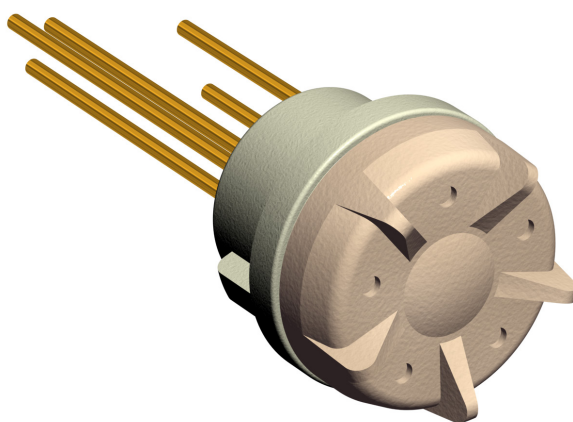
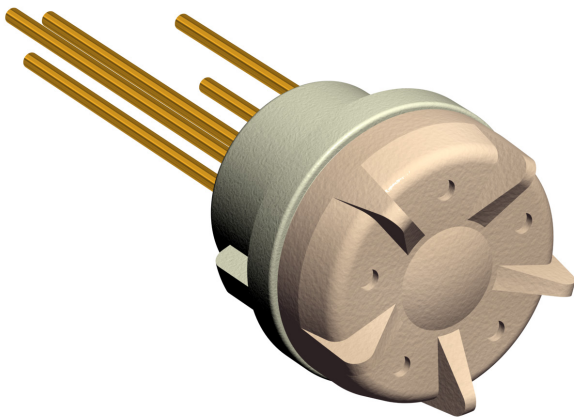




Volume Controls Model PJ 185



Features

- Ø 2.54 mm [0.1"] housing
• Flanged housing with key to ensure secure fit in faceplate
• Built-in on/off switch
• Clockwise (CW) or Counter-Clockwise (CCW) switch position for L/R applications
• Mechanical dimensions equivalent to PJ 85/DCU 254
• Snap-on type knob as DCU 254

Contents

1. History Revision 3
2. Mechanical Specifications 4
3. Electrical Specifications 5
4. Material Specifications 5
5. Environmental Conditions 6
6. Recommended Process Parameters 6
7. Mechanical Dimensions 7
8. Knob Style 8
9. Knob Plastic Colors 8
10. Color Coding 9
11. Knob OFF position 9
12. Terminal lengths 9
13. Product Specification Form 10

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
02 / May 05	Housing style 02 removed in Product Specification Form Housing color 100 changed to color 110 in Product Specification Form
03 / Aug 05	Housing style 02 added Housing color 100 added
04 / Apr 08	Knob style 102 added
MT1043.A (07/08)	Minimum resistance value on linear tapers increased to 200 Ω . 'Mechanical Dimensions' corrected.
005/JUL-08-2009	No technical updates
006/JUL-13-2011	Operational temperature and humidity removed.
007/2014-01-10	Updated design and new RoHS logo directive (2011/65/EU)
008/2019-09-03	Change of storage temperature and humidity (CR3860)

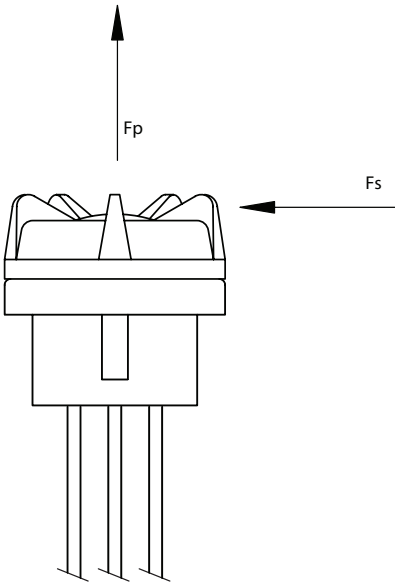
2.Mechanical Specifications

Rotational angle, mechanical	250° ±5°
Resistance curve angle	210°
Switch angle	10° ±3°
End stop torque	Min. 150 cNcm
Rotational torque	Min. 2-6 cNcm
Switch operating torque ON to OFF	5-15 cNcm, initial
Switch operating torque OFF to ON	5-15 cNcm, initial
Terminal retention force	Min. 8 N
Base retention force	Min. 5 N

