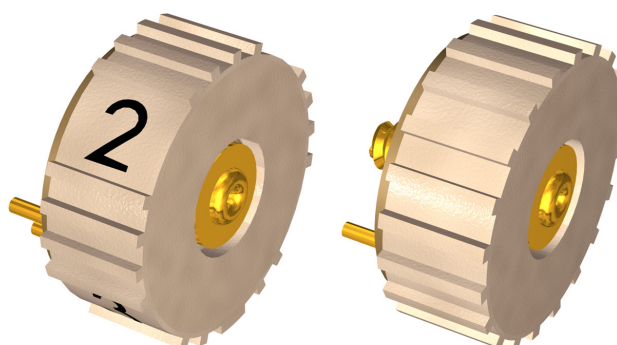
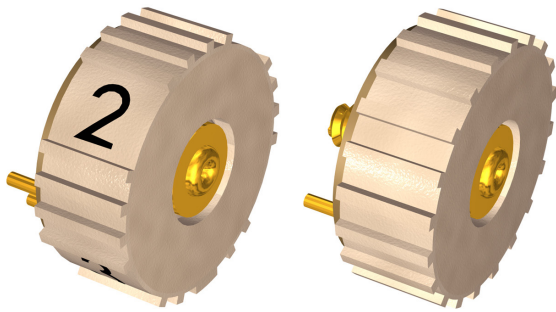




Volume Controls Model PJ 77 & 78



Features

- PJ 77 without switch
- PJ 78 with built-in On/Off switch
- CW or CCW switch position
- Durable tampon-printed numbering, various types
- Different knobs available, for both ITE/BTE
- Different axles available
- Different terminal lengths available
- Different plastic colors available
- Adaptor rings available
- Accurate tapers. Linear, logarithmic, double logarithmic and custom-made
- Customized resistance values and tolerances

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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
06 / Aug. 03	History Revision added. Switch lead corrected to 1.5 mm. Knob Style No. 02 and Axle Style No. 07 and 10 have been corrected. Plating material changed.
07 / Feb. 04	Rotational torque changed
08 / Apr. 08	Storage humidity added. Operational temperature and humidity removed. New lay-out. New data sheet design
09 / May 08	Housing material removed
MT1038.A (07/08)	Minimum resistance value on linear tapers increased to 200 Ω .
010/JUL-14-2009	No technical updates
011/SEP-29-2009	Knob Styles Nos. 03, 04, 05, 06, 07, 17, 18, 60, 61, 62, 71, 72 and 73 Cap Styles Nos. 04, 05 and 07 removed
012/OCT-29-2009	Resistance curve angle corrected
013/JAN-11-2012	Page references on Product Specification Form corrected
014/2014-01-10	Updated design and new RoHS logo directive (2011/65/EU)
015/2019-09-03	Change of storage temperature and humidity (CR3860)

2. Mechanical Specifications

Rotational angle, mechanical	260° ±3°
Resistance curve angle	220°
PJ 78 switch angle	20°
End stop torque	Min. 300 cNcm
Rotational torque	Min. 3 cNcm, max. 8 cNcm
PJ 78 switch operating torque	Min. 20 cNcm, max. 50 cNcm
Terminal retention force	Min. 10 N

Lifetime	
Resistance element	Min. 25,000 cycles
PJ 78 On/Off switch	Min. 15,000 cycles

3. Electrical Specifications

Resistance value	
Linear	200 Ω to 1 MΩ
Logarithmic	500 Ω to 600 kΩ
Double logarithmic	2 kΩ to 500 kΩ
Resistance value tolerance	±20% (-20% to +30% for values ≤ 1 kΩ)
Resistance taper	See 'Tapers Data Sheet'
Wiper contact resistance	Typ. better than 20 dB rel. R
PJ 78 contact resistance (On/Off switch)	Max. 150 mΩ
PJ 78 insulation resistance	Min. 1 MΩ

Potentiometer max. load	10 mW
PJ 78 continuous current (On/Off switch)	500 mA

4. Material Specifications

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

Specifications	
Terminals	CuNiZn, gold flash plated
Axle	CuNiZn, gold flash plated
Wiper	CuNiZn
Knob	PA 6.6
Base	PES
Carbon track base	Glass epoxy composite
Resistance material	Carbon/Silver composite

