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Data Sheet

August 14, 2026

AMETEK / VTI INSTRUMENTS / VXI TECHNOLOGY

Ametek / VTI Instruments / VXI Technology VM3640A 50 MSa/s Arbitrary Waveform Generator

Ametek VTI VM3640A 50 MSa/s Arbitrary Waveform Generator The Ametek/VTI Instruments VM3640A isaVXI arbitrary waveform generator module specified at 50 MSa/s for multi-channel waveform stimulus in VXI systems. VXI automated test stimulus, arbitrary waveform generation, and mixed-signal ATE. Multi channel DAC/waveform architecture class The Ametek/VTI Instruments VM3640A isaVXI arbitrary waveform generator module specified at 50 MSa/s for multi-channel waveform stimulus in VXI systems. VXI automated test stimulus, arbitrary waveform generation, and mixed-signal ATE. Multi channel DAC/waveform architecture class Instrument Type: Arbitrary waveform generator module



MODEL

**Ametek / VTI
Instruments / VXI
Technology
VM3640A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

VM3640A

LISTING

<https://aumictechlabs.com/products/vm3640a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Ametek VTI Instruments VM3640A is a VXIbus arbitrary waveform generator delivering precise signal synthesis at sampling rates up to 50 MSa/s with 12-bit resolution. Built on direct

digital synthesis, it generates standard waveforms including sine, square, ramp, triangle, noise, pulse, sinc, exponential rise/fall, and cardiac signals. Sine and square waves reach 20 MHz, while other built-in waveforms operate to 1 MHz. Custom arbitrary waveforms load from up to 120 k points of onboard memory, with optional 512 k point expansion. Sine wave harmonic distortion remains below 0.5%, and both amplitude and frequency accuracy meet 5-digit and $\pm 0.01\%$ specifications respectively. The VM3640A integrates into the VMIP™ family as a C-size module, supporting up to three independent channels per card and synchronous operation across multiple units.

Technical Specifications

Sampling Rate: 50 MSa/s maximum
Resolution: 12-bit
Arbitrary Waveform Memory: 120 k points standard; optional 512 k points
Standard Waveforms: Sine, Square, Ramp, Triangle, Noise, Pulse, Sinc, Exponential Rise/Fall, Cardiac
Sine and Square Wave Frequency: Up to 20 MHz
Other Built-in Waveforms: Up to 1 MHz
Sine Wave Harmonic Distortion: $\leq 0.5\%$
Amplitude Accuracy: 5 digits (sine, square, and all other waveforms)
Frequency Accuracy: $\pm 0.01\%$ typical
Output Filters: Programmable

Key Features

Three independent channels per C-size VXI module
Modulation support: Amplitude, FSK, PSK
Trigger inputs via VXIbus TTL lines and front panel
Marker output for waveform synchronization
Horizontal sweep output in sweep mode
External reference clock input and lock capability
VXI plug&play driver support with SCPI and IEEE-488.2 compatibility
Pseudo-register access for accelerated data transfer

Typical Applications

Multi-channel arbitrary waveform generation with internal frequency locking
Precision RF and analog signal synthesis
Custom waveform generation for test automation
Integrated test systems combining arbitrary waveforms with digitizers, counters, and multimeters

Compatibility & Integration

Fully compatible with VXIbus architecture and VMIP™ product family. Combines with other VXI C-size instruments. Multiple units support synchronized operation for multi-channel applications.

VM3640A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Arbitrary waveform generator module
Platform	VXIbus
Manufacturer	Ametek VTI Instruments / VXI Technology
Model	VM3640A
Sample Rate	50 MSa/s
Function	arbitrary waveform generation
Form Factor	VXI module
Application Class	ATE stimulus
Channels	multi channel class per configuration
Resolution	high resolution DAC class
Memory	waveform memory depth class
Triggers	VXI TTL trigger class
Output	analog waveform outputs
Use Stage	system ATE
Programming	VXI register/message based class
Calibration	module calibration
Cooling	VXI mainframe airflow
Family	VTI VM36xx waveform products
Companion	VM3608A VM3616A related DAC/AWG modules
Slot	occupies VXI slot(s) per assembly
Bandwidth	output bandwidth limited by 50 MSa/s and filtering
Modes	arb and standard function class
Accessories	output cables breakouts
Documentation	VTI VM3640A manual

PARAMETER	VALUE
Configuration Note	expand full amplitude accuracy and channel count from OEM datasheet before denser upload

VM3640A Specifications

PARAMETER	VALUE
Ametek VTI VM3640A 50 MSa/s Arbitrary Waveform Generator	Overview
VXI arbitrary waveform generator	50 MSa/s sample rate class
Technical Specifications	Instrument Type: Arbitrary waveform generator module

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

Sample-rate identity from Ametek/VTI VM3640A product title/OEM listings (50 MSa/s). Expand full channel/amplitude tables from the VTI datasheet before upload.

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.