



STS8200 AXE-PM

Make Testing More Valuable

Key Features

- Based on STS8200 analog IC resources with static capability of 2000V/600A and dynamic of 1200V/3000A
- High power DC and AC modules in test head close to DUT for direct-dock
- Dynamic capabilities for switching, short circuit current, RBSOA, Qg, I-Latch, multi-pulse
- Supports multi-task and one socket test
- Target devices:
 - Power Discrete
 - IPM
 - Power Module
 - KGD

Specifications

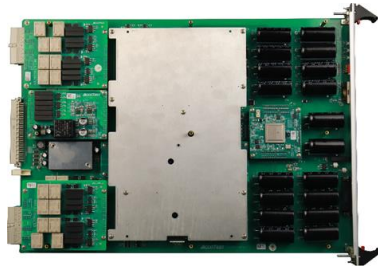
	Resource	Specification
Mainframe	FOVI100	Floating VI source with up to 32 channels: $\pm 40V/\pm 1A$ per channel
	FPVI10_PLUS	Floating VI source with up to 8 channels: $\pm 100V/\pm 10A$ per channel
	HVI1K	Floating VI source with up to 4 channels: $\pm 1000V/\pm 10mA$ per channel (stackable to $\pm 2000V$)
	DIO2.0_PLUS	Digital I/O with up to 8 channels: 5MHz test rate, 1M vector depth
	QTMU	Time Measurement Unit with up to 4 channels: $\pm 25V$, $\pm 2ns \pm 0.1\%$ of Rd, and 65ps resolution
	QVM	Floating voltage meter with up to 4 channels: $\pm 100V$, 18-bit 1MSPS/12-bit 10MSPS digitizer
Test Head	AXE-CBIT	Transfer CBIT (128-bit), DIO (8-channel), QVM (4-channel), QTMU (4-channel) source to TIB interface
	AXE-INF	Isolated Interface Board with 2-channel HVI1K matrix board and power supply
	AXE-VIS	Transfer VI (FOVI*32-channel, FPVI*8-channel) source from standard test box to TIB interface
	CBIT128	Max. to 1 board, 128 relay control bits
	AXE-ZMU	Ciss/Coss/Crss/Rg testing up to 1MHz, with default DC bias of $\pm 40V$ (upgradeable to $\pm 2000V$)
	HPU200	Floating high-power unit with capabilities up to $\pm 30V$ and $\pm 200A$ (pulsed) – Gang-able up to 600A
	DTU3K	Dynamic test unit supporting up to 1200V/1000A for switching, 3000A for short circuit current, and 2500V for measurement

Note: Information is subject to change without prior notice.

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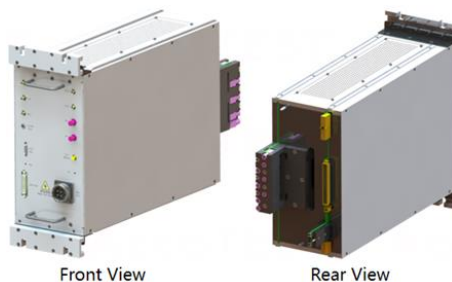
High Power Resources in Test Head



High Power Unit HPU200

➤ Features

- Single Channel per Board:
 - Includes both PN Source and G Source outputs
- PN Source:
 - Gang-able up to 3xHPU200 to Force up to 600A
 - Patented 6-wire Kelvin methodology
 - **Pulse Mode Voltage Ranges:** $\pm 30V$, $\pm 20V$, $\pm 10V$, $\pm 5V$, $\pm 3V$
 - **Pulse Mode Current Ranges:** 10mA, 100mA, 20A, 40A, 60A, 100A, 200A
- G Source:
 - Provides a single Force/Sense channel
 - Features four Kelvin connections for Kelvin checks
 - Supports GFS testing
 - **Pulse Mode Voltage Ranges:** $\pm 20V$, $\pm 10V$, $\pm 5V$, $\pm 3V$



