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Data Sheet

August 15, 2026

AMETEK / VTI INSTRUMENTS / VXI TECHNOLOGY

Ametek / VTI Instruments / VXI Technology SMP5001 General Purpose Relay

Ametek / VTI Instruments / VXI Technology SMP5001 80 SPST 2 A General Purpose Relay Module The Ametek / VTI Instruments / VXI Technology SMP5001 provides 80 SPST 2 A general-purpose relays for SMIPII bases. Relays may be used individually or paired as 40 DPST. Maximum switching is 300 V ac/dc at 2 A with 60 W dc or 125 VA. Path resistance is under 300 mOhm. Bandwidth exceeds 100 MHz. Switching time is under 3 ms. Up to 480 SPST relays fit in an SMP1200 double-slot card. General purpose ATE signal routing, UUT adapter configurable switching, and high-density SPST matrices built externally from discrete relays. The Ametek / VTI Instruments / VXI Technology SMP5001 provides 80 SPST 2 A general-purpose relays for SMIPII bases. Relays may be used individually or paired as 40 DPST. Maximum switching is 300 V ac/dc at 2 A with 60 W dc or 125 VA. Path resistance is under 300 mOhm. Bandwidth exceeds 100 MHz. Switching time is under 3 ms. Up to 480 SPST relays fit in an SMP1200 double-slot card. General purpose ATE signal routing, UUT adapter configurable switching, and high-density SPST matrices built externally from discrete relays.



MODEL

**Ametek / VTI
Instruments / VXI
Technology
SMP5001**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SMP5001

LISTING

<https://aumictechlabs.com/products/smp5001-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Ametek VTI Instruments SMP5001 is a general-purpose relay module for high-density switching applications within the VXIbus platform. This 80-channel SPST relay card integrates into the VXI Technology SMIP II signal switching series, enabling flexible configuration across automated test equipment, data acquisition systems, and industrial control applications. The module switches up to 300 V AC/DC at 2 A maximum with path resistance below 300 mΩ and thermal offset under 7 μV per channel. It combines with other switch modules in SMP1100 or SMP1200 base units to build application-specific test configurations.

Technical Specifications

Electrical Performance

Maximum switching voltage: 300 V AC, 300 V DC
Maximum switching current: 2 A
Maximum switching power: 60 W DC, 125 VA
Path resistance: $1 \times 10^{-9} \Omega$
Maximum thermal offset per channel (HI-LO): < 7 μV
Open channel capacitance: < 50 pF
Channel-mainframe capacitance: < 80 pF
High-low capacitance: 100 MHz

Frequency-Domain Performance

Insertion loss at 100 kHz: < 0.1 dB
Insertion loss at 1 MHz: < 0.2 dB
Insertion loss at 10 MHz: < 1.0 dB
Crosstalk at 100 kHz: < -80 dB
Crosstalk at 1 MHz: < -60 dB
Crosstalk at 10 MHz: < -40 dB
Isolation at 100 kHz: < -50 dB
Isolation at 1 MHz: < -45 dB
Isolation at 10 MHz: < -40 dB

Switching Characteristics

Mechanical switch life: 1×10^7 operations
Electrical switch life: 5×10^5 operations at full load
Switching time: < 3 ms

Key Features

80 SPST relay channels per module
VXIbus form factor for single-slot or double-slot integration
Fail-safe interrupt input opens all relays on fault condition
Alternative configurations available: SMP5002 (50 SPDT), SMP5003 (26 SP4T)

Maximum density: 480 individual SPST relays in double-slot SMP1200 card

Typical Applications

Automated test equipment signal routing
Data acquisition multiplexing
Industrial control switching matrices
RF and analog signal distribution

Compatibility & Integration

Designed for VXIbus mainframes and fully compatible with the SMIP II signal switching platform. Operates with SMP1100 single-slot and SMP1200 double-slot base units.

SMP5001 Characteristics / Specifications

PARAMETER	VALUE
Model	SMP5001
Instrument Type	general purpose 2 A SPST relay module
Relay Count	80 SPST
Dpst Pair Configuration	40 DPST
Maximum Switching Voltage	300 V ac and 300 V dc
Maximum Switching Current	2 A
Maximum Switching Power Dc	60 W
Maximum Switching Power Ac	125 VA
Path Resistance	less than 300 mOhm
Insulation Resistance	greater than 1e9 Ohm
Thermal Offset Hi Lo	less than 7 uV
Open Channel Capacitance	less than 50 pF
Channel Mainframe Capacitance	less than 80 pF
High Low Capacitance	less than 50 pF
Bandwidth 3 dB	greater than 100 MHz
Insertion Loss 100 kHz	less than 0.1 dB
Insertion Loss 1 MHz	less than 0.2 dB
Insertion Loss 10 MHz	less than 1.0 dB
Crosstalk 100 kHz	less than -80 dB
Crosstalk 1 MHz	less than -60 dB
Crosstalk 10 MHz	less than -40 dB
Isolation 100 kHz	less than -50 dB
Isolation 1 MHz	less than -45 dB
Isolation 10 MHz	less than -40 dB
Mechanical Life	1e7 operations

PARAMETER	VALUE
Electrical Life Full Load	5e5 operations
Switching Time	less than 3 ms
Bandwidth	3 dB: greater than 100 MHz

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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Isolation 10 MHz	less than -40 dB
Mechanical Life	1e7 operations
Electrical Life Full Load	5e5 operations

PARAMETER

VALUE

Switching Time

less than 3 ms

Notes

From VTI Instruments SMP5001/5002/5003 datasheet. Isolation figures are OEM tabulated isolation values at the listed frequencies.

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.