

## MULTI SWITCH

# Modular Automated High Power switching - designed for Development, Integration and Production Testing

### FEATURES & BENEFITS

- Full Device characterization without reconnecting
- Measmatic integration
- Predefined switch states for easy DUT characterization
- modular system enables optimal configuration
- Individual system configuration and expandability
- Safe switching between HV (3kV), LV (200V), HC (100A) and UHC (up to 2kA)
- Interlock management for test equipment and safety environment
- Built-in protection units for LV-Channels
- Built-in Bias-Ts for CV-measurement

The ATV Multi Switch is the universal platform for characterizing high-power devices such as MosFETs, GaN, SiC or IGBT transistors with single standard SMUs. Thanks to the modular system platform, the switch can be configured for individual test requirements. Various modules are available that can be combined for different setups. These are for example:

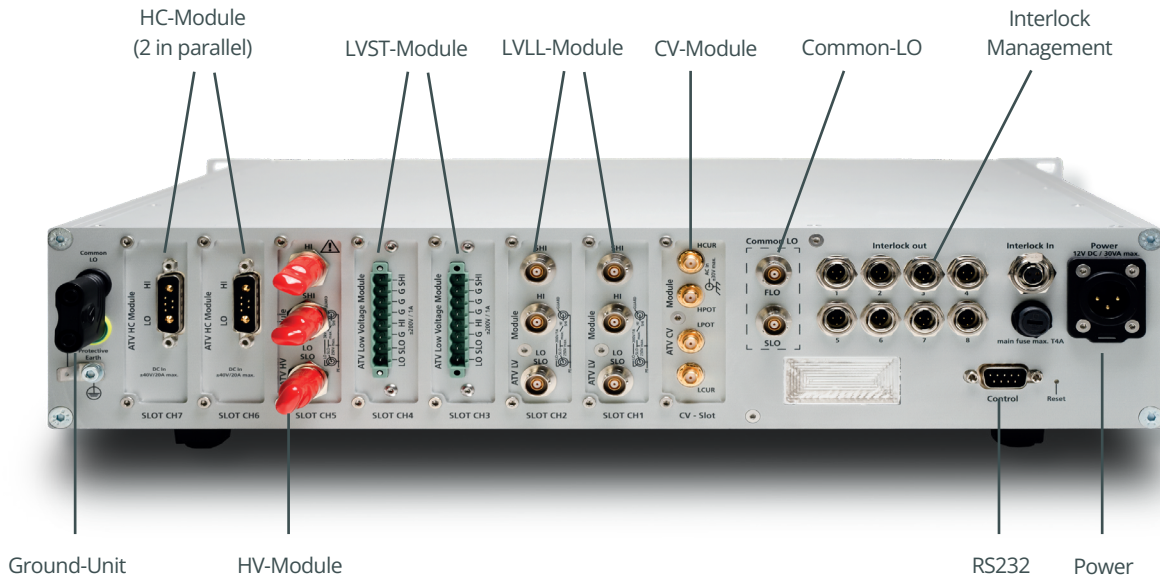
- Low Voltage Module (200V Standard DC Bias)
- Low Voltage Low Leakage Module (200V, Triax)
- High Voltage Module (3kV HV Triax)
- High Current Module (50A/40V – 2 in parallel = 100A)
- Ultra High Current Module (up to 2kA, 40V)
- CV-Module (up to 7 Channel CV measurements)
- HVC-Module (HV-HC-Switching for single Transistor)
- Half Bridge Module (HV-HC-Switching for Half Bridge DUT)
- Matrix-Modules (individual port selection)
- Socket Adaptions, Contact Heads and Probecards



