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**Data Sheet**

August 14, 2026

AMETEK / VTI INSTRUMENTS / VXI TECHNOLOGY

# Ametek / VTI Instruments / VXI Technology VM3608A 8-Channel, 16-Bit DAC/Waveform Generator

AMETEK VTI VM3608A 8 Channel 16 Bit DAC Waveform Generator The VTI VM3608A is an 8 channel 16 bit VMIP DAC and arbitrary waveform generator. OEM VM3608A/3616A datasheet lists plus or minus 10 V (305 uV) or plus or minus 20 V (610 uV) ranges, plus or minus 50 mA per channel, 6 V/us slew, 10 us to 0.1 percent settling, and 100 kSa/s FIFO/AWG with 512 kword memory. ATE stimulus, analog closed loop, and arbitrary waveform drive inaVM9000 C-size slot, combinable with two other VMIP instruments. Output Range 20 V: plus or minus 20.0 V 610 uV step The VTI VM3608A is an 8 channel 16 bit VMIP DAC and arbitrary waveform generator. OEM VM3608A/3616A datasheet lists plus or minus 10 V (305 uV) or plus or minus 20 V (610 uV) ranges, plus or minus 50 mA per channel, 6 V/us slew, 10 us to 0.1 percent settling, and 100 kSa/s FIFO/AWG with 512 kword memory. ATE stimulus, analog closed loop, and arbitrary waveform drive inaVM9000 C-size slot, combinable with two other VMIP instruments. 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



## MODEL

**Ametek / VTI  
Instruments / VXI  
Technology  
VM3608A**

## CALIBRATION

**Available on  
request**

## CONDITION

**Used**

## STATUS

**In stock**

## RFQ / SKU

**VM3608A**

## LISTING

<https://aumictechlabs.com/products/vm3608a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

## This unit

The Ametek VTI Instruments VM3608A is an 8-channel, 16-bit Digital-to-Analog Converter and Waveform Generator for precision signal generation in test systems. This VXIbus module integrates into the VMIP platform for high-density stimulus applications, supporting static output, FIFO streaming, and arbitrary waveform generation with independent channel control and synchronization.

**Technical Specifications**

**Channels & Resolution** 8 independent 16-bit DACs per instrument 16-bit monotonic resolution

**Output Ranges & Accuracy**  $\pm 20$  V with 610  $\mu$ V step;  $\pm 10$  V with 305  $\mu$ V step

**Voltage accuracy** (10 V range): 3.22 mV; (20 V range): 6.44 mV

**Gain error:**  $\pm 0.015\% + 0.002\%/^{\circ}\text{C}$

**Offset error:**  $\pm 2$  LSB + 0.2 LSB/ $^{\circ}\text{C}$

**Output Current & Performance**  $\pm 50$  mA per channel; 1.5 A maximum total per C-size VXIbus card

**Slew rate:** 6 V/ $\mu$ s at 50 mA load

**Settling time:** 10  $\mu$ s to 0.1% of specified value

**Conversion rates:** 100,000 voltage changes/second (register access, FIFO, AWG modes); 100 voltage changes/second (word serial); up to 2,000 voltage changes/second (scan mode)

**Key Features**

**Operating Modes**

**Static mode:** Direct register or word serial access with 512 predefined values per channel in RAM; TTL trigger and front panel control

**FIFO mode:** Continuous data streaming via register access; 512 kwords memory (1 Mword optional) divided by active channels; internal timer (100 ns resolution) or external trigger pacing

**Arbitrary Waveform Generator (AWG):** Complex waveform generation with looping and branching; 484 kwords memory (996 kwords optional); up to 4,096 unique patterns and segments

**Synchronization & Control** Double-buffered channels for synchronized output updates

VXIbus TTL trigger lines 0–7, front panel TTL input, or internal timer

User-supplied or programmable internal clock for AWG pacing

**Typical Applications** Precision stimulus generation for automated test, signal simulation, waveform playback, multi-channel analog output in measurement systems, and complex signal conditioning in laboratory and production environments.

**Compatibility & Integration** VXIbus module designed for VMIP-based test systems requiring high-channel-density analog output with independent control and real-time waveform capability.

## VM3608A Characteristics / Specifications

| PARAMETER                                    | VALUE                                                                                                                                                                                |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                        | VM3608A                                                                                                                                                                              |
| Channels Per Instrument                      | 8                                                                                                                                                                                    |
| 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                                                                                                                                                           |
| FIFO Timer Resolution                        | 100 ns                                                                                                                                                                               |
| Host Carrier                                 | VM9000 required                                                                                                                                                                      |
| Programming                                  | SCPI message based plus register access                                                                                                                                              |

| PARAMETER | VALUE           |
|-----------|-----------------|
| 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                                                                                                                                                                                             |                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Specifications                                                                                                                                                                                             |                                                          |
| PARAMETER                                                                                                                                                                                                  | VALUE                                                    |
| Model                                                                                                                                                                                                      | VM3608A                                                  |
| Channels Per Instrument                                                                                                                                                                                    | 8                                                        |
| 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 |                                                          |
| Specifications                                                                                                                                                                                             |                                                          |
| PARAMETER                                                                                                                                                                                                  | VALUE                                                    |
| 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                               |
| FIFO Timer Resolution                                                                                                                                                                                      | 100 ns                                                   |

| PARAMETER    | VALUE                                   |
|--------------|-----------------------------------------|
| Host Carrier | VM9000 required                         |
| Programming  | SCPI message based plus register access |
| Connector    | 44 pin HD D-sub                         |

Notes

From VTI VM3608A/3616A datasheet and product manual 82-0034-000. Manual lists 1.5 A total current on some rows; datasheet lists 1 A max per C-size card. Confirm VM9000 carrier population.

### Available from Aumictech

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

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

#### Aumictech

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NIST-traceable calibration · SAM registered ·  
30-day returns  
NAICS 423690 · 811210 · 541380  
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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.