Front View

Rear View

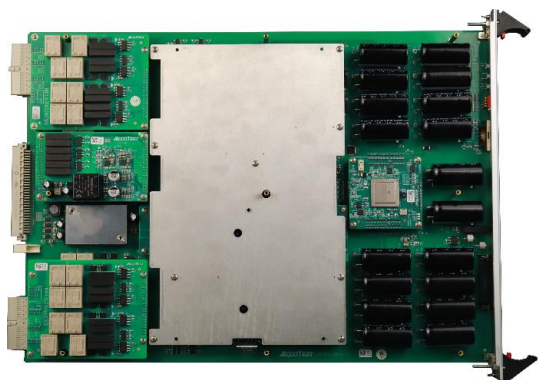


Dynamic Test Unit DTU3K

➤ Features

- Voltage and current specifications:
 - Bus Voltage: 1200V
 - Peak Voltage Detection: 2500V
 - Dynamic Switching Current: 1200V/1000A
 - Short Circuit Current: 1200V/3000A
 - Over Current Protection (OCP) : 200A to 3000A
- Stray inductance: Less than 20nH output connector
- Over Current Protection Time: <500ns
- Over Current Clamp (OCC): Programable
- High-speed digitizer:
 - Standard configuration: 4 channels, 14-bit resolution, sampling rate: 125 MS/s
 - Compatibility: supports third-party customized oscilloscopes

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HPU200 High-Power Unit Supporting up to 200A

— Make Testing More Valuable

— Key Features

- Single Channel per Board:
 - Includes both PN Source and G Source outputs
- PN Source:
 - Provides a single Force/Sense channel
 - Fan-out capability to 8 channels, with each channel supporting up to 100A, or 200A when two channels are combined
 - Equipped with six Kelvin connections per fan-out channel for Kelvin and contact checks
 - Output relay isolation voltage per fan-out channel: 2000V
 - **Pulse Mode Voltage Ranges:** $\pm 30V$, $\pm 20V$, $\pm 10V$, $\pm 5V$, $\pm 3V$
 - **Pulse Mode Current Ranges:** 10mA, 100mA, 20A, 40A, 60A, 100A, 200A
- G Source:
 - Provides a single Force/Sense channel
 - Features four Kelvin connections for Kelvin checks
 - Supports GFS testing
 - **Pulse Mode Voltage Ranges:** $\pm 20V$, $\pm 10V$, $\pm 5V$, $\pm 3V$
- Additional Capabilities:
 - High-accuracy MVU voltage measurement for both PN Source and G Source
 - 100 KSPS, 16-bit digitizers for simultaneous voltage and current capture
 - Real-time onboard data processing, including averaging, maximum, and minimum values
 - Compatible with STS8200 system resources: FPVI_PLUS, FOVI, QVM, DIO
 - Ground isolation voltage: 100V
 - 8 control bits output with 5V power supply

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➤ Specifications

PN Source / Measure Voltage Ranges		
Voltage Range	Resolution	Accuracy ($\pm\%Rd + \text{Offset}$)
$\pm 30V$	16-bit	$\pm 0.05\% + 9mV$
$\pm 20V$	16-bit	$\pm 0.05\% + 6mV$
$\pm 10V$	16-bit	$\pm 0.05\% + 3mV$
$\pm 5V$	16-bit	$\pm 0.05\% + 1.5mV$
$\pm 3V$	16-bit	$\pm 0.05\% + 0.9mV$

PN Source / Measure Current Ranges		
Current Range	Resolution	Accuracy ($\pm\%Rd + \text{Offset}$)
$\pm 200A$	16-bit	$\pm 0.5\% + 100mA$
$\pm 100A$	16-bit	$\pm 0.5\% + 50mA$
$\pm 60A$	16-bit	$\pm 0.5\% + 30mA$
$\pm 40A$	16-bit	$\pm 0.5\% + 20mA$
$\pm 20A$	16-bit	$\pm 0.5\% + 10mA$
$\pm 100mA$	16-bit	$\pm 0.1\% + 30\mu A$
$\pm 10mA$	16-bit	$\pm 0.1\% + 3\mu A$

G Source Voltage Ranges		
Voltage Range	Resolution	Accuracy ($\pm\%Rd + \text{Offset}$)
$-10V+20V$	16-bit	$\pm 0.05\% + 6mV$
$\pm 10V$	16-bit	$\pm 0.05\% + 3mV$
$\pm 5V$	16-bit	$\pm 0.05\% + 1.5mV$
$\pm 3V$	16-bit	$\pm 0.05\% + 0.9mV$

MVU Voltage Measuring Accuracy	
Voltage Range	Accuracy ($\pm\%Rd + \text{Offset}$)
$\pm 10V$	$\pm 0.025\% + 2mV$
$\pm 1V$	$\pm 0.05\% + 0.4mV$
$\pm 100mV$	$\pm 0.1\% + 0.15mV$

