

# HVC SWITCH

## Automated High Power switching - 100 A and 3 kV - designed for Keithley 2651A and 2657A

### FEATURES & BENEFITS

- Full characterization without reconnecting
- HV triax for low leakage measurement
- Predefined switch states for MOSFET characterization
- Relais for easy threshold voltage measurements
- Interlock management for test equipment
- Selectable gate resistor for limiting oscilation
- Built-in high voltage protection for low voltage channels
- CV measurement Bias-T optional
- Measmatic integration

The HVC Switch combines measuring of sources with 3 kV and 100 A for automated measurements of power components such as MOSFET transistors on wafer level and packaged devices.

The unit acts as a selector, enabling off-state high voltage leakage characterization and RDS(on) measurements under a high current load with a single contacting. It supports up to four terminals (Gate, Drain, Source, Bulk) for usage with random test scenarios.

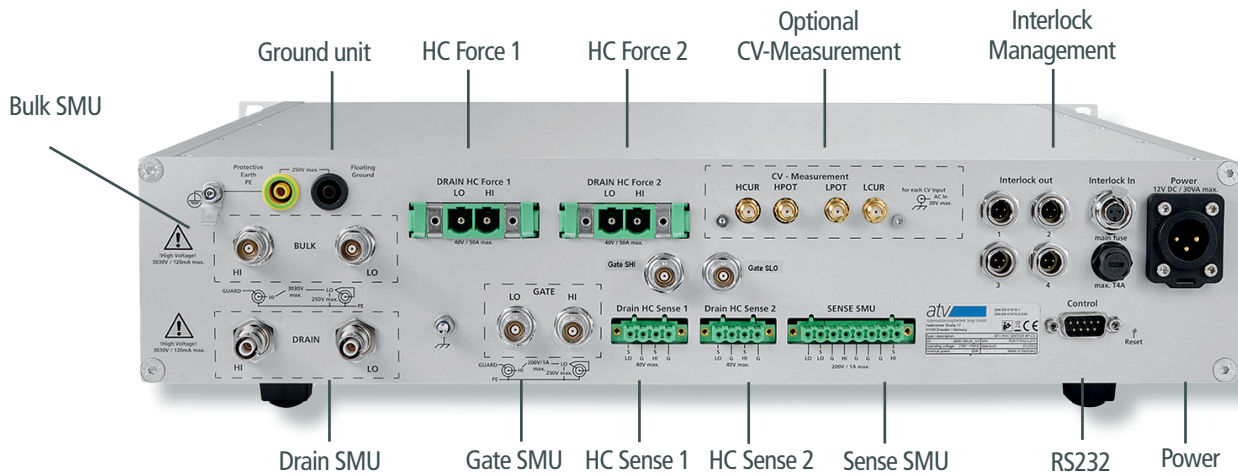
The HVC Switch has a triaxial design for most accurate measurements, focussing on highest insulation and low impedance. Furthermore, the HVC Switch supports for leakage, RDS(on) and Gate Charge threshold ( $V_{th}$ ) measurements.

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 each single or combined capacitance between the four terminals Gate, Drain, Source and Bulk with the integrated Bias-T up to 3000 V.



# Rear view



# Technical data

## Input

- 100 A for 2x Keithley 2651A in parallel
- optional 2601B for HC sensing and source unit
- 3 kV for 1x Keithley 2657A
- 2636B for gate and bulk measurement

## Control

- controlled by ATV Measmatic via RS232

## Specification

Gate leakage:	600 pA @ 20 V
Drain leakage:	0,5 pA/V 1 nA @ 2000 V after 0.6 s settling time
High current channel impedance:	15 mΩ for source 15 mΩ for drain
Maximum power consumption:	42 VA
Power supply:	100 to 110 V and 220 to 240 V, 50 Hz/60 Hz

## Regulatory

Safety:	Conforms to European Union Low Voltage Directive
EMC:	Conforms to European Union EMC Directive
Certification:	CE certified

## General data

Dimensions (WxHxD):	483 x 88.3 x 471.7 mm
Weight:	6.5 kg

## Output

- Safety interlock management

Gate:	Standard triax for gate control
Drain:	High precision connector for high current probe HV triax for leakage measurement
Source:	High precision connector for high power probe triax for source sensing
Bulk:	standard triax

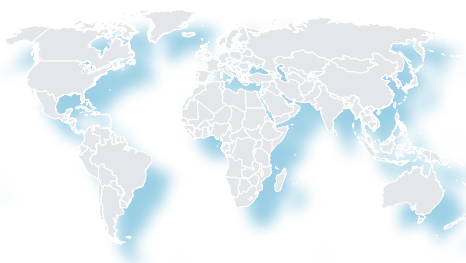
## CV-Measurement Option

- 4 integrated Bias-T
- integrated switch for automated measurement of  $C_{iss}$ ,  $C_{oss}$ ,  $C_{rSS}$  as well as  $C_{gs}$ ,  $C_{gd}$ ,  $C_{ds}$ ,  $C_{bs}$ ,  $C_{gb}$ ,  $C_{db}$

Gate:	± 200 V
Drain:	± 3000 V
Source:	± 200 V
Bulk:	± 200 V

## Accessories Supply

- 1x Ground-Unit short plug, Spacing 19 mm
- 1x 12V DC Powersupply
- 2x High precision ATV HV/HC-connector
- 1x Interlock Input (open leads for safety switch), 2 m
- 2x Interlock Output to Keithley SMU, 1.2 m
- 2x K2651 High Power Sense line, 1.2 m
- 2x K2612 Force/Sense line, 1.2 m



**Automatisierungstechnik Voigt GmbH**  
Heilbronner Straße 17  
01189 Dresden

phone: +49 351 2138640  
email: atv@atv-systems.de