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

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	

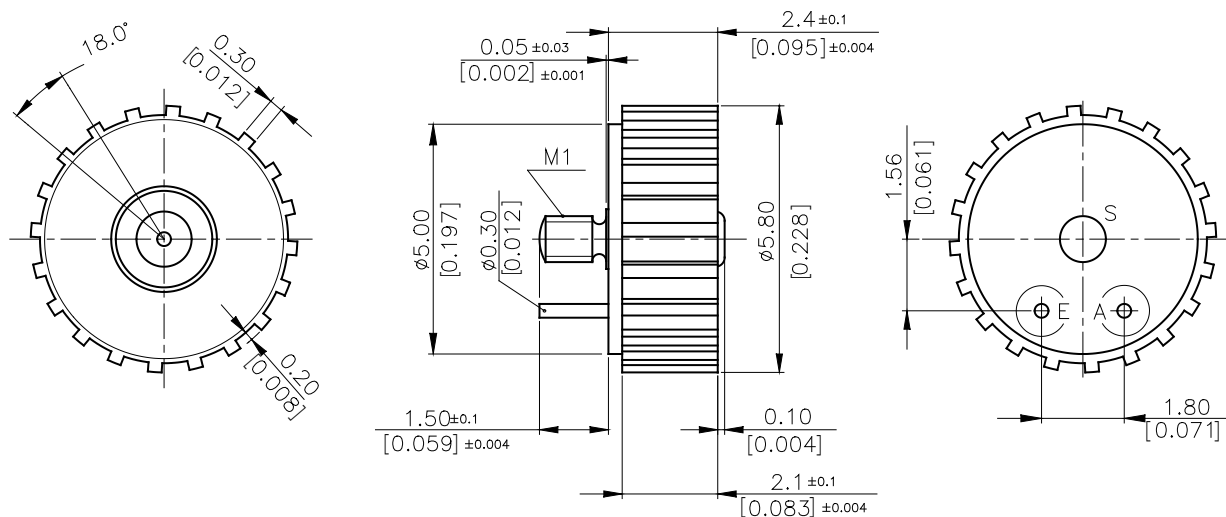
6. Recommended Process Parameters

Mounting	
Fixation nut mounting torque	Max. 200 cNcm
Soldering	
Soldering temperature and time	300°C [572°F] for 3 s or 350°C [662°F] for 1 s
Soldering distance	Min. 0.5 mm [0.02"] from housing To prevent damage to the carbon taper as a result of the soldering process, the knob must be turned either fully CW or CCW. For PJ 78 this must also be opposite to the switch position. 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.

7. Mechanical Dimensions

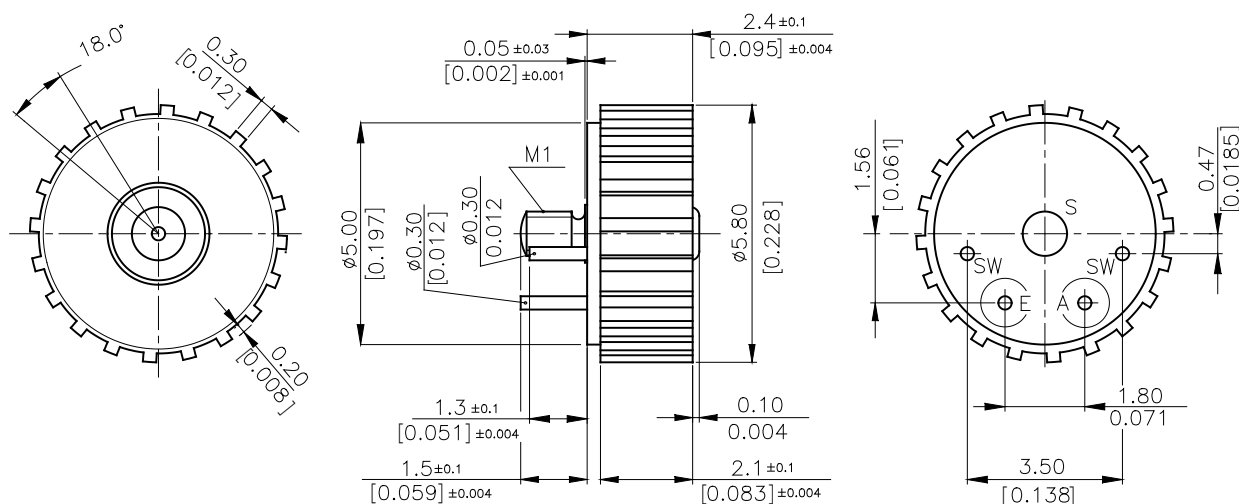
PJ 77

The knob is turned CCW to stop (terminal A).



PJ 78

The knob is turned CCW to stop (terminal A).



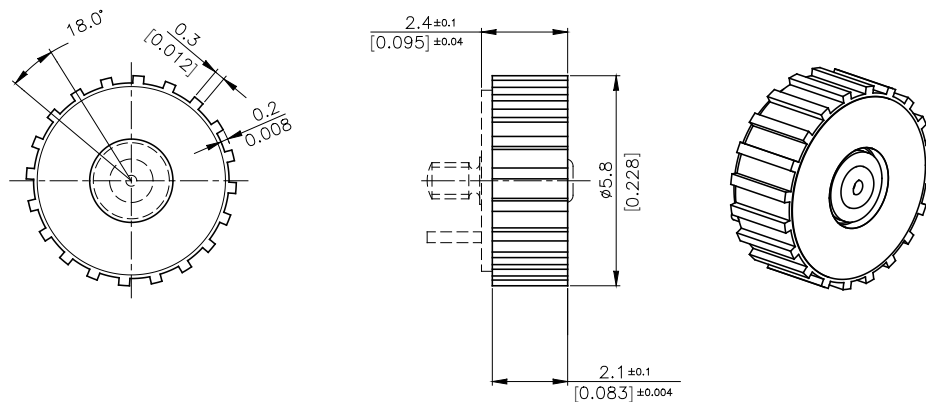
Note:

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.