MVU_PN_X1 Accuracy	
Voltage Range	Accuracy ($\pm\%Rd + \text{Offset}$)
$\pm 30V$	$\pm 0.025\% + 6mV$
$\pm 20V$	$\pm 0.025\% + 4mV$
$\pm 10V$	$\pm 0.025\% + 2mV$
$\pm 5V$	$\pm 0.025\% + 1mV$
$\pm 3V$	$\pm 0.025\% + 0.6mV$

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➤ Specifications

MVU_PN_X10 Accuracy	
Voltage Range	Accuracy (±%Rd + Offset)
±30V	±0.05% + 1.2mV
±20V	±0.05% + 0.8mV
±10V	±0.05% + 0.4mV
±5V	±0.05% + 0.2mV
±3V	±0.05% + 0.15mV

MVU_PN_X100 Accuracy	
Voltage Range	Accuracy (±%Rd + Offset)
±30V	±0.1% + 0.45mV
±20V	±0.1% + 0.3mV
±10V	±0.1% + 0.15mV
±5V	±0.1% + 0.15mV
±3V	±0.1% + 0.15mV

MVU_G_X1 Accuracy	
Voltage Range	Accuracy (±%Rd + Offset)
-10V+20V	±0.025% + 4mV
±10V	±0.025% + 2mV
±5V	±0.025% + 1mV
±3V	±0.025% + 0.6mV

MVU_G_X10 Accuracy	
Voltage Range	Accuracy (±%Rd + Offset)
-10V+20V	±0.05% + 0.8mV
±10V	±0.05% + 0.4mV
±5V	±0.05% + 0.2mV
±3V	±0.05% + 0.15mV

MVU_G_X100 Accuracy	
Voltage Range	Accuracy (±%Rd + Offset)
-10V+20V	±0.1% + 0.3mV
±10V	±0.1% + 0.15mV
±5V	±0.1% + 0.15mV
±3V	±0.1% + 0.15mV

AWG Specifications			
Resolution	Pattern Depth per Channel	DA Update Rate	AWG Step
16-bit	4K	100 kHz	10 μs

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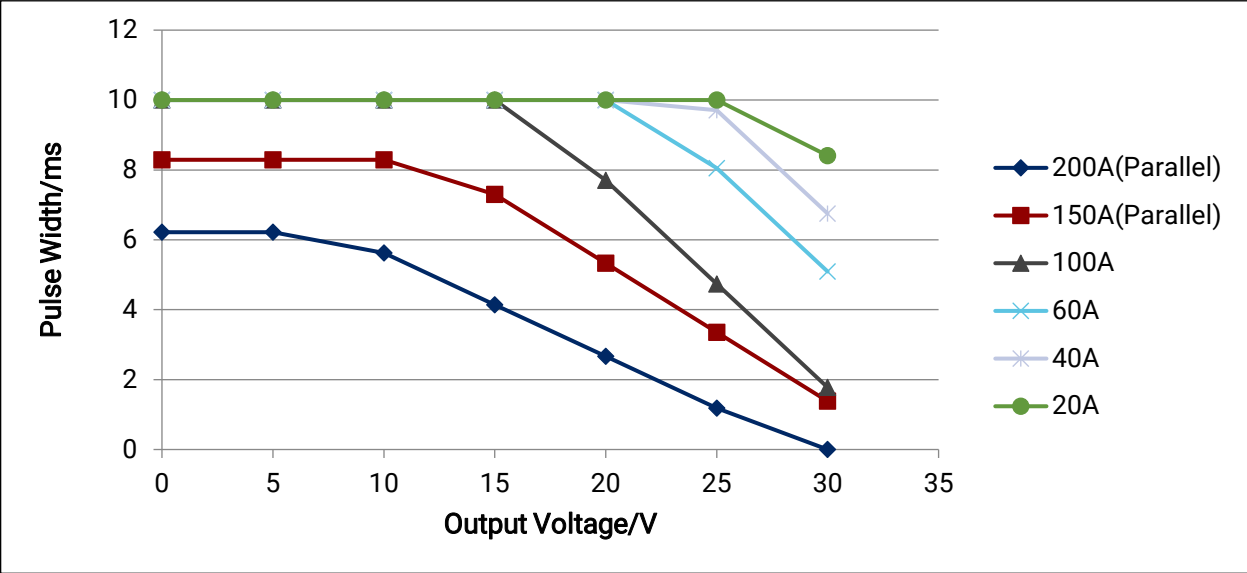
➤ Specifications