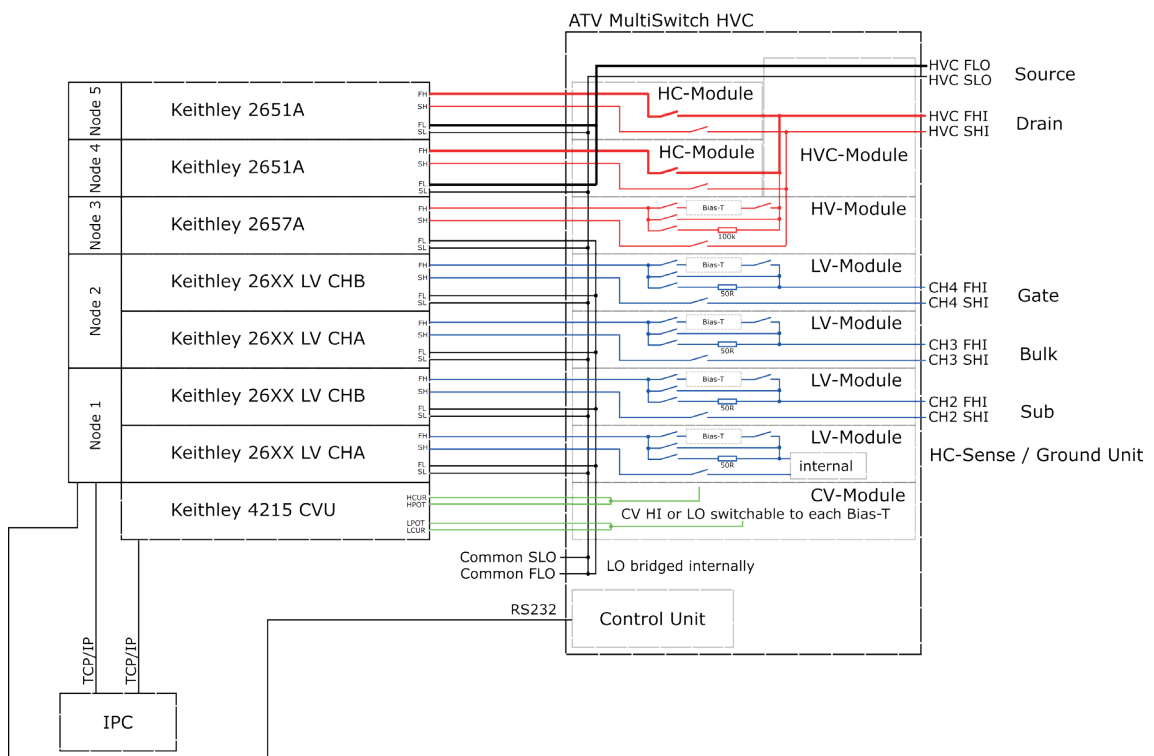
A for automated measurements of power transistors the speed and precision of our Multi Switch System can cover spec coverage measurements for manual test stations, data gathering in semi auto wafer tests as well as production tests with fully auto wafer test stations. It is compatible for the use with triax probe arms as well as for high current probes with included high precision plugs. The optional CV measurement allows to measure CISS, COSS, CRSS or any other terminal-to-terminal-capacitance with the integrated Bias-Ts up to 3000 V. Source and Bulk with the integrated Bias-T up to 3000 V.

## Rear view\*

\*Example mounting



## Example configuration



# Technical data

Module	Description	Recommended SMU	Spec / Limits / Notes
CVM	CV-Module	Keithley 4215-CVU	Up to 7 arbitrary terminal CV measurements (CISS, COSS, CRSS, CGS, CGG, CDS, CGD, CGB, CBS, C...) Compensation measurements for best accuracy down to 10fF
LVSM	Low Voltage Standard Module	Keithley 2601/11	±40/200V, 1A DC
LVLLM	Low Voltage Low Leakage Module	Keithley 2635/4200	±200V, 1A, Triax
HVM	High Voltage Module	Keithley 2657A	±3kV, 50fA/V leakage current
HCM	High Current Module	Keithley 2651A	±40 V, 20A DC, 50A pulsed In parallel up to 100A pulsed Channel impedance less than 20mOhms overall Pulsewidth 100µs...1ms
UHCM	Ultra High Current Module	Keithley 2602 + DMM6500	±40V, 400A pulsed In parallel up to 2kA Pulsewidth 100µs...1ms
HVCM	HV-HC-Switching Module	-	for single Transistors with fixed pin assignment
HVC-MTRX	HV-HC-Matrix	-	free terminal selection for changing pin assignments
HBM	Half-Bridge Module	-	For Half-Bridge Transistor Module testing
HPTU	High Power Test Unit	-	Individual Test Head / contact unit for packages
DUT-BOX	DUT socket adaption box with safety environment	-	Standard sockets in safety environment for manual tests
DUT-PCB	Universal PCB Adaption platform	-	Probecard-like PCB as standard test platform for different smal adaption boards

## General Data

- 19" 2HE case with 450mm depth
- Power consumption: max. 30W
- Weight: approx. 3kg
- Power supply and low voltage measurement cables included

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