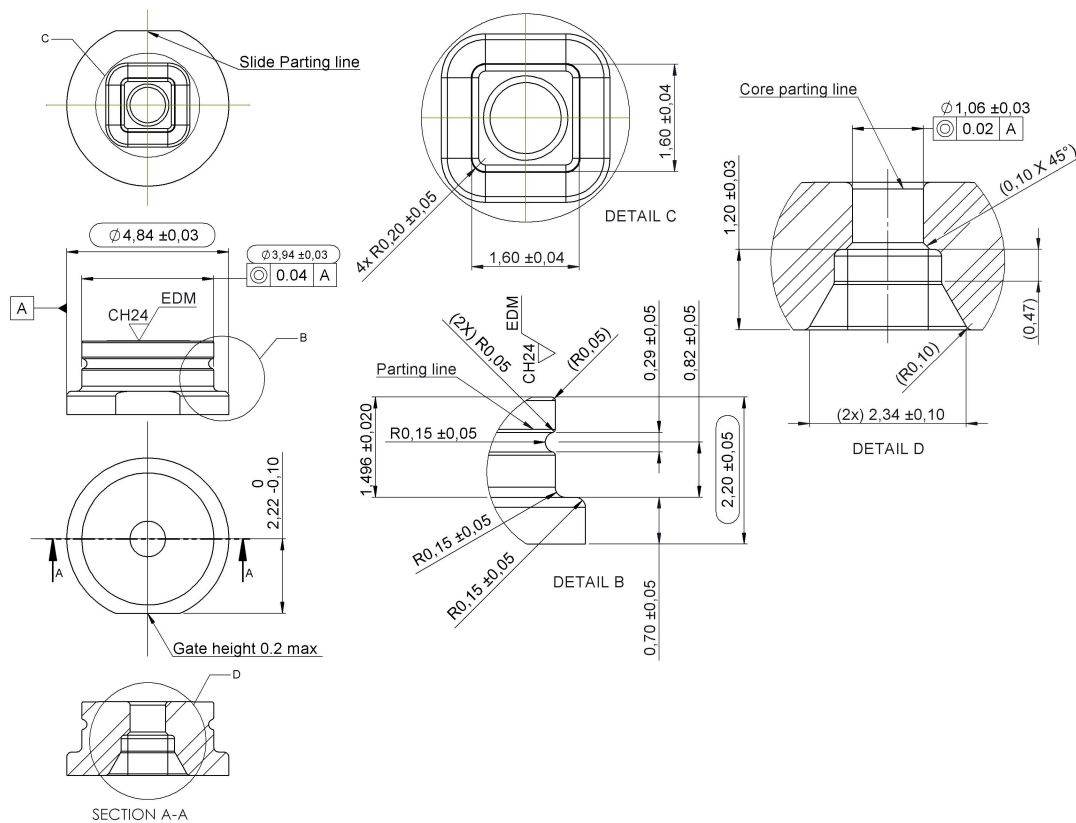
Speaker unit size	Sonion item-configuration number
Size 00L (black)	2004-3111520
Size 01L (black)	2004-3111521
Size 02L (black)	2004-3111522
Size 00R (black)	2004-3111523
Size 01R (black)	2004-3111524
Size 02R (black)	2004-3111525
Size 00L (pink)	2004-3200542
Size 01L (pink)	2004-3200543
Size 02L (pink)	2004-3200544
Size 00R (pink)	2004-3200545
Size 01R (pink)	2004-3200546
Size 02R (pink)	2004-3200547