Lifetime	
Resistance element	Min. 20,000 cycles
On/Off switch	Min. 10,000 cycles
Bending of terminals	Min. 0.5 mm [0.02"] from housing Min. 4 bendings 90°, with 0.25 N load

Knob forces	
Allowed static axial force to be applied	
continously (-Fp)	Max. 8 N
Allowed static force during rotation (-Fp)	Max. 3 N
Pull strength, Fp	Min. 12 N after humidity exposure IEC 600068-2-38
Shear strength, Fs	Min. 8 N

Definition of knob shear and knob pull strength forces:
From top of knob to shear force attack point: 0.75 mm



5. Environmental Conditions

Storage temperature	25°C
Storage humidity	60% RH
Purpose is to protect from high humidity and keep at driest condition as possible	

6. Recommended Process Parameters

Gluing	
Types of glue	Cyanoacrylates (non-blooming) , i.e. Loctite 401, 408, 460 and Sicomet 50, 63, 77 Non-blooming types must be used to ensure that residuals from the curing process do not degrade the component.
Soldering	
Soldering temperature and time	300°C [572°F] for 3 s or 350°C [662°F] for 1 s
Soldering distance	Min. 0.3 mm [0.012"] from housing Exceeding temperature, time and distance recommendations may damage the component. Mechanical stress on soldering terminals must be avoided during soldering.
Cleaning	
Cleaning solvents	Aqua wash (Alpha 2110), Benzine Ultrasonic cleaning must be avoided as it may remove the lubricant inside the component.

3. Electrical Specifications

Resistance value	
Linear	200 Ω to 1 M Ω
Logarithmic	500 Ω to 600 k Ω
Double logarithmic	2 k Ω to 500 k Ω
Resistance value tolerance	$\pm 20\%$ (-20% to +30% for values ≤ 1 k Ω)
Resistance taper	See 'Tapers Data Sheet'
Wiper contact resistance	Typ. better than 20 dB rel. R
Contact resistance (on/off switch)	Max. 150 m Ω
Insulation resistance	Min. 1 M Ω

Potentiometer max. load	1 mW
Switching current (on/off switch)	10 mA
Continuous current (on/off switch) ¹	100 mA

4. Material Specifications

All materials comply with RoHS directive (2011/65/EU)

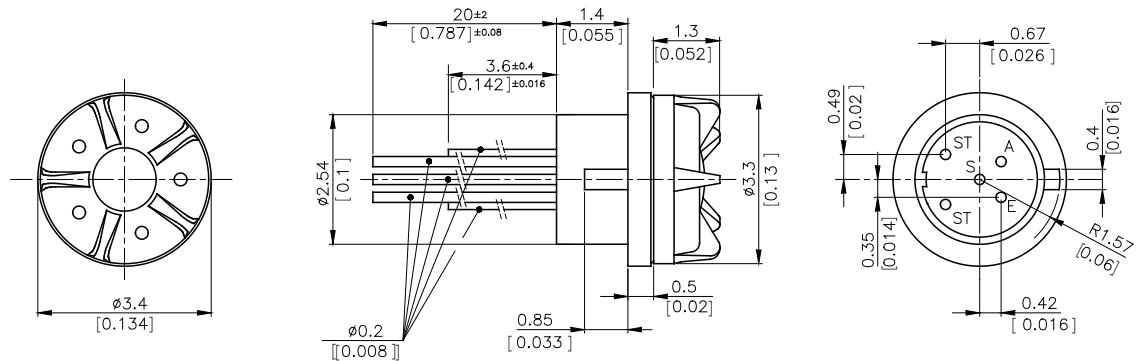
Potentiometer and switch terminals	AgCu3, gold flash plated
Other metal parts	PdAg and stainless steel
Housing	PA 6.6, glass reinforced
Knob	PA 6.6, glass reinforced
Base	PEEK
Carbon track base	Reinforced glass epoxy
Resistance material	Carbon / Silver composite

Lubricant, glue / seal, and paint specifications are proprietary information.

