

*At a glance:*  
**Brain Products Amplifiers in Comparison (page 1 of 4)**

**BrainAmp series**

	BrainAmp Standard	BrainAmp DC	BrainAmp ExG
Number of Channels per Unit	32	32	8/16
Max. Number of Channels	256	256	-
Reference Type	unipolar	unipolar	» BrainAmp ExG 8: 8 bipolar <i>(sensors cannot be connected!)</i>  » BrainAmp ExG 16: 16 bipolar or 8 bipolar + 8 AUX <i>(to connect sensors)</i>
MR Compatibility	No	No	No
Bandwidth [Hz]	0.016 to 1000	DC - 1000	DC - 1000
High Pass Filter [Hz]	0.016 / AC	0.016 / AC or DC switchable	0.016 / AC or DC switchable
Low Pass Filter [Hz]	1000	1000 / 250 switchable	1000 / 250 switchable
Input Noise [ $\mu$ Vpp]	$\leq 2$	$\leq 1$	$\leq 2$
Input Impedance [M $\Omega$ ]	10	10 / 10000	10 / 10000
Impedance Measurement ground / reference	Yes	Yes	Yes
A/D-Conversion [bit]	16	16	16
Max. Sampling Frequency [Hz]	5000	5000	5000
Offset Compatibility [mV]	$\pm 300$	$\pm 300$	$\pm 300$
Operating Range [mV]	fix: $\pm 3.2768$	selectable: $\pm 3.2768$ ; $\pm 16.384$ ; $\pm 327.68$	selectable: $\pm 3.2768$ ; $\pm 16.384$ ; $\pm 327.68$
Resolution [ $\mu$ V]	fix: 0.1	selectable: 0.1; 0.5; 10.0	selectable: 0.1; 0.5; 10.0
CMRR [dB]	$\geq 90$	$\geq 110$	$\geq 100$
TTL Trigger Input [bit]	16	16	16
Synchronized Digital Trigger Input [bit]	up to 16	up to 16	up to 16
Max. Power Consumption [mA]	160	160	160
Power Supply	100 - 240 Volt, 50/60 Hz	100 - 240 Volt, 50/60 Hz	100 - 240 Volt, 50/60 Hz
Optional Power Supply	rechargeable battery	rechargeable battery	rechargeable battery
Signal Transmission	optical	optical	optical
PC Interface	PCI, USB 2.0	PCI, USB 2.0	PCI, USB 2.0
Deblocking Function	Yes	Yes	Yes
Blocking of unused Channels	Yes	Yes	Yes
Safety	Twin Fiber Optical Transmission Protection Class II, Type BF IEC EN 60601 EMC tested, electrically safe	Twin Fiber Optical Transmission Protection Class II, Type BF IEC EN 60601 EMC tested, electrically safe	Twin Fiber Optical Transmission Protection Class II, Type BF IEC EN 60601 EMC tested, electrically safe
Classification to MDD 93/42/EEC	Class IIa	Class IIa	Class IIa
Dimensions H x W x D [mm]	68 x 160 x 187	68 x 160 x 187	68 x 160 x 187
Weight [kg]	1.1	1.1	1.1

