SILVER®

Orbital's Portfolio of Dry Electrodes



"The **Bumps** have it when it comes to CardioWare." Orbital's SilverBumps[®] electrodes are key to 'locking' sensors to the skin." -Medical Design Magazine, June 6, 2013

Diagnostic quality bio-potentials without skin preparation or electrolytic gels.

Key Features:

- Dry Signal Acquisition
- No Skin Preparation
- Durable
- Custom Designable

Monitoring Applications:

- ECG
- EEG
- EMG
- Other Bio-Electric Signals

Health Applications:

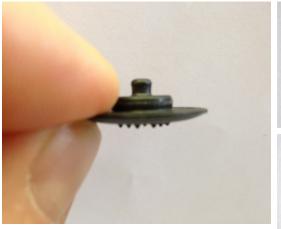
- Cardiac Monitoring
- Mobile Outpatient Telemetry
- Disease Management
- Preventative Medicine
- Elite Sport/Athlete Training
- Lifestyle Management
- Corporate Wellness

Benefits:

- Eliminate skin preparation and use of messy gels
- Improve comfort
- Extend wear duration
- Increased patient compliance

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Side view of a SilverBumps® electrode showing connector snap and "bumps".



Snap side showing connector



Skin side featuring bumps

Orbital's SilverBumps® brand electrodes, part of Orbital's line of Bumps® electrodes, use unique surface features designed to allow measurement of bioelectric signals with no skin preparation, messy gels or irritating adhesives.

SilverBumps® electrodes are engineered to match or exceed industry standard signal-to-noise ratios of traditional electrodes. The combination of the unique design elements (sensing surface, housing and connector) minimize motion artifacts which improve signal quality. SilverBumps® electrodes also outperform traditional electrodes in terms of patient comfort during long-term physiological monitoring applications.

Currently, SilverBumps® electrodes have been cleared by the Food and Drug Administration for continuous wear, single-person-use ECG applications for up to 48 hours. Orbital's IP portfolio includes 11 issued patents and 8 pending patents.

Electrode Specifications:

- •Diameter: 25 mm
- •Effective surface area: 500 mm²
- •Snap to bump height: 8.5 mm
- •Resistance of electrode (front to back): 0.25 Ω
- •Skin/electrode impedance: 10-50 $K\Omega$
- •Flexible design for custom applications
- •Silver/Silver Chloride coated ABS (acrylonitrile butadiene styrene)