Gated Integrators and Boxcar Averagers

SR235 — Analog processor (2-channel)

- **36 functions**
- **Dual inputs**
- **Post filtering and gain adjustment**
- **2 % basic accuracy**

- **SR235 ... $1000** *(U.S. list)*

SR235 Analog Processor

The SR235 Analog Processor provides a variety of convenient signal processing functions on one or two inputs. Background subtraction, ratioing and logarithmic compression are just a few of the functions which can be implemented with the SR235. With its many output functions, high accuracy, and variable filtering and gain, the SR235 is the perfect addition for any boxcar system, especially those in which a computer is unavailable to perform signal processing.

The SR235 outputs a voltage proportional to a function of an argument formed from its two inputs (A and B). Allowable arguments are: A, B, $\sqrt{(A^2 + B^2)}$, A – B, A × B / 10, and 10A / |B|. The functions that can be selected are: x, x^2, $\sqrt{x}$, $\ln|x|$, $-dx/dt$, and $-(dx/dt)/100$. Filtering can be performed on the argument with time constants from 0.3 ms to 30 s.

Ordering Information

SR235	Analog processor	$1000

SR235 Specifications

A and B inputs	1 MΩ input impedance, <2 mV offset, ±10 V range (protected to 100 V)
Argument (x)	A, B, $\sqrt{(A^2+B^2)}$, A – B, A×B / 10, 10A / |B|
Argument filter	Time constants: 0.3 ms to 30 s (1–3–10 seq.) When OFF, argument is unfiltered.
Gain	0.1 to 20 in a 1–2–5 sequence
F(x) output	x, x^2, $\sqrt{x}$, $\ln\|x\|$, $-dx/dt$, $-(dx/dt)/100$
Frequency range	$-dx/dt$ to 10 Hz, $-(dx/dt)/100$ to 1 kHz, $\sqrt{(A^2+B^2)}$ to 20 Hz, and all others to 50 kHz
Accuracy	Gain, 2 %; rms sum, 3 %; difference, 1 %; multiplication, 2 % of full scale; division (denominator >0.1), 3 % of full scale; $\ln\|x\|$, x^2, $\sqrt{x}$ acc. to ±20 mV (ref. to input or output, whichever is less); $-dx/dt$ and $-(dx/dt)/100$, 5 %
Power	+24 V/120 mA, –24 V/80 mA, 5 W
Mechanical	Single-width NIM standard
Warranty	One year parts and labor on defects in materials and workmanship