TECHNICAL DATA SHEET

VXI Instruments
the test solutions provider

AXS7720
Multichannel Source Measurement Unit



LAN
USB

Features

- Extremely low noise with linear output stage
- Fully isolated design, isolated input and outputs
- Fast measurement of current in nA range
- Especially designed for automatic test equipment and high throughput testing
- Fast rise and fall times due to integrated sink capability
- Integrated matrix and digital I/Os
- Autosensing
- Digital calibration
- Integrated LAN interface
- Integrated sampling function for voltage and current measurement unit
- Further interfaces on request

Product Information

Multichannel source and measurement unit
The AXS7720 is a high precision, high speed multichannel source and measurement unit which is designed for automated high throughput testing.
Each function unit (VMU, CMU, generator) is fully isolated to avoid ground loops and common mode errors.

Programmable rise and fall times
The fast low noise linear bipolar power stage provides full four-quadrant source and sink capability at very fast rise and fall times even at high capacitive loads. The rise and fall times are programmable.

Two power ranges
With its two power ranges, 50 V/150 mA and 150 V/50 mA the AXS covers a wide range of different loads.

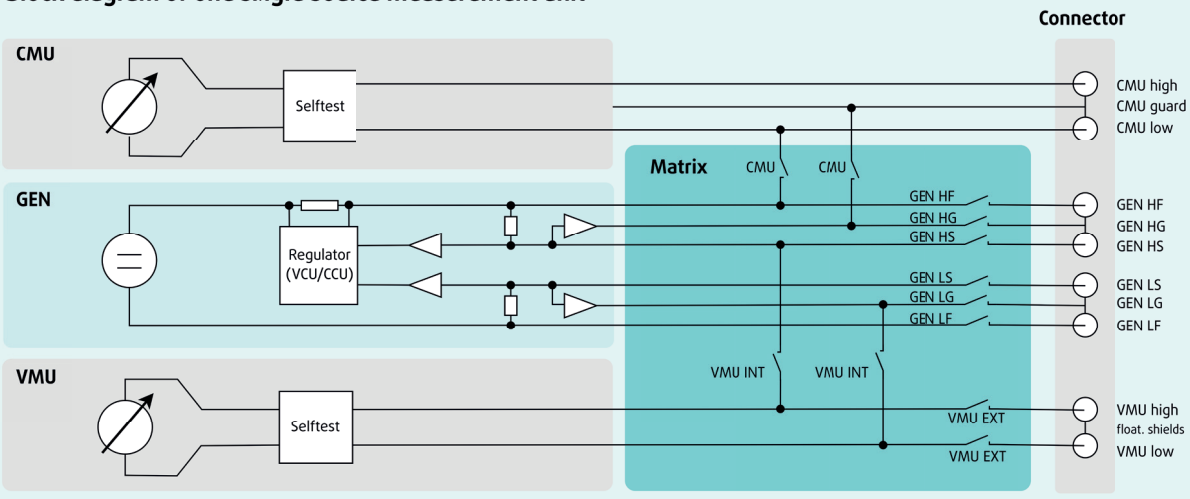
CMU and VMU with monitor outputs
The integrated monitor outputs makes debug-ging very easy. With the integrated filter stages high precise measurements can be done even in high noisy environment.

Integrated high flexible relay matrix
The integrated relay matrix is replaceable for fast service and allows high sophisticated measurements without external connections.

Autosensing protects devices under test
- Autosensing. If the sense line is not connected, the output terminals are automatically used as the sensing point.
- Broken sense line. The output voltage will be reduced automatically about the voltage drop across the load line.
- Shorted sense lines. The output voltage will be limited to about 5 V above the programmed value.

Flexible interfaces
A LAN interface comes as standard, so the unit connects easily to common control systems. GPIB, USB and ePCIe interfaces are available on request.

Block diagram of one single source measurement unit



General Specification

General	Specification
AC line voltage	230 V ± 10 %
AC line frequency	47 Hz ... 63 Hz
Power consumption	<150 W
Operating temperature	0 ... 50 °C
Operating altitude	<2 000 m
Relative humidity	Up to 85 % at 35 °C
Storage temperature range	-25 ... 70 °C
Size (W x H x L)	19 " x 3 U x 660 mm
Weight	≈15 kg
Electrical safety	According EN61010-1
Isolation output to PE	230 V CAT I, Pollution Degree 2

Generator Voltage Source

Voltage Source, Generator	Specification	Comment
Resolution	16 Bit	In all ranges
Compensation units	4	
DC Accuracy Gain error Offset error	 ±0.05 % of full scale ±0.05 % of maximum range (150 V)	
Output ratings Power range 1 Power range 2	 ±50 V / ±150 mA ±150 V / ±50 mA	 Programmable Programmable
Slew rate	1 ... 1 500 V/ms	Programmable

Generator Current Source

Current Source, Generator	Specification	Comment
Resolution	16 Bit	In all ranges
Compensation units	8 (2 x 4)	4 per positive/negative current controller
Range 1 DC accuracy	-10 µA ... +10 µA 0.2 % + 0.2 %	± (of programmed value + of range)
Range 2 DC accuracy	-100 µA ... +100 µA 0.1 % + 0.1 %	± (of programmed value + of range)
Range 3 DC accuracy	-1 mA ... +1 mA 0.1 % + 0.1 %	± (of programmed value + of range)
Range 4 DC accuracy	-10 mA ... +10 mA 0.1 % + 0.1 %	± (of programmed value + of range)
Range 5 DC accuracy	-150 mA ... +150 mA 0.1 % + 0.1 %	± (of programmed value + of range)

Notes: All product data are specified for 1 year at an ambient temperature of 23 °C ±5 °C (after 1 hour warm-up time).
Product specification and description in this document are subject to change without notice.

Voltage and Current Measurement Unit

Voltage Measurement Unit	Specification
Resolution	16 Bit
Maximum input voltage	200 V
Filter frequencies	100 Hz, 1 kHz, 10 kHz, 100 kHz
DC accuracy[1]	
Range 100 mV	±0.4 % of full scale
Range 1 V	±0.2 % of full scale
Range 10 V	±0.1 % of full scale
Range 100 V	±0.1 % of full scale
Range 1 kV	±0.1 % of full scale

Current Measurement Unit	Specification
Resolution	16 Bit
Overload protection	180 mA in all ranges
Filter frequencies	100 Hz, 1 kHz, 10 kHz, 100 kHz
DC accuracy[1]	
Range 10 nA	±0.5 nA
Range 100 nA	±2.0 nA
Range 1 µA	±10.0 nA
Range 10 µA	±50.0 nA
Range 100 µA	±0.5 µA
Range 1 mA	±5.0 µA
Range 10 mA	±50.0 µA
Range 150 mA	±800.0 µA

[1] Specification takes effect with 100 Hz filter frequency and 20 consecutive measurement with an interval of 1 ms.

Voltage and Current Monitor

Voltage Monitor	Specification
Output voltage (LF related)	+5 V corresponds to the positive full scale of the selected VMU range
Internal resistance	10 kΩ
Accuracy	±2 % of full scale

Current Monitor	Specification
Output voltage (HF related)	+5 V corresponds to the positive full scale of the selected CMU range
Internal resistance	10 kΩ
Accuracy	±2 % of full scale

Ordering Information

On Request
GPIB Interface
USB Interface
ePCIe Interface

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Revision Date: 2026-10-26