

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:

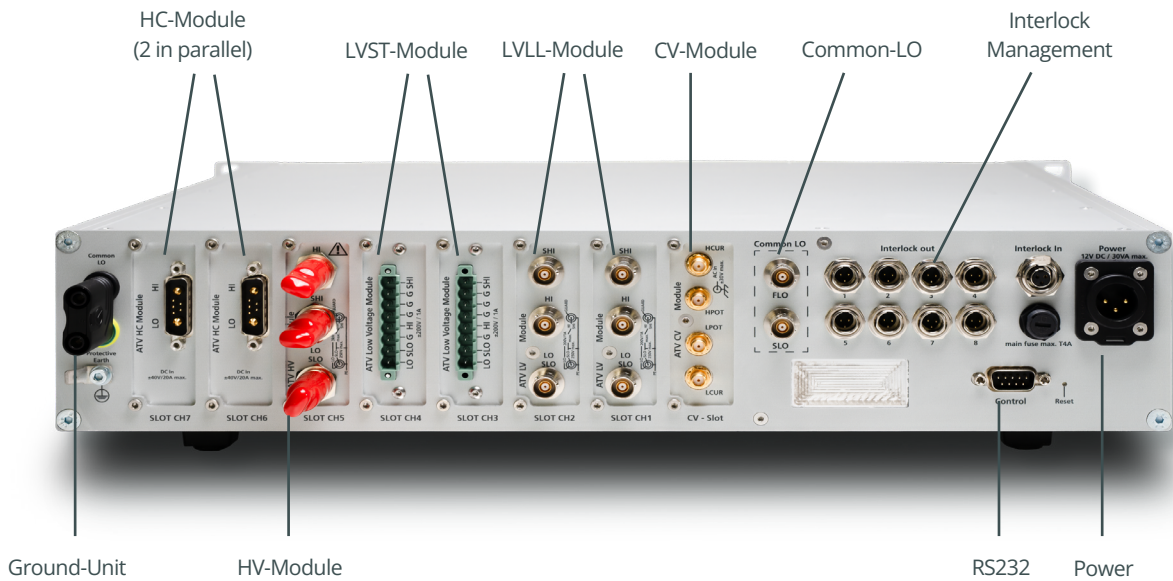
- Low Voltage Module (200V Standard DC Bias)
- Low Voltage Low Leakage Module (200V, Triax)
- High Voltage Module (3kV HV Triax)
- High Current Module (50A/40V – 2 in parallel = 100A)
- Ultra High Current Module (up to 2kA, 40V)
- CV-Module (up to 7 Channel CV measurements)
- HVC-Module (HV-HC-Switching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



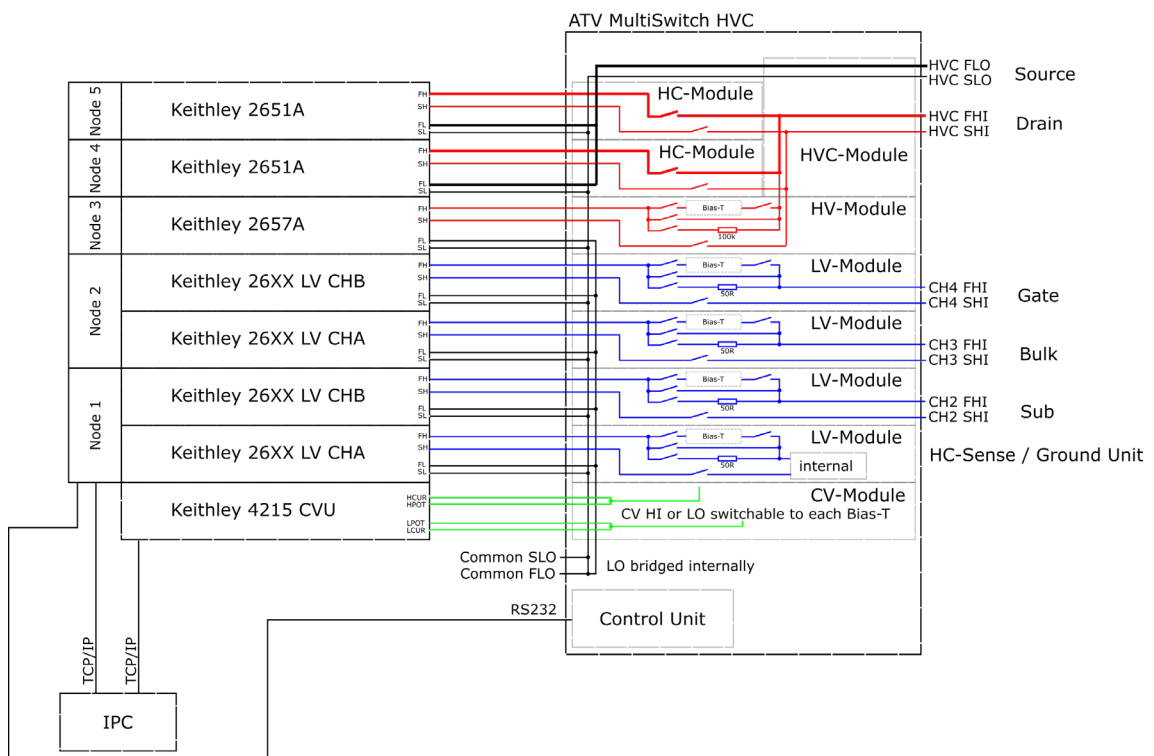
A for automated measurements of power transistors the speed and precision of our Multi Switch System can cover spec coverage measurements for manual test stations, data gathering in semi auto wafer tests as well as production tests with fully auto wafer test stations. It is compatible for the use with 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



| 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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