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AXS7720
Multichannel Source Measurement Unit

VXI Instruments
the test solutions provider



TECHNICAL DATA SHEET

PXI
VXI
LAN
cPCI
PXIe
GPIB
USB
RS232 485
external PCIe

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
- Multiple interfaces available (LAN, USB, GPIB)
- Autosensing
- Digital calibration

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.

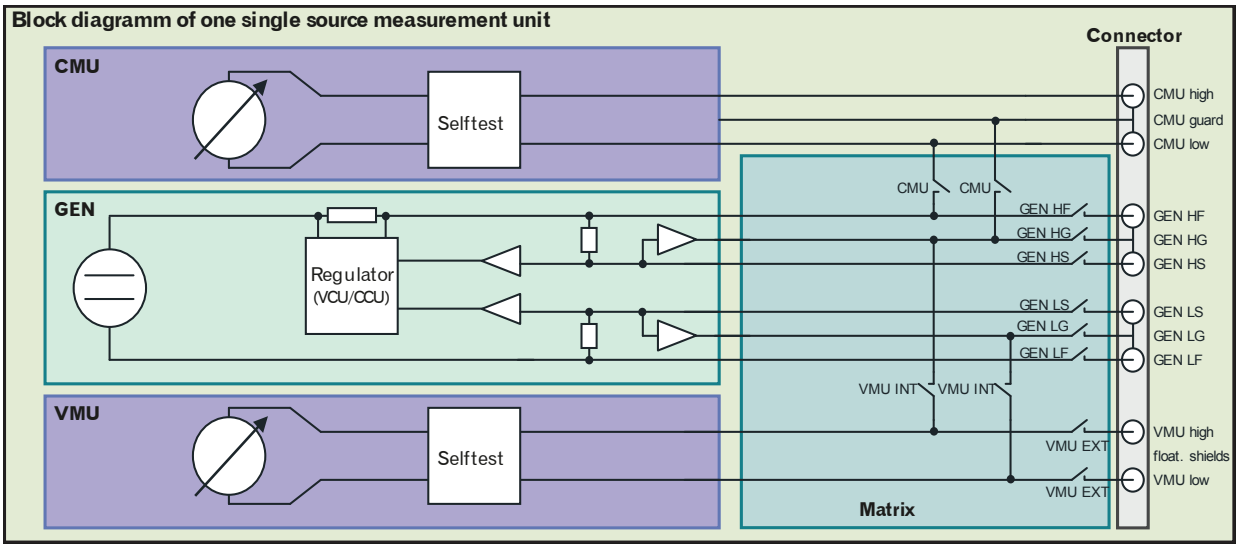
CMU and VMU with monitor outputs
The integrated monitor outputs makes debugging very easy. With the integrated filter stages high precise measurements can be done even in high noisy environment.

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.

Multiple interfaces available
Interfaces for LAN and USB are included (Optional: GPIB) to offer an easy communication with most usual control devices.



Ordering Information	Comment
Option GPIB	IEEE 488 interface
Option RMK	19" Rack mounting Kit
Option FE (on request)	Front panel display

General	Specification	Comment
AC line voltage	230 V_{AC} ±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	19" x 3U x 455 mm	
Weight	≈15 kg	
Electrical safety	According EN61010-1	
Isolation output to PE	230 V CAT I, Pollution Degree 2	

Voltage Control Unit	Specification	Comment
Resolution	16 Bit	In all ranges
Compensation units	4	
DC accuracy		
Gain error	±0.05% of full scale	
Offset error	±0.05% of maximum range (150 V)	
Output ratings		
Power range 1	±50 V / ±150 mA	Programmable range
Power range 2	±150 V / ±50 mA	Programmable range
Slew rate	1 ... 1 000 V/ms	Programmable range

Current Control Unit	Specification	Comment
Resolution	16 Bit	In all ranges
Compensation units	8 (2 x 4)	4 per positive/negative current controller
Range 1	-10 μA_{DC} ... +10 μA_{DC}	Programmable range
Gain error	±0.2% of value	
Offset error	±0.2% of full scale	
Range 2	-100 μA_{DC} ... +100 μA_{DC}	Programmable range
Gain error	±0.1% of value	
Offset error	±0.1% of full scale	
Range 3	-1 mA_{DC} ... +1 mA_{DC}	Programmable range
Gain error	±0.1% of value	
Offset error	±0.1% of full scale	
Range 4	-10 mA_{DC} ... +10 mA_{DC}	Programmable range
Gain error	±0.1% of value	
Offset error	±0.1% of full scale	
Range 5	-150 mA_{DC} ... +150 mA_{DC}	Programmable range
Gain error	±0.1% of value	
Offset error	±0.1% of full scale	

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 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

Voltage Monitor	Specification
Output voltage (LF related)	+5 V equivalent to +full scale in each range
Internal resistance	10 k
Accuracy	±2% of full scale

Current Monitor	Specification
Output voltage (HF related)	+5 V equivalent to +full scale in each range
Internal resistance	10 k
Accuracy	±2% of full scale

Ordering Information	Comment
Option GPIB	GPIB Interface
Option FE	Front touch display
Option RMK	19″ rack mounting kit

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

VX Instruments GmbH
Phone: +49 871 93 15 55-0
E-Mail: sales@vxinstruments.com

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