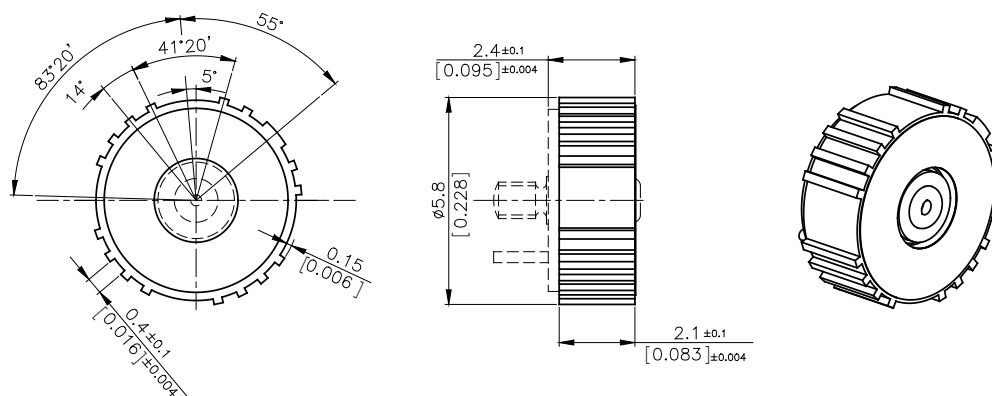
8. Knob Styles

All knobs are shown turned CCW to stop (terminal A)

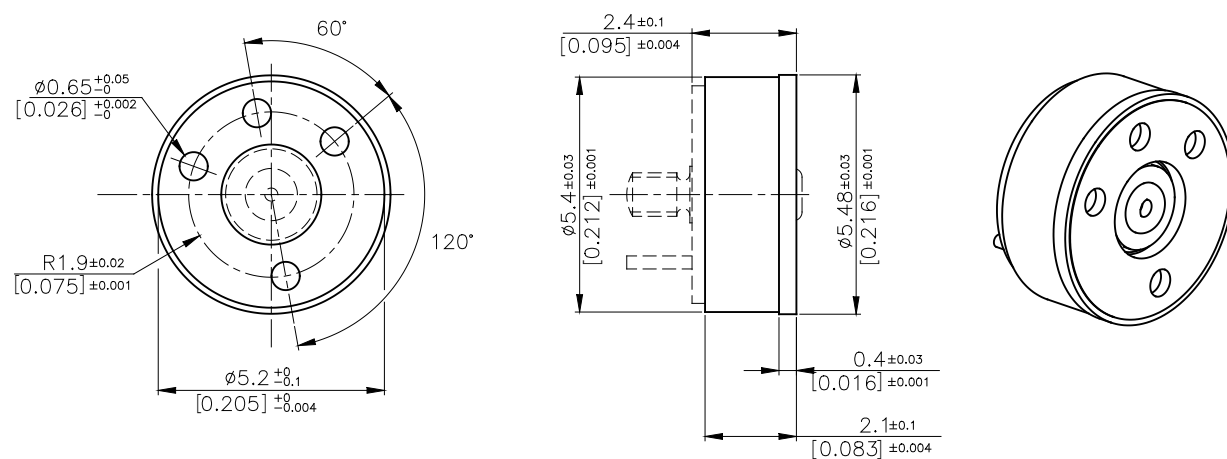
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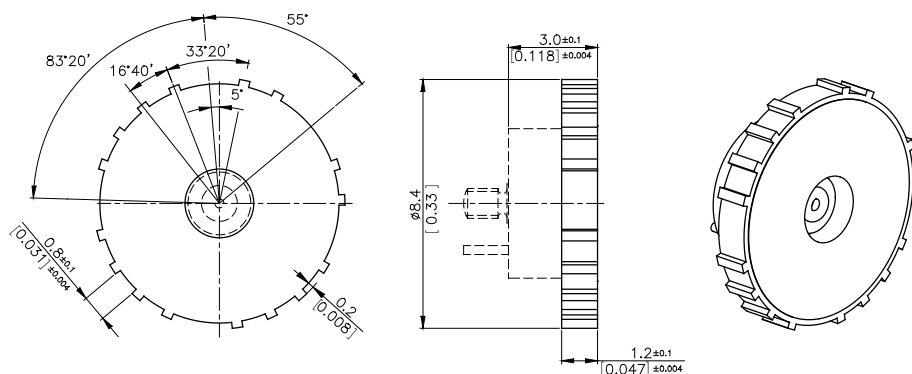
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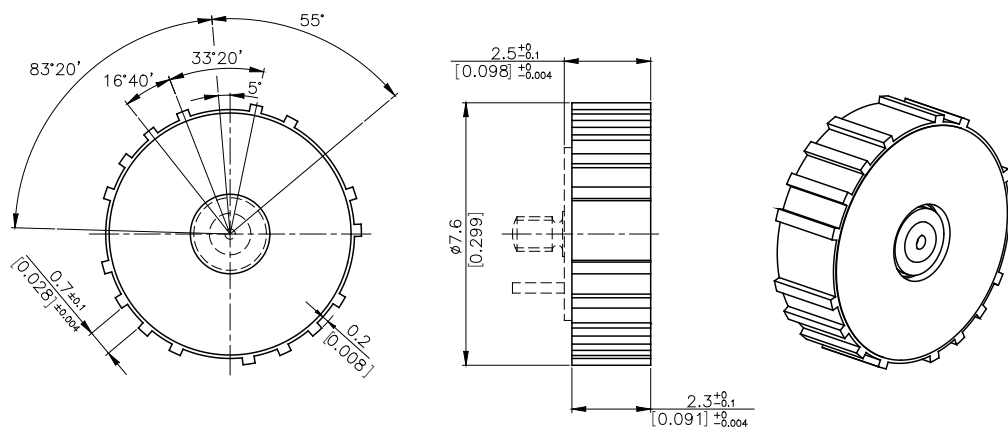
No. 11 'Snap-on' knob base. For mounting of caps, shown in the section 'Cap Styles'