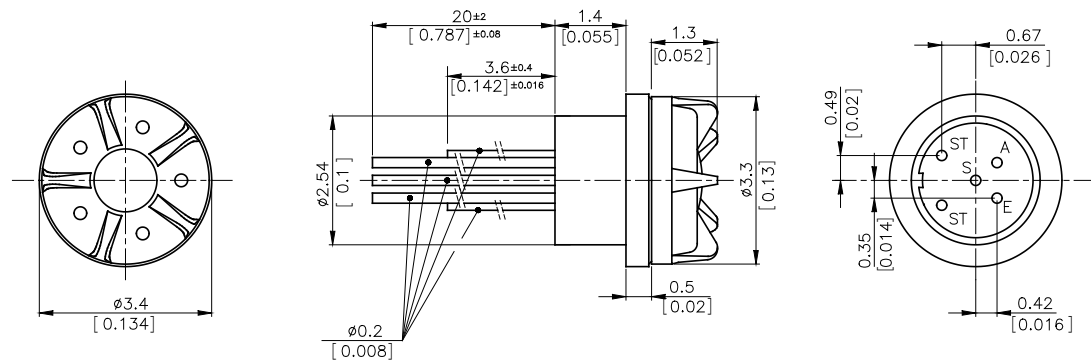
7. Mechanical Dimensions

Housing Styles

No. 01



No. 02

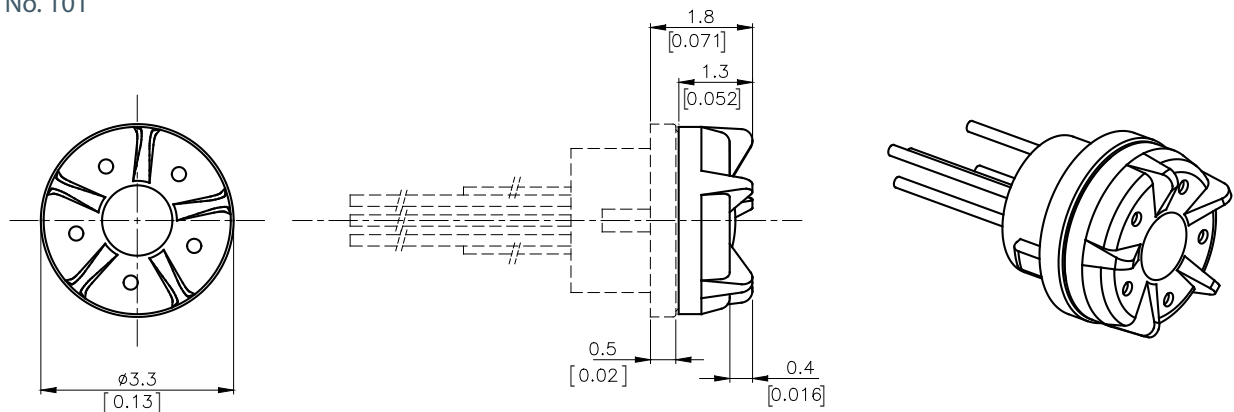


Note:

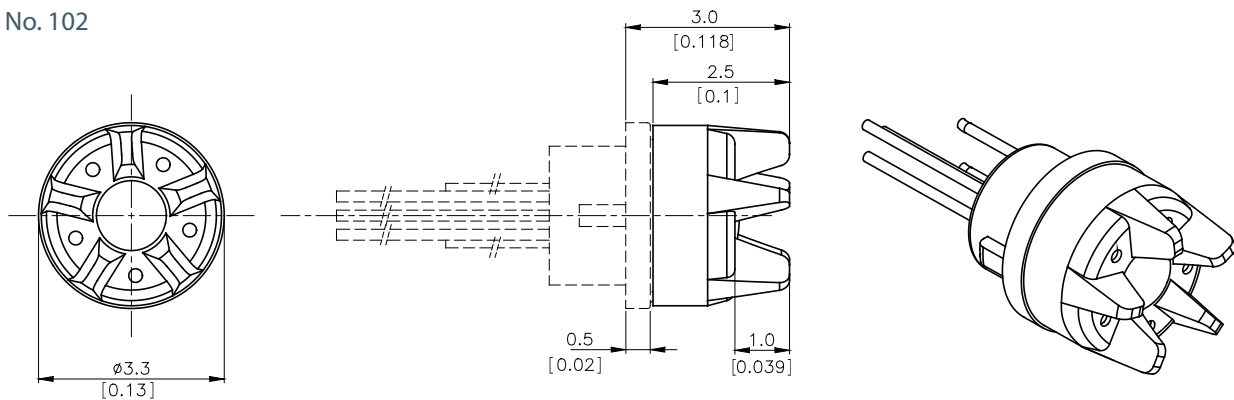
The standard measurement tolerance on the drawings is ± 0.05 mm/[0.002"]. Tolerances which differ from this value will be indicated on the drawings.

