

C-2 Tactor[†]

Product Data Sheet



[†]US patent 7,798,982

Specifications

<i>Physical Description</i>	1.2" (30.5 mm) diameter by 0.31" (7.9 mm) high
<i>Weight</i>	17 grams
<i>Exposed Material</i>	Anodized aluminum, polyurethane
<i>Electrical Wiring</i>	5ft flexible, insulated, #24 AWG tinsel *
<i>Body Contactor</i>	0.31" (7.87 mm) diameter, pre-loaded on skin
<i>Tactile Pulse Characteristics</i>	200-300 Hz, <2 ms rise time
<i>Electrical Characteristics</i>	6 ohms nominal without wire; 9 ohms nominal with wire
<i>Transducer Linearity</i>	+/- 1 dB from sensory threshold to 0.02" (0.5 mm) peak displacement
<i>Recommended Drive</i>	Sine wave tone bursts 250Hz at 250 mA rms nominal, <10% duty cycle, 500 mA rms max for short durations
<i>Recommended Controller</i>	EAI Universal Controller and all distributed series controllers

*Other options, and various connectors available.

Product Description

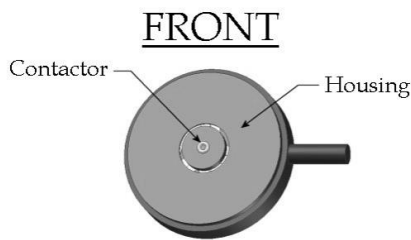
The C-2 tactor is a miniature vibrotactile transducer that has been optimized to create a strong localized sensation on the body. The C-2 has been widely used in tactile research and regarded as the “gold-standard” in this tactile actuator class. C-2 tactors can provide intuitive haptic cues to a user wearing a body-referenced arrangement of tactors activated individually, sequentially or in groups. The C-2 tactor is a state-of-the-art, wearable vibrotactile transducer, suitable for a wide variety of military, biomedical and commercial applications.

Applications

- Haptic research
- Tactile arrays
- Wearable tactile feedback
- Military: navigation, situation awareness (SA), communication
- Aviation: alerts, spatial orientation cueing
- Biomedical: sensory substitution, vestibular feedback
- Automotive: navigation, alerts
- Immersive entertainment
- Gaming
- Haptic displays

Operation

The C-2 tactor is a linear actuator that has been optimized for use against the body. The C-2 tactor incorporates a moving “contactor” that is lightly preloaded against the skin. When an electrical signal is applied, the contactor oscillates perpendicular to the skin, while the surrounding skin area is shielded by the passive housing. Thus, unlike most vibrational transducers, such as common eccentric mass motors that simply shake the entire device, the C-2 provides a strong point-like sensation that is easily felt and localized, even through layers of clothing.



For best results, housing and contactor should remain in contact with skin.

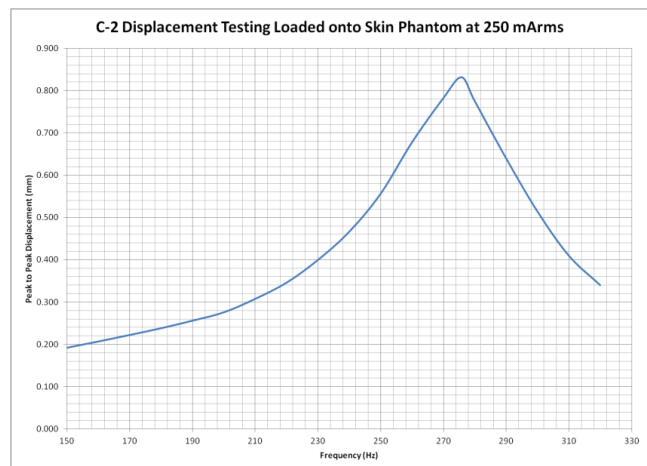


Velcro or other attachment may be applied to this side as long as it is clear of the center hole.

Design

For optimum vibrotactile efficiency, the C-2 is designed with a primary resonance in the 200-300 Hz range that coincides with peak sensitivity of the Pacinian corpuscle, the skin’s mechanoreceptors that sense vibration. The C-2’s high force and displacement, and contactor shape level allow the vibration to be easily felt at all locations on the body.

Performance Data



Contact EAI for additional information

EAI offers complete turnkey vibrotactile systems and a wide range of tactor products. Please contact us for details.