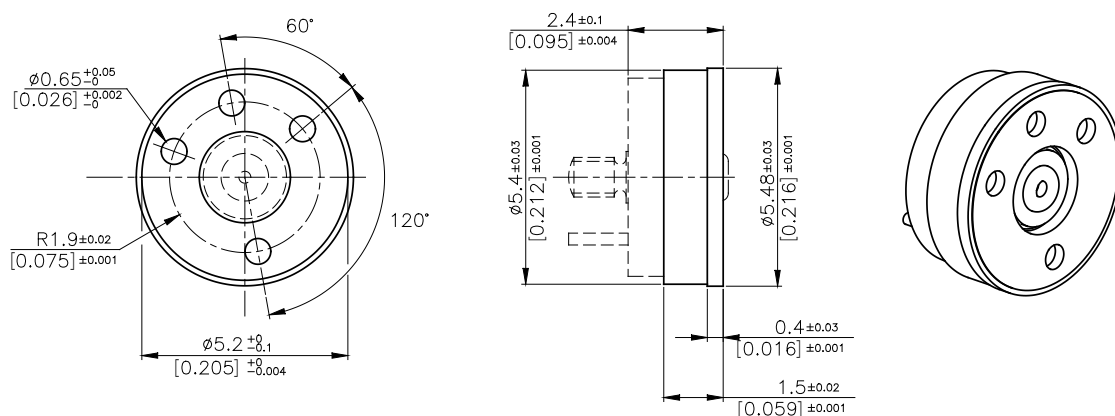
No. 12



No. 14



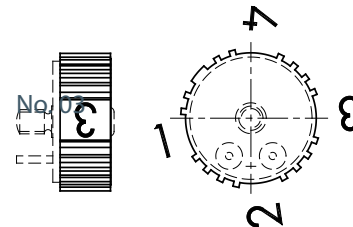
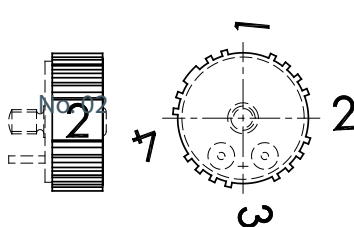
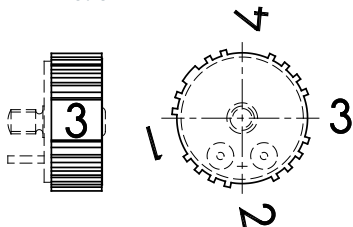
No. 21 'Snap-on' knob base. For mounting of caps, shown in the section 'Cap Styles'



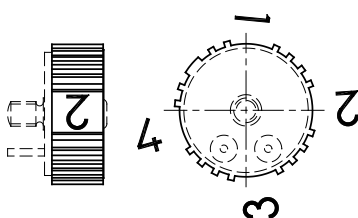
9. Knob Prints

The knob is shown turned CCW to stop (terminal A) on all pictures. Available knob print colors: White, black and brown.

