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Data Sheet

August 15, 2026

AMETEK / VTI INSTRUMENTS / VXI TECHNOLOGY

Ametek / VTI Instruments / VXI Technology VT1415A Algorithmic Closed Loop Controller

Ametek VTI VT1415A Algorithmic Closed Loop Controller The Ametek VT1415A / E1415A isaC-size single-slot VXI algorithmic closed-loop controller and multifunction data-acquisition module with onboard DSP and up to eight Signal Conditioning Plug-ons per VXI Technology VT1415A/VT1422A datasheet. Real-time PID and custom control loops, mixed-sensor data acquisition, strain and temperature control, and VXI ATE closed-loop stimulus. Analog digital and frequencyIOCustom algorithm download The Ametek VT1415A / E1415A isaC-size single-slot VXI algorithmic closed-loop controller and multifunction data-acquisition module with onboard DSP and up to eight Signal Conditioning Plug-ons per VXI Technology VT1415A/VT1422A datasheet. Real-time PID and custom control loops, mixed-sensor data acquisition, strain and temperature control, and VXI ATE closed-loop stimulus. Analog digital and frequencyIOCustom algorithm download Instrument Type: Algorithmic closed loop controller


MODEL

**Ametek / VTI
Instruments / VXI
Technology
VT1415A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

VT1415A

LISTING

<https://aumictechlabs.com/products/vt1415a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Ametek VT1415A is a C-size, single-slot VXI algorithmic closed-loop controller designed for precision test, measurement, and process control applications. This register-based A16 slave module executes deterministic control algorithms on dedicated on-board DSP firmware, eliminating drift and jitter in time-critical calculations involving integrals and derivatives. It bridges the gap between standard PID controllers and custom control systems, offering advanced algorithmic capabilities with simplified implementation.

Technical Specifications

Module Architecture C-size, single-slot VXI form factor Register-based A16 slave device On-board DSP firmware with deterministic clock control

Control Capabilities Eight independent control loops
Maximum loop update rate: 3 kHz (single loop) / 8 kHz (eight loops) for default PID algorithm
Basic configuration: up to 1000 Hz per loop update rate Loop timing deterministically controlled by internal clock, independent of algorithm execution time
Pre-written PID algorithms with modification support Custom algorithm development from algebraic expressions and flow constructs (IF, THEN, ELSE) On-the-fly algorithm and tuning constant updates

Data Acquisition Multi-function analog and digital input/output Analog scanning A/D: ± 16 V full-scale with auto-ranging gains (x1, x4, x16, x64, x256) Digital capabilities: static state sensing/setting, frequency and period measurement, totalizing, PWM and FM signal input/output Double-buffered architecture for continuous scanning and algorithm execution

Signal Conditioning Plug-on (SCP) module support for input protection and conditioning

Performance & Accuracy Typical accuracy: $\pm 0.01\%$ of input level (varies with SCP module) Drift error: $10 \mu\text{V}/^\circ\text{C} \div \text{SCP gain per } ^\circ\text{C change}$ beyond 5-minute warm-up window Specifications valid: 90 days, $23^\circ\text{C} \pm 1^\circ\text{C}$ following 1-hour warm-up and calibration Single-sample accuracy; multi-sample averaging reduces noise

Key Features Deterministic execution prevents drift in integral and derivative calculations Flexible algorithm development environment with minimal system complexity High loop update rates support demanding real-time control requirements Double-buffered architecture ensures continuous operation during algorithm updates

Typical Applications Precision closed-loop control systems Test and measurement data acquisition Process control with multiple simultaneous loops Real-time signal conditioning and analysis

Compatibility & Integration Requires Signal Conditioning Plug-on (SCP) modules for signal protection and conditioning. Operates within standard VXI instrument chassis architecture.

VT1415A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Algorithmic closed loop controller
Module Size	C
Slots Occupied	1
Vxi Form	single slot C-size
Control Loops Example Performance	8 loops
Update Rate Example Simple Pid	1000 per second per loop
Scan Trigger Internal Range	100 us to 6.5536 s
Scan Trigger Resolution	100 us
Trigger Count	1 to 65535 or infinite
Scan Trigger Latency Typical	17.5 us
Sample Timer Range	10 us to 32768 ms
Sample Timer Resolution	0.5 us
Maximum Scp Slots	8
Maximum Bridge Scp Count	4
Maximum Bridge Channels	16
Voltage Output Scp Channels Each	8 on VT1531A
Current Output Scp Channels Each	8 on VT1532A
Maximum Vt1532A Scps Due To Power	7
Digital Io Scp	VT1533A two 8 bit words
Frequency Totalize Pwm Channels Each Scp	8 on VT1538A
Strain Completion 120 Ohm Scp	VT1506A 8 channel
Strain Completion 350 Ohm Scp	VT1507A 8 channel
Direct Input Scp	VT1501A 8 channel
Fixed Filter 7 Hz Scp	VT1502A 8 channel
Programmable Filter Gain Scp	VT1503A 8 channel

PARAMETER	VALUE
Terminal Block Option Spring Clamp	included on standard
Terminal Block Option Screw	Option 02
Rack Terminal Interface Option	A3F

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

Numeric rows from VXI Technology VT1415A/VT1422A Algorithmic Closed Loop Controller datasheet timing and SCP tables. Keysight E1415A is the HP/Agilent lineage equivalent module.

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.