Dimensions in mm (inch) - Drw. nr.: 0100923563

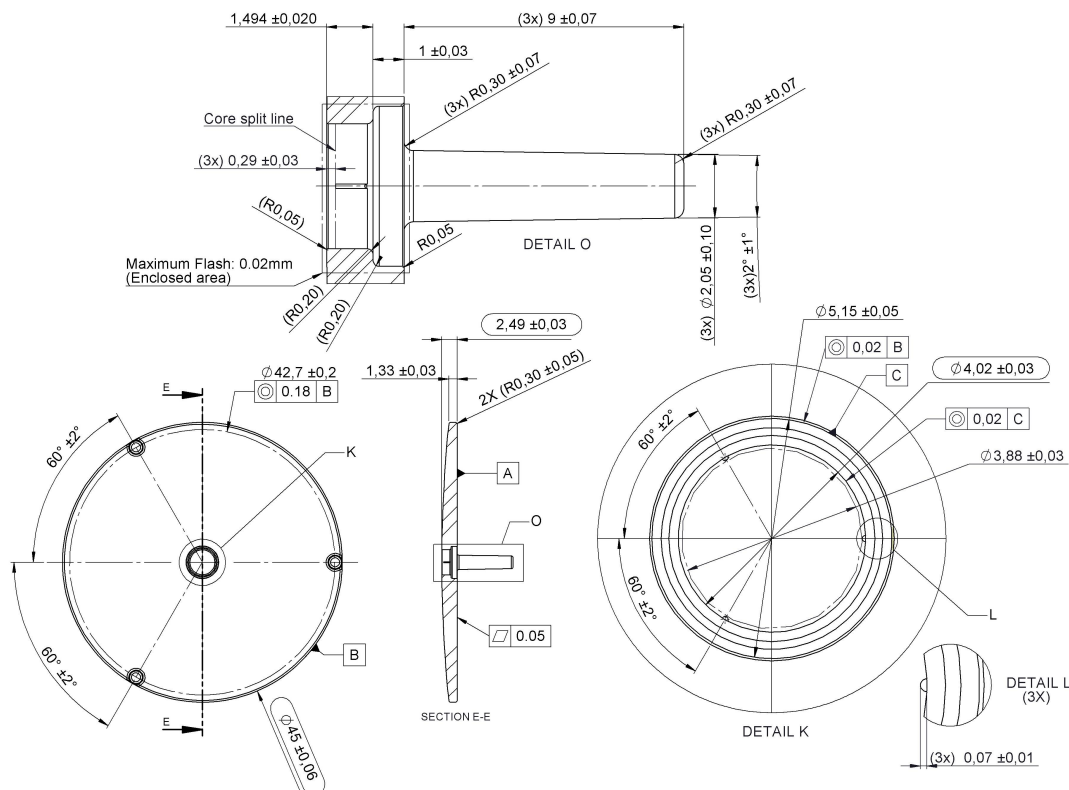


Sonion reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

Dimensions Interface in mm (inch) - Drw. nr. 0100915481



Dimensions Faceplate in mm (inch) - Drw. nr. 0100915977



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

Electro-acoustical specifications

The acoustic termination consist of: 10x1 mm ID into a 2cc coupler. Drive is voltage drive of 0.188 Vrms (0.35 mVA at 500 Hz) unless specified otherwise.