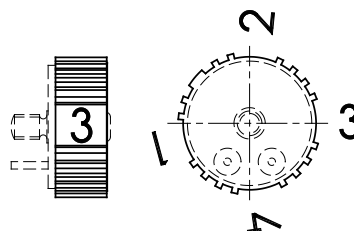
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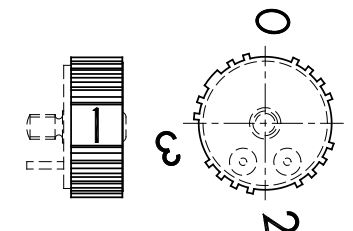
No. 04



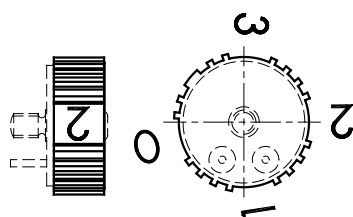
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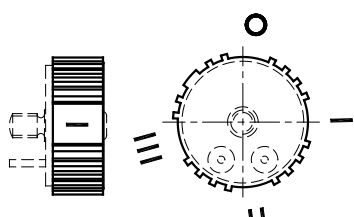
No. 06



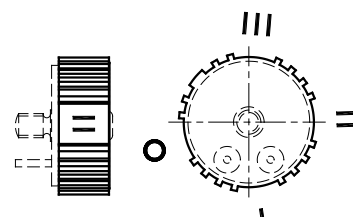
No. 07



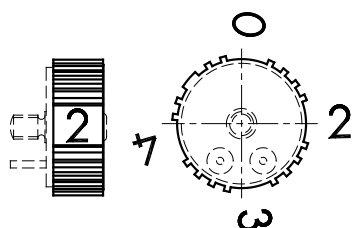
No. 10



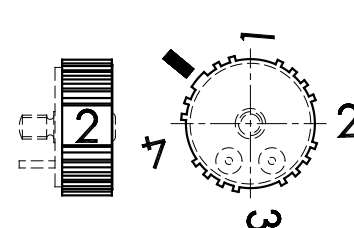
No. 11



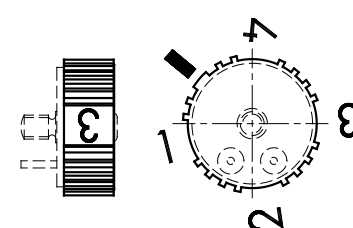
No. 22

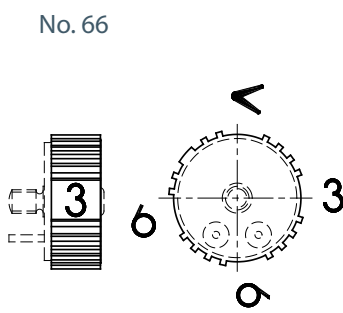
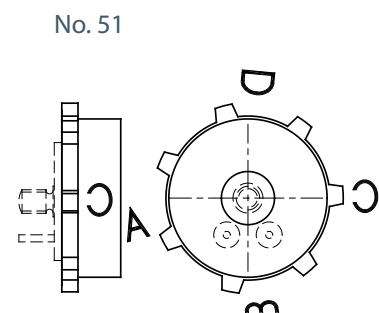
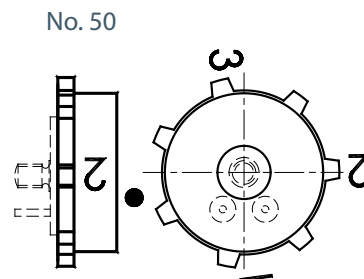
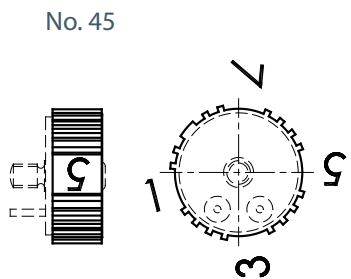
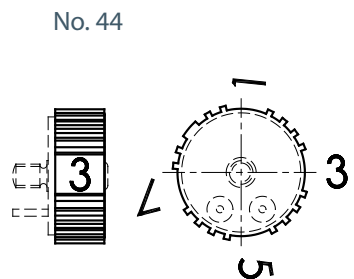
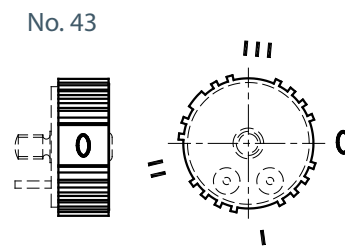
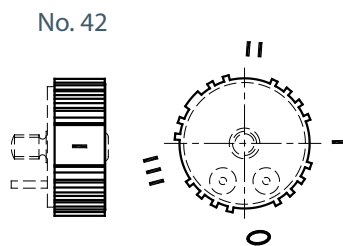
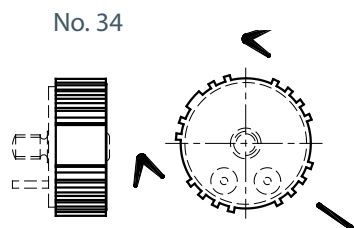


