



General description:

The HCA-300-A is a high-current amplifier capable of continuously delivering 20A at its output. It is designed for the excitation of low-impedance loads and transducers such as EMATs or coils intended for the generation of intense magnetic fields. The output of the amplifier is fully protected against overload events while its internal temperature is continuously monitored, thus providing a safe operation with very high currents at high frequencies.

Main features:

- Very high current
- Wide bandwidth
- Linear amplification with low distortion
- Four-quadrant output operation
- Overload, short-circuit and over-temperature protection.

Specifications:




Input

Parameter	HCA-300-A
Input coupling	DC
Useful range of input voltage	±15V
Input impedance ⁽¹⁾	50Ω
Input connector	BNC



Output

Maximum output voltage	±15V
Voltage gain	x 1
Maximum output current	±20A
Output protection	Overload, short-circuit, over-temperature
Output connector	BNC – Banana- Others ⁽²⁾
Full power bandwidth	DC – 10MHz
Slew rate	2000V/μs
Output impedance	10mΩ+2.1nH
Total harmonic distortion	-65dB (@1MHz, 10V _p)
Input referred noise density	491nV/√Hz (@1MHz)
Input referred voltage noise	1.55mV _{RMS}



Electrical and mechanical

Dimensions	48.2cm x 25cm x 13.3cm (19" rack 3U)
Weight	10kg
Power supply	Universal 85~264VAC, 50~60Hz
Power consumption	600W max.
Operating conditions	10 to 40°C, 20-90% RH non-condensing
Cooling	Forced air

Note 1: For different values of input impedance, please contact us.

Note 2: Please, contact us for the inclusion of different output connectors.

Safety considerations:

- **This product is designed to operate with high currents (20A). This condition represents a dangerous risk of electrical shock which can be lethal for the user in case of unsafe use of the amplifier and the devices connected to it.**
- **The continuous operation of the amplifier with high output currents may lead to a harmful increase of the temperature of its output connector, as well as any other terminal carrying the current delivered by it. Check the temperature of the connectors before handling them.**
- Check the proper condition of the connectors. The presence of imperfections or dirt may lead to a bad contact that results in overheating. Remember that many high-quality and high-current connectors have a limited number of mating cycles. Avoid the usage of connectors with different plating materials to prevent galvanic corrosion.
- Do not turn on the amplifier without cables connected to the output port or with cables having their other end unconnected. It is advised to turn off the amplifier before connecting or removing cables from its terminals.
- The user must not block the air flow from the rear and front faces of the amplifier. It is recommended to periodically check the proper functioning of the ventilation.
- This product is intended for research purposes only and in an indoor class II environment. Only qualified and experimented users should be authorized to use this product.
- The power supplied to this product must be from a mains connection with protective earth.





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