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Data Sheet

August 14, 2026

AMETEK / VTI INSTRUMENTS / VXI TECHNOLOGY

Ametek / VTI Instruments / VXI Technology VM3616A 16-channel, 16-bit DAC/Waveform Generator

AMETEK VTI VM3616A 16 Channel 16 Bit DAC Waveform Generator The VTI VM3616A doubles the VM3608A to 16 independent 16 bit DAC/AWG channels on the same VMIP analog core. OEM VM3608A/3616A tables list the same plus or minus 10/20 V ranges, 16 bit monotonic DACs, 100 kSa/s FIFO/ARB, and scan rates 2000/1000/667 updates/s for one/two/three VM3616A instruments inaslot. High channel-count analog stimulus and arbitrary waveforms in VXI ATE, up to 48 DACs per C-size slot with three VM3616A on a VM9000. Scan mode 2000 updates/s single instrument The VTI VM3616A doubles the VM3608A to 16 independent 16 bit DAC/AWG channels on the same VMIP analog core. OEM VM3608A/3616A tables list the same plus or minus 10/20 V ranges, 16 bit monotonic DACs, 100 kSa/s FIFO/ARB, and scan rates 2000/1000/667 updates/s for one/two/three VM3616A instruments inaslot. High channel-count analog stimulus and arbitrary waveforms in VXI ATE, up to 48 DACs per C-size slot with three VM3616A on a VM9000. Scan mode 2000 updates/s single instrument Scan Rate Single Instrument: 2000 voltage changes per second



MODEL

**Ametek / VTI
Instruments / VXI
Technology
VM3616A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

VM3616A

LISTING

<https://aumictechlabs.com/products/vm3616a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Ametek VM3616A is a 16-channel, 16-bit Digital-to-Analog Converter and Waveform Generator designed for automated test equipment, process control, and data acquisition systems. This VXIbus C-size module integrates into the VMIP platform, enabling up to 48 DAC channels per slot through multi-module configurations. The instrument delivers precise analog signal generation across independent channels with three operational modes: Arbitrary Waveform Generation (AWG) with sophisticated looping and branching, FIFO streaming at up to 100 kSa/s, and static Normal mode for predefined values.

Technical Specifications

- Channels: 16 independent 16-bit DACs per module; scalable to 48 channels per VXIbus C-size slot
- Resolution: 16-bit
- Output Ranges: ± 20 V and ± 10 V
- AWG Data Capacity: Up to 4096 segments per waveform with looping up to one million cycles or continuous operation until triggered
- FIFO Throughput: 100 kSa/s maximum
- Timer Resolution: 100 ns (internal programmable clock)
- Normal Mode Storage: 512 predefined values per channel in RAM
- Interface: SCPI-compatible command set; message-based word serial and direct register access

Key Features

- Arbitrary Waveform Generation:** Complex waveforms via segment linking and looping with synchronous or asynchronous advance modes
- Synchronized Channel Operation:** All enabled channels synchronize in AWG mode with identical segment lengths
- Flexible Data Pacing:** Internal timer, VXIbus TTL triggers, or front panel input
- Simultaneous Multi-Channel Updates:** All 16 channels updatable with single command in Normal mode
- Independent Channel Control:** Modify static output levels during scan operation without interruption

Typical Applications

- Automated test equipment (ATE) control systems
- Process control analog generation
- High-density data acquisition waveform synthesis
- Multi-channel arbitrary signal generation

Compatibility & Integration

VXIbus module compliant; integrates with VMIP modular instrumentation platform for high-density configurations.

VM3616A Characteristics / Specifications

PARAMETER	VALUE
Model	VM3616A
Channels Per Instrument	16
Scan Rate Single Instrument	2000 voltage changes per second
Scan Rate Two Instruments	1000 voltage changes per second
Scan Rate Three Instruments	667 voltage changes per second
Output Range 20 V	plus or minus 20.0 V 610 uV step
Output Range 10 V	plus or minus 10.0 V 305 uV step
Output Current Per Channel	plus or minus 50 mA
Output Current Total PerCSize Card Datasheet	1 A max
Resolution	16 bits monotonic
Short Circuit	continuous duration
Slew Rate	6 V/us at 50 mA load
Settling Time	10 us to 0.1 percent of specified value
Voltage Accuracy 10 V Range	3.22 mV after 30 min warm up
Voltage Accuracy 20 V Range	6.44 mV after 30 min warm up
Gain Error Datasheet	plus or minus 0.015 percent plus 0.002 percent perCOffset Error Datasheet: plus or minus 2 LSB plus 0.2 LSB perCConversion Rate Register FIFO ARB: 100000 voltage changes per second
Conversion Rate Word Serial	100 voltage changes per second
Memory Standard	512 kwords
Memory Optional	1 Mword Option 4
FIFO Clock Source	any trigger source
ARB Memory	484 kwords divided by active channels 996 kword optional
ARB Data Traces	1 to 4096 unique patterns
ARB Segments	1 to 4096
ARB Loop Count	1 to 1048575 or continuous

PARAMETER	VALUE
FIFO Timer Resolution	100 ns
Host Carrier	VM9000 required
Programming	SCPI message based plus register access
Connector	44 pin HD D-sub

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Notes

From VTI VM3608A/3616A datasheet and product manual. Three VM3616A on one VM9000 provide 48 channels; power rails scale with VM3608A/3616A-1/2/3 populations.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.