No. 32



No. 33

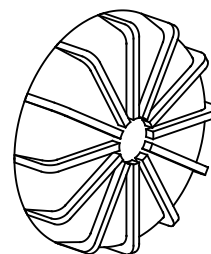
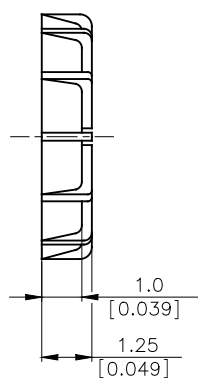
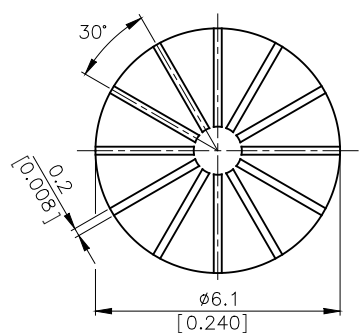




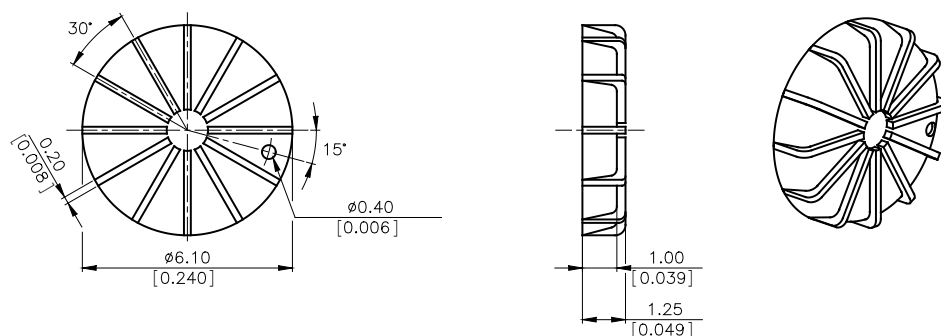
10. Cap Styles

Usable for 'Snap-On' knob bases 11 and 21

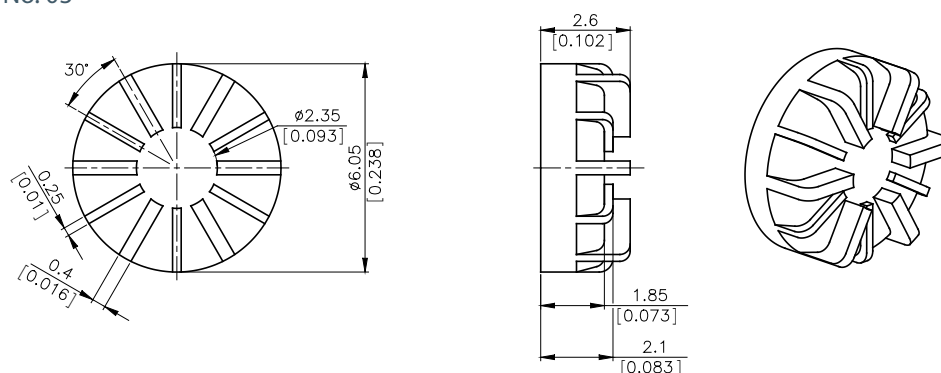
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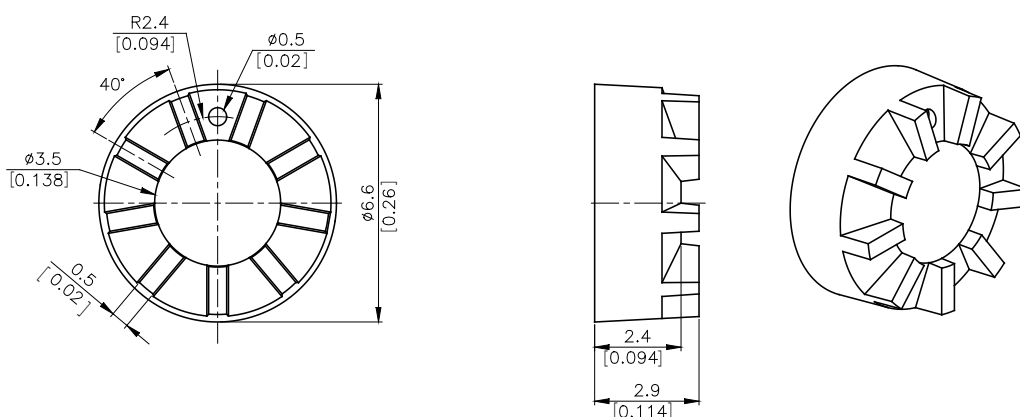
No. 02



