

actiCHamp series | Brain Products GmbH > Solutions

actiCHamp series	Technical specifications
Amplifier	
Max. sampling rates for each channel combination:	
160 channels + 8 AUX	25 kHz
128 channels + 8 AUX	25 kHz
96 channels + 8 AUX	25 kHz
64 channels + 8 AUX	50 kHz
32 channels + 8 AUX	100 kHz
Maximum number of channels	160 EEG + 8 AUX
Maximum bandwidth of the EEG channels	DC up to 7,500 Hz
Digitization	24-bit, one converter/channel
Input impedance (for DC)	EEG channels: > 1,000 MΩ AUX channels: As of Rev. 01: 40 MΩ
Input noise	2 μVpp (DC – 35 Hz)
Input voltage range	±400 mV (EEG), ±4.8 V (AUX)
Resolution	EEG channels: $0.8192 \text{ V} / (2^{24} \text{ Bit}) \approx 0.04883 \text{ } \mu\text{V/Bit}$ AUX channels: As of Rev. 02: $10 \text{ V} / (2^{24} \text{ Bit}) \approx 0.596 \text{ } \mu\text{V/Bit}$
Common-mode rejection (CMR)	100 dB (according to IEC 60601-2-26)
Trigger input	8 bit TTL (LVTTTL) signals, 0 to +5 V (+ 3.3 V), max. 10 mA
Trigger output	8 bit TTL signals, 0 to +5 V, max. 10 mA
Use with active electrodes	Yes
Use with passive electrodes	Yes
Impedance measurement	Yes, three colors, displayed via LEDs for active electrodes
Easy replacement of faulty active electrodes	Yes, by removal from splitter box
Recording software	BrainVision Recorder (version 1.22.0001 or later)
Integrated AUX/bipolar channels (base module)	Yes, 8 AUX channels
Synchronization output	3.5 mm stereo jack TTL signal, always ON Clock signal of A/D converter, based on the three basic sampling rates of the amplifier (10 kHz, 50 kHz, 100 kHz)
Dimensions (H x W x D)	Approx. 68 mm x 160 mm x 187 mm
Weight	Approx. 1.1 kg
Battery (PowerUnit)	
Max. number of amplifiers	1
Rated voltage	6.6 V DC

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Rated capacity	13 Ah
Rated energy	85.8 Wh
Output current	Max. 3 A
Rechargeable battery type	Lithium-ion (lithium iron phosphate (LiFe-PO4))
Operating time for one amplifier	Max. 16 hours (with a fully charged, new battery)
Charging time	Typically 12 hours with FRIWO charger (at room temperature with empty battery) Typically 5 hours with Mascott charger (at room temperature with empty battery)
Dimensions (H x W x D)	Approx. 68 mm x 160 mm x 187 mm
Weight	Approx. 1.2 kg
State of charge (SOC) for transport	< 30% of full capacity
State of charge (SOC) for storage	30% up to 80% of full capacity For longer storage periods: Start with 80% SOC for extending the time period until SOC falls short of 30% by self-discharge
Miscellaneous	
Suitable for use in MR scanner room	No
Medical device	No
CE marking	The Brain Products GmbH confirms the electromagnetic compatibility (EMC) of this product according to the Directive 2014/30/ EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility. The Brain Products GmbH confirms the RoHS compliance of this product according to Directive 2011/65/ EU of the European Parliament and the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast published in the Official Journal of the European Union on 1 July 2011) as well as all its amendments up to and including the Commission delegated directive (EU) 2015/863 of 31 March 2015 (published in the Official Journal of the European Union on 4 June 2015).
EMC-tested in accordance with EN 61326-1:2013 (IEC 61326-1:2012)	Yes