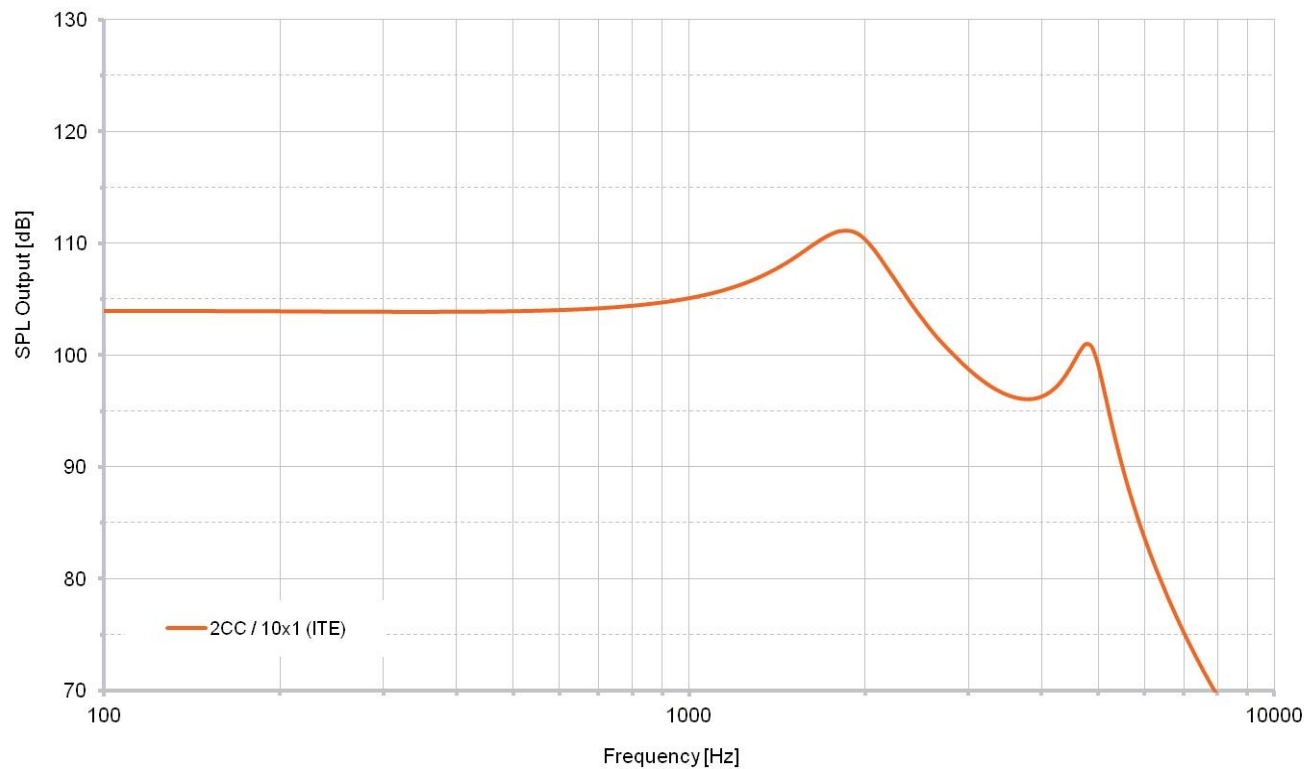
Environmental conditions: 23°C (73.4F), 50% RH.

Acoustic parameters		Min	Typ	Max	Unit	Comments
Sensitivity	@ 200 Hz	101	104	107	dB	
	@ 500 Hz	101	104	107	dB	
	@ 1000 Hz	102	105	108	dB	
Peak 1	frequency	1650	1850	2050	Hz	
	output	107.5	111	114.5	dB	
Valley 1	frequency	3450	3800	4150	Hz	
	output	92.5	96		dB	
Peak 2	frequency	4350	4750	5150	Hz	
	output	97.5	101	104.5	dB	
THD	@ 1/3 peak			5	%	
	@ 1/2 peak			5	%	
Maximum output @ peak frequency			123		dB	at 0.92 Vrms
Electric parameters		Min	Typ	Max	Unit	Comments
Impedance @ 1000 Hz		96	120	144	Ohm	
Impedance @ 500 Hz		80	100	120	Ohm	
DC resistance @ 20°C		78	92	106	Ohm	
DC bias current range		zero bias				
Additional parameters		Min	Typ	Max	Unit	Comments
Shock resistance (as receiver specification)		12000			g	80% survival rate with THD @ 1/2 peak freq. < 10%
Storage temperature		-40		63	°C	
Storage humidity		10		95	%RH	