No. 03

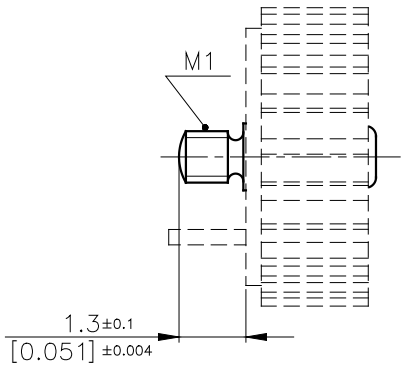


No. 06

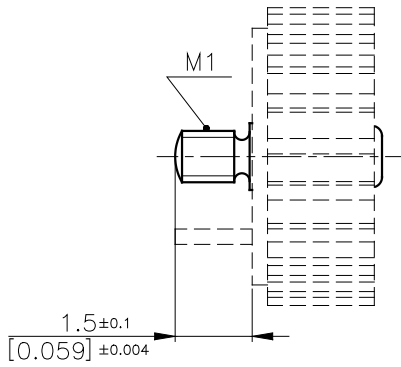


11. Axle Styles

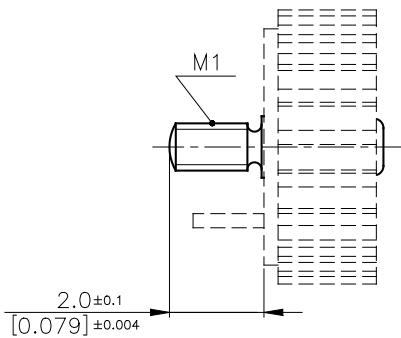
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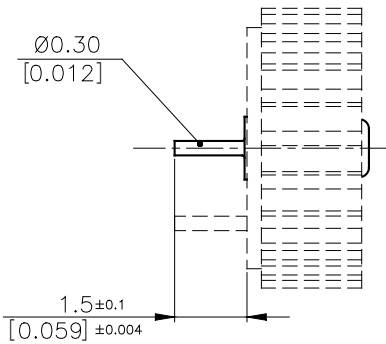
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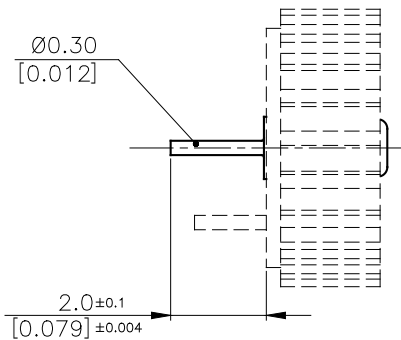
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No. 07

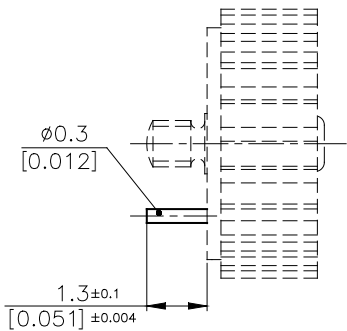


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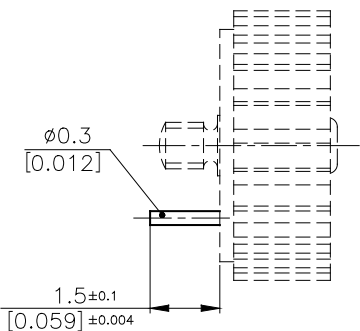


12. Terminal Length

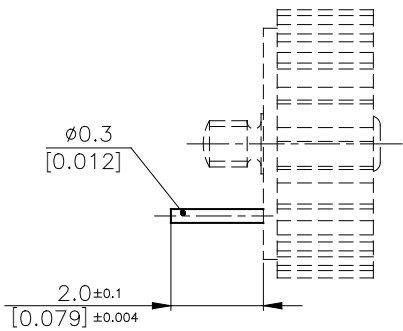
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No. 02