8. Knob Style

No. 101



No. 102



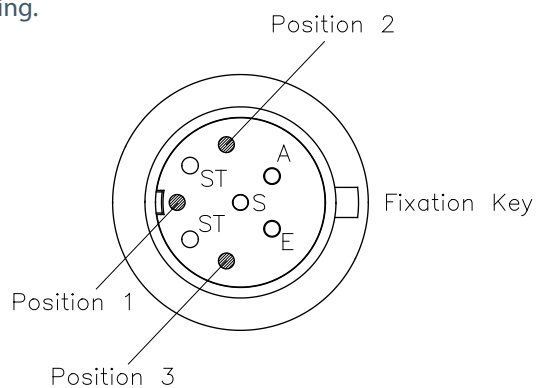
9. Knob Plastic Colors

Please refer to the series 100 included in the Sonion 'Plastic Color Assortment' binder.

10. Color Coding

Please see colors for coding in the Sonion 'Plastic Color Assortment' binder or in the Product Overview.

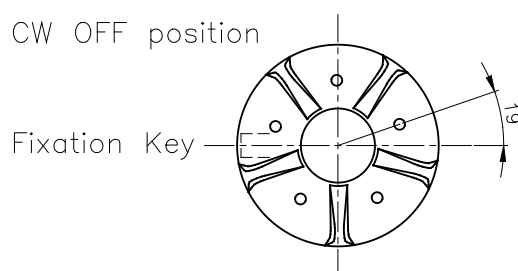
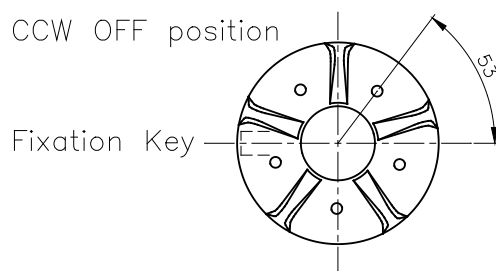
3 positions for bottom color coding.



11. Knob OFF position

Knobs are shown in full Counter ClockWise (CCW) or in full ClockWise (CW) positions.

Knob Nos. 101 & 102



12. Terminal lengths

Switch terminals are 3.6 mm.

Potentiometer terminals (A, S, E) can be either 10 mm or 20 mm.

13. Product Specification Form

Name

Company

Customer Part No.

Parameters	Look at Page	Enter your choices	Guidelines
Model	12	PJ 185 CW or PJ 185 CCW	For right ear ITE applications, switch position in CCW (counter clockwise) position For left ear ITE applications, switch position in CW (clockwise) position
Housing Style	7		Please enter nos. 01 or 02
Knob Style	8		Please enter nos. 101 or 102
Knob Plastic Colors	8		Please refer to the series 100 included in the Sonion 'Plastic Color Assortment' binder
Housing Colors			Please enter color no. 100 (nature), 110 (beige) or 131 (brown)
Color 9 Coding	8	1 2 3	Bottom Please see colors for coding included in the Sonion 'Plastic Color Assortment' binder
Terminal length	9		Please enter 10 mm or 20 mm for potentiometer terminals
Resistance Value	5		Please see 'Electrical Data' and Tapers Data Sheet
Resistance Taper	5		Please see 'Electrical Data' and Tapers Data Sheet