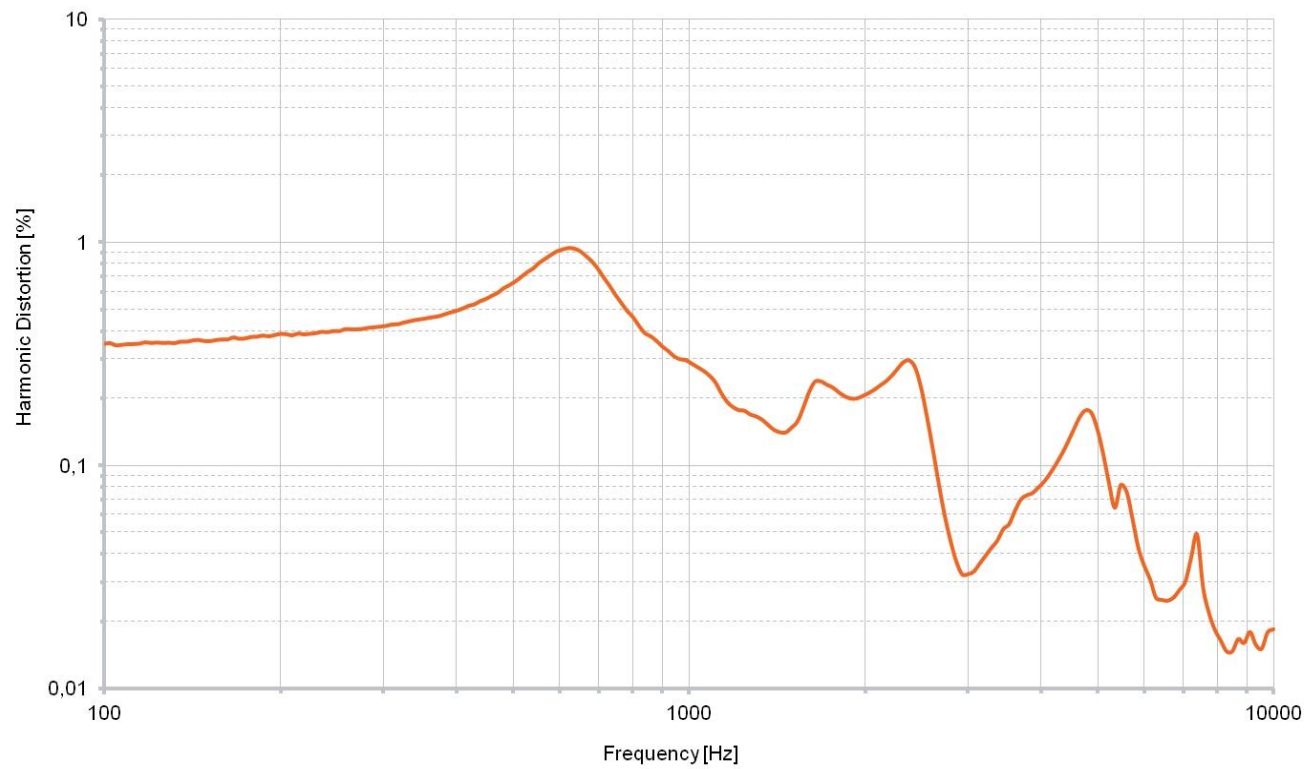
A positive voltage applied to the negative terminal (-) will result in an increase in pressure at the sound outlet.

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

Typical response curve



THD vs Frequency, typical



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

Mechanical specifications

Plug and socket

Connection force	9.5 N ± 3 N
Disconnection force	9.5 N ± 3 N

Tube

Pull force @ 15 N	Elongation ≤ 2.2mm
-------------------	--------------------

Tube to interface

Pull force @ 15 N	No mechanical failures
Wiggle test (bend ± 90°) 2500 cycles	No electrical failures, no visual defects
Wiggle test (twist ± 90°) 2500 cycles	No electrical failures, no visual defects

Tube to plug housing

Pull force @ 15 N	No electrical failures
-------------------	------------------------

Complete speaker unit

Pull test (single test) @ 15 N	No electrical failures
Pull test (single test) @ 25 N	No separation of parts

