

SMP3620

24-channel digital-analog converter



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Overview

The SMP3620 provides 24 independent channels of digital to analog converters (DAC) with 16 bits of resolution. Each single-ended channel consists of an independent DAC that can be set within a range of 0 to 35 V DC without the need of an external power supply.

The SMP3620 is ideal for avionics and automotive applications where multiple DC signals need to be generated with independent programmable levels.

This module is part of the SMIP family of high-density switching and I/O instruments. It can be combined with one other SMIP series module in an SMP1100 single-slot carrier, or with up to five other modules in an SMP1200 dual-slot carrier to form a high-density, flexible VXIbus instrument.

Features

24 independent 16-bit D/A converters per module

Up to 48 channels per single VXI slot,
144 channels in two slots

Programmable outputs per channel
0 – 35 V DC

Mix and match with other SMIP switching
and I/O modules for maximum system
flexibility

Up to 20 mA short circuit protection

Specifications

Number of Channels	24
Gain Error	< $\pm 0.15\% + 0.005\%/^{\circ}\text{C}$ of setting
Offset Error	< $\pm 2 \text{ mV} \pm 400 \mu\text{V}/^{\circ}\text{C}$
Voltage Modes	
Output range	0 V dc to 35 V dc
Resolution	587 μV
Slew rate	5 V/ μs
Output current	< 25 mA maximum per channel normal operation
Short circuit	Continuous duration
Resolution	16 bits
Settling Time	< 5.8 μs
Accuracy Specifications	
Output	$\pm(0.15\% \text{ of setting} + 2 \text{ mV})$ (all channels must be enabled)
Temperature coefficient	$\pm(0.005\% \text{ of setting} + 400 \mu\text{V})/^{\circ}\text{C}$
Total harmonic distortion	< 0.5%
Frequency	< $\pm 0.1 \text{ Hz}$
Power Requirements	+5.0 V @ 1 A, +12 V @ 0.20 A, -12 V @ 0.20 A, +24.0 V @ 1.0 A, -24 V @ 1.0 A

Ordering Information

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