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**BrainAmp MR series**

	BrainAmp MR	BrainAmp MR plus	BrainAmp ExG MR
Number of Channels per Unit	32	32	8 or 16
Max. Number of Channels	128 (for use in fMRI); 256 (for use in other application fields)	128 (for use in fMRI); 256 (for use in other application fields)	-
Reference Type	unipolar	unipolar	» BrainAmp ExG MR 8: 8 bipolar <i>(sensors cannot be connected!)</i>  » BrainAmp ExG MR 16: 16 bipolar or 8 bipolar + 8 AUX <i>(to connect sensors)</i>
MR Compatibility	Yes (for scanners up to 4 Tesla)	Yes (for scanners up to 4 Tesla)	Yes (for scanners up to 4 Tesla)
Bandwidth [Hz]	0.016 to 250	DC - 1000	DC - 1000
High Pass Filter [Hz]	0.016 / AC	0.016 / AC or DC switchable	0.016 / AC or DC switchable
Low Pass Filter [Hz]	1000	1000 / 250 switchable	1000 / 250 switchable
Input Noise [ $\mu$ Vpp]	< 1	$\leq$ 1	$\leq$ 2
Input Impedance [M $\Omega$ ]	10	10 / 10000	10 / 10000
Impedance Measurement ground / reference	Yes	Yes	Yes
A/D-Conversion [bit]	16	16	16
Max. Sampling Frequency [Hz]	5000	5000	5000
Offset Compatibility [mV]	$\pm$ 300	$\pm$ 300	$\pm$ 300
Operating Range [mV]	fix: $\pm$ 16.384	selectable: $\pm$ 3.2768; $\pm$ 16.384; $\pm$ 327.68	selectable: $\pm$ 3.2768; $\pm$ 16.384; $\pm$ 327.68
Resolution [ $\mu$ V]	fix: 0.5	selectable: 0.1; 0.5; 10.0	selectable: 0.1; 0.5; 10.0
CMRR [dB]	$\geq$ 90	$\geq$ 110	$\geq$ 100
TTL Trigger Input [bit]	16	16	16
Synchronized Digital Trigger Input [bit]	up to 16	up to 16	up to 16
Max. Power Consumption [mA]	160	160	160
Power Supply	rechargeable battery	rechargeable battery	rechargeable battery
Signal Transmission	optical	optical	optical
PC Interface	PCI, USB 2.0	PCI, USB 2.0	PCI, USB 2.0
Deblocking Function	Yes	Yes	Yes
Blocking of unused Channels	Yes	Yes	Yes
Safety	Twin Fiber Optical Transmission Protection Class II, Type BF IEC EN 60601 EMC tested, electrically safe	Twin Fiber Optical Transmission Protection Class II, Type BF IEC EN 60601 EMC tested, electrically safe	Twin Fiber Optical Transmission Protection Class II, Type BF IEC EN 60601 EMC tested, electrically safe
Classification to MDD 93/42/EEC	Class IIa	Class IIa	Class IIa
Dimensions H x W x D [mm]	68 x 160 x 187	68 x 160 x 187	68 x 160 x 187
Weight [kg]	1.1	1.1	1.1

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**FirstAmp \* / V-Amp \*\***

FirstAmp / V-Amp 8 channel

V-Amp 16 channel

Number of EEG Channels	8	16
Number of AUX Channels	2	2
MR Compatibility	No	No
A/D-Conversion [bit]	24	24
CMRR [dB]	> 100	> 100
EEG Regular Mode max. Samplingfrequency [Hz]	2000	2000
EEG Hi-Speed Mode max. Samplingfrequency (4Ch) [Hz]	2000 (FirstAmp) / 20000 (V-Amp)	20000

EEG Channels

Reference Type EEG	referential	referential
Input Noise EEG [ $\mu$ Vpp]	< 1	< 1
Input Impedance EEG [M $\Omega$ ]	> 100	> 100
Resolution EEG [ $\mu$ V]	0.0489	0.0489
Operating Range EEG [mV]	$\pm$ 410	$\pm$ 410
Bandwidth [Hz]	DC - (Samplingfrq. * 0.3)	DC - (Samplingfrq. * 0.3)

AUX Channels

Reference Type AUX	bipolar	bipolar
Resolution AUX [bit]	24	24
Operating Range AUX [V]	$\pm$ 5	$\pm$ 5
Bandwidth [Hz]	DC - 150	DC - 150
Input Impedance AUX [M $\Omega$ ]	> 20	> 20

On-Board-Display	TFT LCD 320 x 240 pixels	TFT LCD 320 x 240 pixels
TTL Trigger Input [bit]	8 + 1	8 + 1
Power Supply	via USB	via USB
Max. Power Consumption [mA]	< 450	< 450
Signal Transmission	USB (Opto Coupler)	USB (Opto Coupler)
PC Interface	USB 1.1 or higher	USB 1.1 or higher
Patient Safety	Protection Class II (IEC 60601), BF	Protection Class II (IEC 60601), BF
Classification to MDD 93/42/EEC	Class IIa	Class IIa
Dimensions H x W x D [mm]	170 x 125 x 30	170 x 125 x 30
Weight [kg]	0.400	0.450