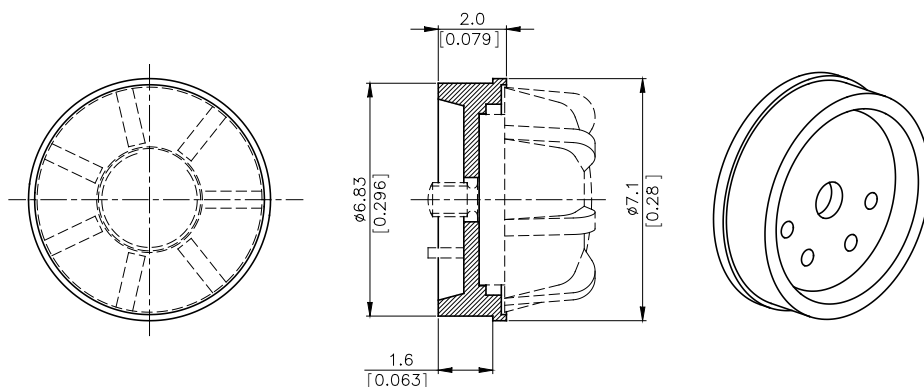


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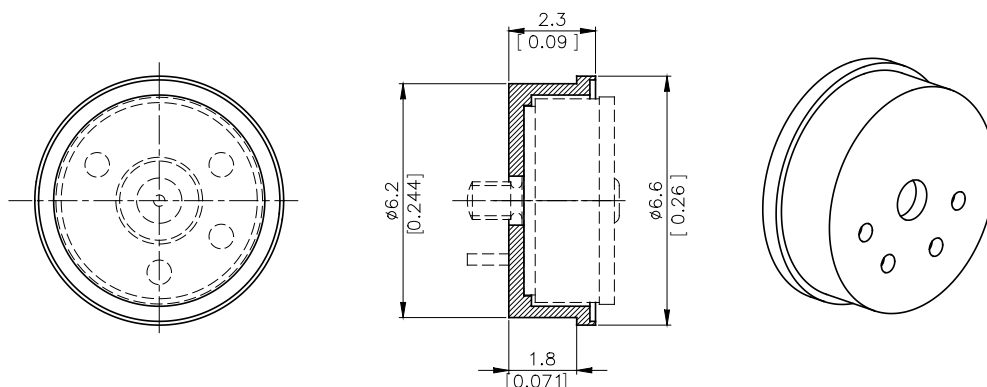


13. Adaptor Ring Styles

No. 01



No. 02



14. Plastic Colors

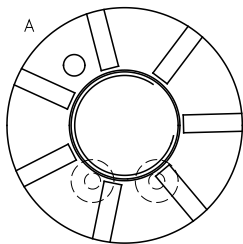
Please refer to the series 200 included in the Sonion 'Plastic Color Assortment' binder.

15. Color Coding

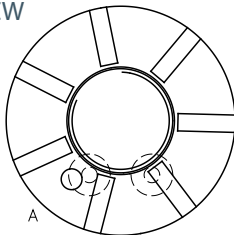
Please see colors for coding included in the Sonion 'Plastic Color Assortment' binder.
Please note that all knobs are turned CCW to stop (terminal A) or CW to stop (terminal E).

16. Knob

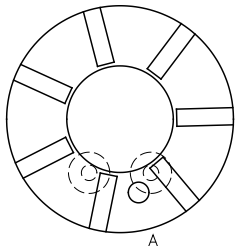
No. 06 CCW



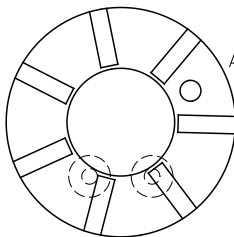
No. 06 CW



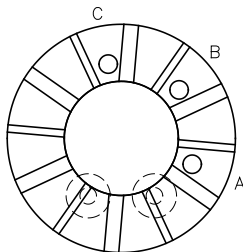
No. 07 CCW



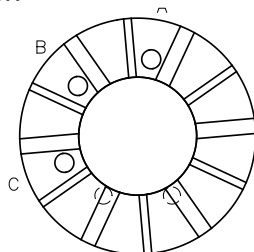
No. 07 CW



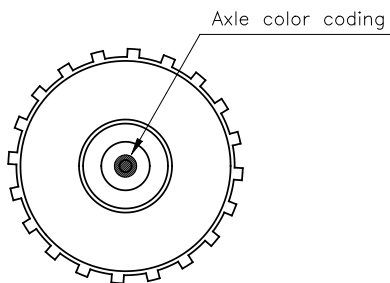
No. 72 CCW



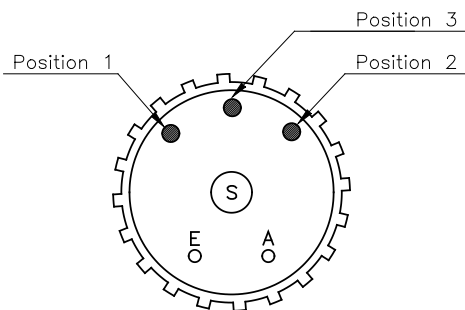
No. 72 CW



Axle



Bottom Color Coding



17. Product Specification Form

Name

Company

Customer Part No.

Parameters	Look at Page	Enter your choices	Guidelines
Model	2		Please enter PJ 77 or PJ 78 CW or CCW switch
Knob Styles	7-8		
Knob Prints	9-10		Please enter knob print style and knob print color. Available colors: White, brown or black
Cap Styles	10-11		Can only be mounted on 'Snap On' knobs styles nos. 11 and 21.
Axle Styles	12		
Terminal Length	13		
Adaptor Ring Styles	14		
Plastic Colors	14		Please refer to the series 200 included in the Sonion 'Plastic Color Assortment' binder
Color Coding	15	A	Knob
		B	Please refer to colors for coding included in the Sonion 'Plastic Color Assortment' binder
		C	
			Axle
			Please refer to colors for coding included in the Sonion 'Plastic Color Assortment' binder
		1	Bottom
		2	Please refer to colors for coding included in the Sonion 'Plastic Color Assortment' binder
		3	
Resistance Value			Please see 'Electrical Specifications' and 'Tapers Data Sheet'
Resistance Taper			Please see 'Electrical Specifications' and 'Tapers Data Sheet'
Accessories			Please see 'Accessories Data Sheet'