

MCScap-CS22SS electrode

Stainless steel electrode for transcranial electrostimulation (tDCs / tACs), 22 mm diameter, with TouchProof 1.5 mm connector, wire length 1.2 m.

REF	Color
003-0-119	black
003-0-120	red



INTENDED USE

Transcranial electrical stimulation (TES, tACS).

DESCRIPTION

MCScap-CS22SS is a reusable electrode with a diameter of 22 mm of low-corrosion stainless steel, designed to conduct transcranial electrical stimulation. The MCScap-CS22SS electrode, compared to MCScap-CS22, is much less prone to degradation (corrosion) when used in direct current (tDCS - transcranial direct current stimulation), alternating current with a constant component (monopolar tACS) and micropolarization modes, but does not provide high-quality EEG recording.

When using electrodes in the stimulation mode, the maximum allowable current density values recommended by the scientific or clinical community, which depend on the size and shape of the current, should be taken into account. Examples of calculating the current density for MCScap-CS22 and MCScap-CS22SS electrodes for a number of stimulation current values are given in the table.

Stimulation current	Current density
4 mA	1.05 mA/cm ² (10.5 A/m ²)
3 mA	0.79 mA/cm ² (7.9 A/m ²)
2 mA	0.53 mA/cm ² (5.3 A/m ²)
1 mA	0.26 mA/cm ² (2.6 A/m ²)
500 μA	0.13 mA/cm ² (1.3 A/m ²)

The electrode is an electrically conductive disk with a hole in the center, surrounded by a molded case with an elastic skirt ring, providing a comfortable fit to the skin and an increased contact area. MCScap-CS22SS electrodes are designed for installation in MCScap® textile caps. The electrodes are fixed on the inside of the cap, and the wires are released through the ventilation holes.

The electrode has a universal connector TouchProof 1.5 mm, which fits most EEG amplifiers.

SPECIFICATION

Material of electrode conductive surface	Low Corrosion Stainless Steel AISI 316
Electrode body material	polyurethane
Square of electrode conductive surface	176 mm ²

Internal diameter of the electrode at the point of contact of the electrode contact substance with the skin	22 mm
Surface area of contact of the electrode substance with the skin	380 mm ²
Outer diameter of the electrode at the point of contact with the skin	26 mm
Distance from the skin to the electrode conductive surface	2.5 mm
The diameter of the hole in the electrode to add gel	2.8 mm
Maximum allowed current through the electrode in the stimulation mode	10 mA
Maximum operating voltage	100 V
Electrode polarization	≤ 50 mV
Resistance of electrodes insulation	≥ 1000 MΩ
Dielectric strength of electrodes insulation	1500 V
The impedance of the electrode	≤ 5 kΩ
Electrode cable length	1.2 m
Connector type	TouchProof 1.5 mm (DIN 42 802-ST)
Net weight	< 8 g
Gross weight	< 8 g

