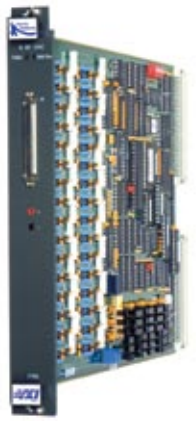
V266

16, 32, or 64-channel, 16-bit DAC

The V266 is a single-width, C-size, register-based, VXIbus module with 16, 32, or 64 16-bit analog output voltage channels. Several output options are available.



Up to 64 16-bit DAC channels at an affordable price

APPLICATIONS

Automotive test cells
Industrial control
Automatic Test Equipment (ATE)
Voltage and current loop control

FEATURES

- 16, 32, or 64 independent analog outputs
- ±10 V, ±16 V, or 4-20 mA output
- 16-bit resolution
- Low drift
- Single gain and offset adjustments
- 2-pole, Bessel output filter on each channel (voltage output option)
- Power-on reset to zero volts (or 4 mA)

GENERAL DESCRIPTION

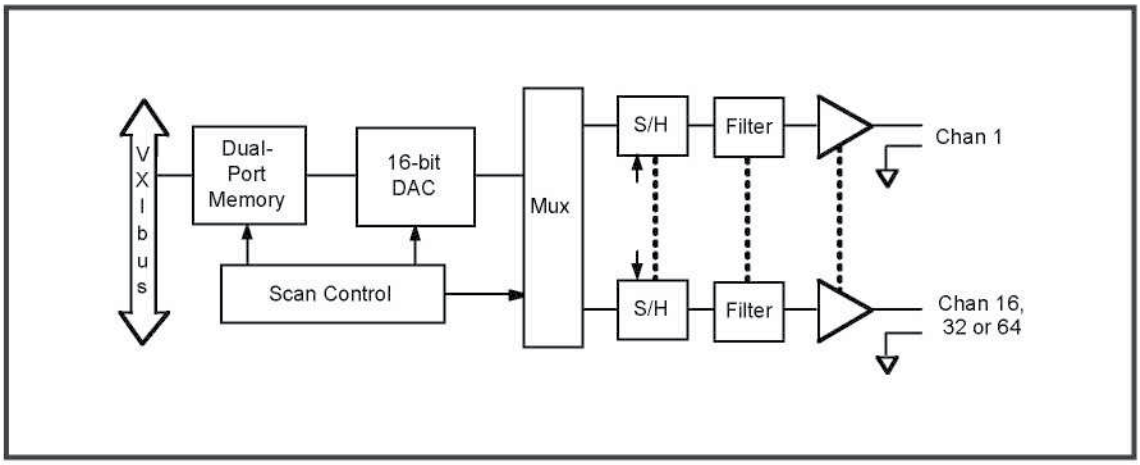
The V266 is a single-width, C-size, register-based, VXIbus module with 16, 32, or 64 16-bit analog output voltage channels. Several output options are available. The V266-ZA12 provides ± 10 V full-scale outputs, the V266-ZB12 provides 4-20 mA current loop outputs and the V266-ZC12 provides ±16 V full scale. These options provide 32 output channels. Additionally, the V266-ZA22 and -ZA32 provide ±10 V full-scale outputs with a 64-channel density or 16-channel density respectively.

Data values for each channel are written to a 16-bit wide, dual-port memory. This memory is sequentially scanned, and the values are applied to a single 16-bit digital-to-analog converter. The DAC output is then multiplexed to separate high-precision sample-and-hold circuits (one for each channel), and the outputs of these circuits are fed through active, 2-pole, low-pass Bessel filters before being brought to the front panel connector. Bessel filters are provided because of their optimum step response. The nominal cutoff frequency of each filter is set at 500 Hz. Since the voltage outputs of all circuits are accurate to within 1 mV of each other, only one gain and one offset potentiometer are needed to adjust the DAC.

Data can be written to or read from the V266 in either offset binary or two's complement format as determined by the state of a bit in the control register. During power-on, the module initiates a sequence to zero the memory contents. The output signals are available at a pair of high-density connectors on the module's front panel. Paired output signals are provided to eliminate ground offset effects.

The V266 supports both static and dynamic configuration. Access to the dual-port memory is via memory locations indicated by the Offset Register within the VXIbus Configuration Register set through A24/A16 address space using D16 data transfers.

V266 Block Diagram



Item	Specification
Number of Channels	16 (ZA32 option only) 32 (ZA12, ZB12 and ZC12 options) 64 (ZA22 option only)
Output Signal Range V266-ZA12 V266-ZA22 V266-ZA32 V266-ZB12 V266-ZC12	 ±10 V, 10 mA maximum ±10 V, 10 mA maximum ±10 V, 10 mA maximum 4-20 mA current loop (non-isolated) ±16 V, 15 mA maximum all channels driven 40 mA single channel (all 32 channels must be collectively less than 480 mA)
Resolution	16 bits
Linearity Error	±0.003% FSR ±0.015% FSR for 4-20 mA output option ±0.031% FSR for ±16 V output option
Monotonicity	Monotonic to 14 bits
Absolute Accuracy	1 mV typical (±10 V options)
Transfer Function Error from Nominal (4-20mA)	±0.3% of span
4 mA Offset Error @ 0 V Input (4-20 mA option)	±20 mA
Maximum Load, R|_ (4-20 mA option)	1100Ω
Channel Tracking	1 mV typical (±10 V options)
Output Impedance (voltage options)	0.1 Ω
Output Protection	Can withstand an indefinite short circuit to ground
Settling Time	5 ms to 0.003%
Channel Latency	2.0 ms (1.0 ms for ZA32 option)
Total Drift	±15 ppm FSR/°C
Voltage Ripple	500 µV RMS typical
On-board Memory	16, 32, or 64 16-bit words (depending on option)
Output Connector Type	68S High Density
Power Requirements (maximum) +5V +24 V -24 V	ZA12, ZA22, ZB12 / ZC12 / ZA32 1.9A / 1.9A / 1.9A 0.85 A / 1.0 A / 0.55 A 0.85 A / 1.0 A / 0.55 A
Environmental and Mechanical Temperature range Operational Storage Relative humidity Cooling requirements Dimensions Front-panel potential	 0°C to 50°C -25° to +75°C 0 to 85%, non-condensing, to 40°C 10CFM 340 mm x 233.35 mm x 30.48 mm (C-size VXIbus) Chassis ground

RELATED PRODUCTS

Model 5868-Axyz	Cable—68P High Density to Unterminated
Model 5868-Cxyz	Cable—68P High Density to 68P High Density (V266 to V765)
Model 5868-Dxyz	Cable—68S High Density to 68P High Density
Model V751-ZA11	Termination Assembly for 32-channel V266
Model V751-ZA21	Termination Assembly for 64-channel V266
Model V751-ZA31	Termination Assembly for 4-20 mA V266
Model V751-ZA51	Termination Assembly for 16-channel V266
Model V765-ZA11	Rack-mount Termination Panel

ORDERING INFORMATION

MODEL	DESCRIPTION
V266-ZA12	32-channel, 16-bit DAC, ±10 V output
V266-ZA22	64-channel, 16-bit DAC, ±10 V output
V266-ZA32	16-channel, 16-bit DAC, ±10 V output
V266-ZB12	32-channel, 16-bit DAC, 4-20 mA output
V266-ZC12	32-channel, 16-bit DAC, ±16 V output

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