Material specifications

All materials comply with RoHS directive (2002/95/EC), ISO 10993-1 compatible

Receiver	Sonion E90DZ012G
-----------------	------------------

Tube

Tube	PA11 Translucent Rilsan tube with fixed diameter, OD: 1.0mm, ID: 0.50mm
------	---

Plug connector

Litz	3 wire twisted bundle, each wire consists of 7 strands (7 x Ø0.032 mm) Litz colors: red, green and amber color
------	---

Receiver side

Interface	Ultradid A3EG3; Natural
Faceplate	Grilamid TR55LX; Pink and Black

Recommended processing conditions

Cleaning

Recommended cleaning solvents	Use a dry cloth to clean the Speaker Unit
Ultrasonic cleaning must be avoided as it will damage the receiver unit.	

Packaging

Separate CS8X Sockets are supplied in tape-on-reel. To be ordered separately
Packaging of the RIC-Module can be customized (e.g. qty per packaging case, shape, labeling)
RIC and Faceplate will be delivered separately.

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

Configuration table - LM E90D RIC

Applicable for complete LM E90DRIC with faceplate modules

Part	Parameters	Options	Comments
CS8X Socket	Terminal style	1. Reflow SMD terminal 2. Rigid terminals 3. Flexible terminal	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

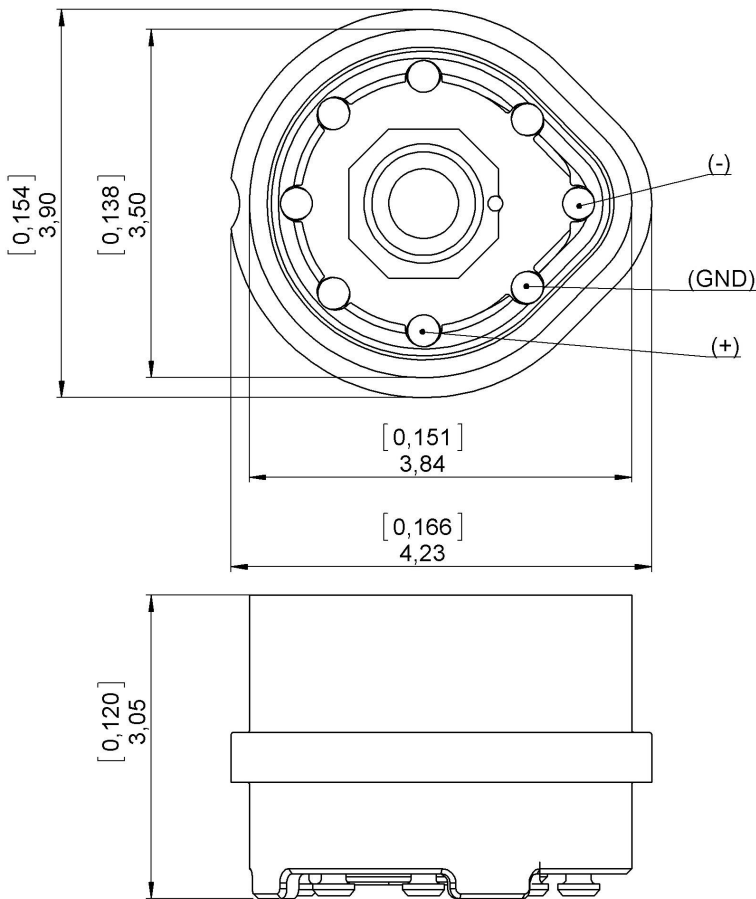
The CS8x Plug/Socket combination has been certified according to IP57 (the certification is not part of the release criteria).

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

Configuration table

Part	Parameters	Options	Comments
Receiver	E90D receiver variants	E90DZ012G	Please refer to the rec-E90D 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
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

Pin Assignment - Drw. nr.: 0100915128



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