\* Using existing EEG files for teaching purposes with the BrainVision Analyzer Education or using the amplifier installed in the lab for training purposes, is the common procedure for out of the lab training sessions. We are offering the FirstAmp in combination with the Analyzer Education at a special low price. But it doesn't stop here! When you order a FirstAmp we will upgrade the number of licenses for your Analyzer Education to a total of 30, thus beating class size even in the most crowded environments!

\*\* Versatility is the most distinctive feature of the BrainVision V-Amp. Favorably priced, the V-Amp is a valuable supplementation even for well-equipped laboratories. Biofeedback experiments, teaching courses as well as low budget projects will profit from the package including full BrainVision Recorder and Analyzer licenses shipped in a handy carrying box.

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**QuickAmp 24 bit**

	QuickAmp 40	QuickAmp 72	QuickAmp 136
Number of EEG Channels	32	64	128
Number of Bipolar Channels	4	4	4
Number of AUX Channels	4	4	4
MR Compatibility	No	No	No
Max. Sampling Frequency [Hz]	2000	2000	2000
Bandwidth [Hz]	DC - (Samplingfreq. * 0.2)	DC - (Samplingfreq. * 0.2)	DC - (Samplingfreq. * 0.2)
A/D-Conversion [bit]	24	24	24

**EEG Channels**

	QuickAmp 40	QuickAmp 72	QuickAmp 136
Reference Type EEG Channels	CAR	CAR	CAR
Resolution EEG [nV per bit]	18.39	18.39	18.39
Operating Range EEG [mV]	± 150	± 150	± 150
Input Noise EEG [µVrms]	< 1.0	< 1.0	< 1.0
Input Impedance EEG [TΩ]	> 1.0	> 1.0	> 1.0
Offset Compatibility [mV]	± 2000	± 2000	± 2000
CMRR [dB]	> 90	> 90	> 90
Shielding	active	active	active

**Bipolar Channels**

	QuickAmp 40	QuickAmp 72	QuickAmp 136
Resolution EEG [nV per bit]	18.39	18.39	18.39
Operating Range EEG [mV]	± 150	± 150	± 150
Input Noise EEG [µVrms]	< 1.0	< 1.0	< 1.0
Input Impedance EEG [TΩ]	> 1.0	> 1.0	> 1.0
CMRR [dB]	> 90	> 90	> 90
Shielding	active	active	active

**AUX Channels**

	QuickAmp 40	QuickAmp 72	QuickAmp 136
Input Noise AUX [µVrms]	< 20	< 20	< 20
Input Impedance AUX [TΩ]	> 1.0	> 1.0	> 1.0
Operating Range AUX [V]	± 5	± 5	± 5
Resolution AUX [µV per bit]	0.48828	0.48828	0.48828
CMRR [dB]	> 70	> 70	> 70
TTL Trigger Input [bit]	8 + 1	8 + 1	8 + 1

	QuickAmp 40	QuickAmp 72	QuickAmp 136
Power Supply	110-240 Volt, 50/60 Hz	110-240 Volt, 50/60 Hz	110-240 Volt, 50/60 Hz
Signal Transmission	optical	optical	optical
PC Interface	USB 2.0	USB 2.0	USB 2.0
Patient Safety to IEC 60601-1	Class II, Type CF, EMC tested	Class II, Type CF, EMC tested	Class II, Type CF, EMC tested
Classification to MDD 93/42/EEC	Class IIa	Class IIa	Class IIa
Dimensions H x W x D [mm]	92 x 207 x 210	92 x 207 x 210	92 x 207 x 360
Weight [kg]	1.5	1.5	2.65

**Further information can be obtained from your local distributor or directly from:**

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