Kelvin Measurements				
Measurement Type	Resistance Range	Precision	Resolution	Accuracy
PN Source	8 Ω	Low	16-bit	±(10 mΩ + 1% Rdg)
	0.8 Ω	High	16-bit	±(1 mΩ + 1% Rdg)
G Source	80 Ω	Low	16-bit	±(200 mΩ + 1% Rdg)

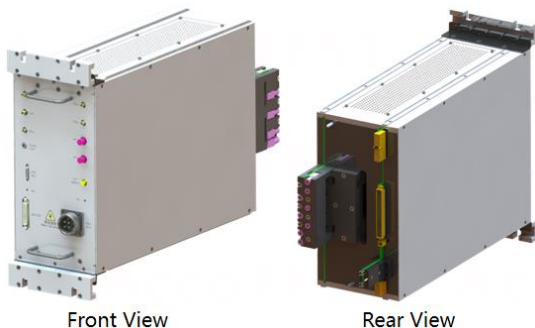
HPU200_J5V
Maximum Current: 400mA

CBIT Specifications		
Number of CBIT Bits	Maximum Current per Bit	Total Current
8	100 mA	≤ 400 mA

➤ Pulse Power Output Curves



Note: Information is subject to change without prior notice.



Front View

Rear View

DTU3K

Dynamic Test Unit, Supporting Up to 3000A

— Make Testing More Valuable

— Key Features

- Voltage and current specifications:
 - Bus voltage: supports up to 1200V
 - Peak voltage detection: capable of up to 2500V
 - Dynamic Switching Current: handles up to 1200V/1000A
 - Short Circuit Current: accommodates up to 1200V/3000A
 - Over Current Protection: ranging from 200A to 3000A
- Stray inductance: less than 20nH output connector
- Over Current Protection Time (OCP): <500ns
- Programmable Over Current Clamp (OCC)
- Floating power supply:
 - Programmable floating power supplies: two independent groups from -20V to +20V with a 30V window, specifically designed for external gate drivers
- Programmable inductive loader (optional):
 - Inductive loader: PIL 380μH
- High-speed digitizer:
 - Standard configuration: 4 channels, 14-bit resolution, sampling rate: 125 MS/s
 - Optional configuration: 8 channels, 10-bit resolution, sampling rate: 1.25 GS/s
 - Compatibility: supports third-party customized oscilloscopes
- Internal probes and sensors:
 - Differential voltage probes: 2 channels, supporting up to 2500V, bandwidth >50MHz
 - Current sensors: 3 channels, supporting up to 3000A, bandwidth 50MHz
 - Support: external customized current sensors available
- Communication and control:
 - I2C Bus: For application board integration
- Relay control bits:
 - 48 bits for 5V power supply
 - 24 bits for 12V power supply
- Physical dimensions and weight:
 - Dimensions: 554mm (L) × 161mm (W) × 393mm (H)
 - Weight: 10kg

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➤ Specifications

Parameter	Range	Accuracy/Details
Bus Voltage (Vbus)	10V to 1200V	±(1% of Setting + 0.4V)
VPeak Detection	Up to 2500V	±3% of Reading
Dynamic Switching Current (Ic)	Up to 1000A	±3% of Reading (≥150A) ±(5% of Reading + 1A) (for <150A)
Short Circuit Current (Isc)	Up to 3000A	±3% of Reading (≥150A) ±(5% of Reading + 1A) (for <150A)
Tsc	1-10µs	0.1µs
Over Current Protection	200A to 3000A	<20% of Setting;
Floating Power Supply	-20V to +20V (30V Window)	2% FS (for External Gate Driver)
Control Bits		
5V Control Bits	48-bit	100mA load per bit
12V Control Bits	24-bit	400mA load per bit

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AXE-CBIT CBIT Interface Board

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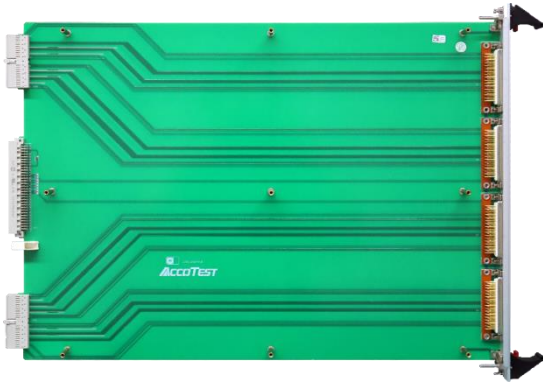
Key Features

