



Transimpedance Amplifier for Plasma Applications

AARC TZAP-111

Overview

A Transimpedance Amplifier (TZA) is an active current-to-voltage converter. It is superior to a common passive-resistor scheme because its op-amp feedback eliminates perturbations in the circuit. Ad Astra's TZAP-111 also provides:

- ⤴ Electrical isolation.
- ⤴ 8-level, remotely-selectable gain.
- ⤴ Differential output.



Applications

The TZAP-111 is ideal for applications in which a DC-coupled, minimally invasive measurement of a current less than 1 A must be made. The following difficult system characteristics are well mitigated by the TZAP-111:

- ⤴ Common-mode voltages
- ⤴ Dangerous voltage transients
- ⤴ High-frequency noise
- ⤴ Large dynamic range requirement

The above are all common aspects of plasma measurement systems. The following are a few examples of plasma probes that the TZAP-111 has been designed to work well with:

- ⤴ Single Langmuir probes
- ⤴ Double Langmuir probes
- ⤴ Retarding potential analyzers

Price

Call for a quote

Input	Value	Unit
Current (I_s)		
Minimum	1	nA
Maximum	1	A
Common-mode voltage		
Maximum	800	V dc
Isolated power supply		
Voltage	± 15	V
Current	$10 + I_s$	mA
Non-isolated power supply		
Voltage	± 15	V
Current	40	mA
Gain-select supply		
Voltage	2	V

Output	Value	Unit
Voltage		
Maximum	15	V pk
Bandwidth		
Minimum	10	Hz
Maximum	50	kHz
Gain		
Minimum	20	dB
Maximum	185	dB
# of discrete levels	8	