- Interface transfer capabilities, transfers CBIT, DIO, QVM, and QTMU sources from the standard test box to the TIB interface of the test head.
 - 4-channel Time Measurement Unit (QTMU_PLUS).
 - 8-channel Digital I/O (DIO2.0_PLUS).
 - 4-channel High-Precision Voltage Meter (QVM).
 - 128 relay control bits (CBIT128).
 - Top of Form
 - Bottom of Form

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AXE-VIS VI Source Interface Board

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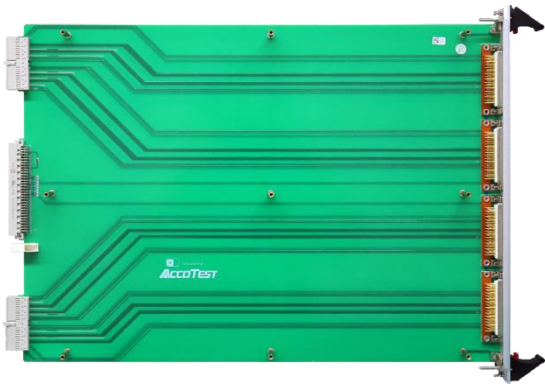
Key Features

- VI source integration: Transfers VI source from the standard test box to the TIB Interface of the test head.
 - 32-channel floating VI source: 40V/1A per channel (FOVI100)
 - 8-channel floating VI source: 100V/10A per channel (FPVI_PLUS)

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AXE-INF Interface Board

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Key Features

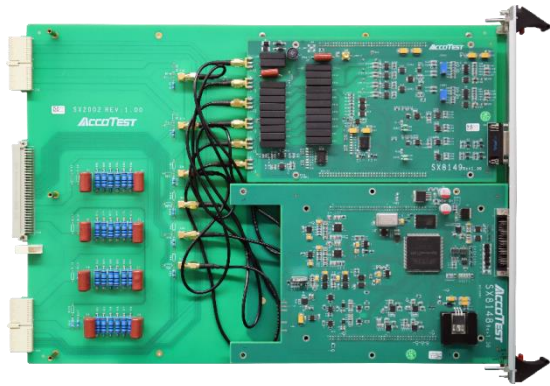
- Isolated communication board: connects the EIB of the STS8200 base system to the test head
- 2-Channel HVI1K matrix board: supports up to 2000V/10mA or 1000V/20mA
- Power supply: provides $\pm 48V$ from the STS8200 base system to the test head

Specifications

Item	Description	Specification
Power Supply	DC_+48V	5A
	DC_-48V	1A
	DC_3.3V	1.5A
I2C Communication Bus	Communication Speed	1MHz

Note: Information is subject to change without prior notice.





AXE-ZMU Impedance Measurement Unit

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Key Features

- Testing capabilities: supports measurements for Rg, Ciss, Coss, Crss, and L
- AC frequency range: 100 kHz to 1 MHz
- DC bias range: default up to 40V, with an upgrade option to 2000V

Specifications

Parameter	Value	Accuracy
Maximum DC Offset	±40V	16-Bit, ±0.05%
Maximum AC RMS	0.005V-1V	16-Bit, ±10%
Frequency Range	100 kHz ~ 1 MHz	10 kHz Step, ±0.01%
Impedance Measurement Ranges		
30Ω, 100Ω, 300Ω, 1kΩ, 3kΩ, 10kΩ		
Test Items	Range	Accuracy (@1 MHz/0.5V)
Ciss, Crss, Coss	10pF - 100pF	±(5% + 0.2pF)
	100pF - 0.1μF	±(5% + 2pF)
Rg	0.1Ω - 100Ω	±(5% + 0.05Ω)
	100Ω - 3kΩ	±(3% + 0.5Ω)
L	0.1μH - 1mH	±(5% + 0.01μH)

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EIB Electrical Interface Board

— Make Testing More Valuable

— Key Features

- Communication interface to external equipment's such as UIS200, DVX900 and AXE-PM Test Head
- Provides $\pm 48V$ from the STS8200 mainframe base system to auxiliary resources
- Up to four high speed bus interface at (100Mbps)

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