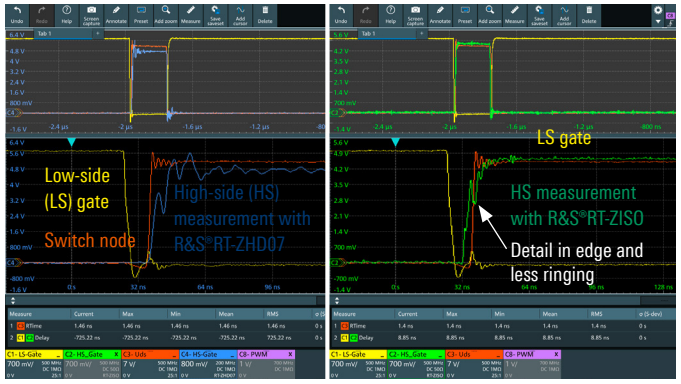
R&S®RT-ZISO ISOLATED PROBING SYSTEM

versus Tektronix IsoVu TIVP

The R&S®RT-ZISO isolated probing system sets new benchmarks for electrical measurement with exceptional accuracy, sensitivity and speed. The innovative tool is vital to developing next-generation power electronics, particularly those that utilize SiC and GaN wide-bandgap materials. These advanced capabilities are vital when dealing with high voltage levels, detecting rapid changes and filtering out interference with a high common-mode rejection ratio (CMRR).

Your benefit	Features of the R&S®RT-ZISO
Fast common-mode isolation	Optical isolation provides the best CMRR for fast common mode interference when performing switching analysis in noisy environments, such as with three-phase inverters.
High input sensitivity	Frontend chip with selectable sensitivity for small signal measurements, such as current shunt sensing and thermal drift correction for stable results.
Dual connectivity	Seamlessly works with the newest Rohde&Schwarz oscilloscopes, which have the fastest waveform acquisition rates and spectrum analysis in the industry. Also supports SMA and BNC connections for third-party instruments.

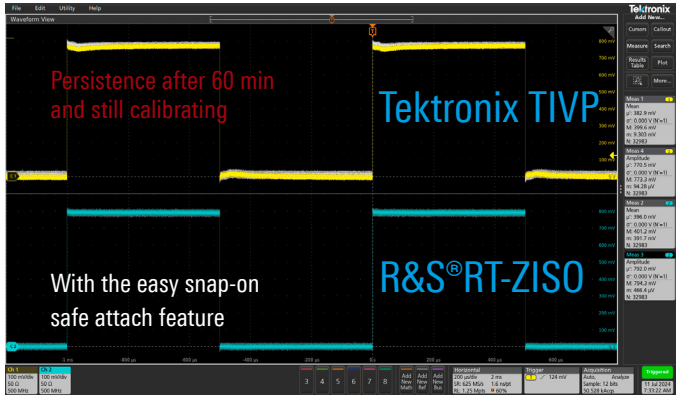


CMRR suppression critical for high-side (HS) gate measurements

Parameter	R&S®RT-ZISO	Tektronix IsoVu TIVP
Bandwidth	100/200/350/500 MHz, 1 GHz (upgradeable)	200 MHz/500 MHz, 1 GHz
CMRR; SMA (50 Ω) ▶ 1 MHz ▶ 100 MHz ▶ 200 MHz ▶ 500 MHz ▶ 1 GHz	 ▶ 145 dB ▶ 110 dB ▶ 100 dB ▶ 100 dB ▶ 90 dB	 ▶ 145 dB ▶ 100 dB ▶ 100 dB ▶ 100 dB ▶ 90 dB
Smallest input voltage range	±0.01 V	±0.02 V
Largest input voltage range (with tips)	±3000 V with R&S®ZISO-Z302 (100x)	±2500 V with TIVPWS (500x)
Offset range (1x)	±30 V	±25 V
Operating window range (CM range: signal socket to ground)	±60 kV	±60 kV
Input safety rating	1000 V (RMS) CAT III	not rated for CAT II/III/IV
System noise (RMS)	0.38 mV at ±0.025 V range	0.43 mV at ±0.02 V range
Attenuation error	±1.5% full scale	< 1.5%
Zero error	±0.5 mV ± 0.02 × input voltage range	–
Temperature drift	0.02%/°C of reading ±2 mV/°C (meas.)	4.5% within +4°C of self-calibration
Available tips	▶ 1.5x MMCX: 50 Ω, < –12 dB ▶ 10x MMCX: 10 MΩ, 3.7 pF ▶ 25x square tips: 10 MΩ, 3.5 pF ▶ 100x wide square tips: 10 MΩ, 3.2 pF ▶ 10x isolated browser: 10 MΩ, 11 pF ▶ 100x isolated browser: 100 MΩ, 4.6 pF	▶ 1x MMCX: 50 Ω/1 MΩ, 28 pF ▶ 10x MMCX: 10 MΩ, 2.8 pF ▶ 50x MMCX: 9.75 MΩ, 2.3 pF ▶ 100x square tips: 9.75 MΩ, 3.5 pF ▶ 500x wide square pin: 40 MΩ, 2.4 pF
Tip length	21.5 cm to 38 cm; browser 1.2 m	20.03 cm
Tip diameter	5 mm with guard ring	8.26 mm
Tip cable material	ductile, formable	elastic
Fiber length	3 m or 10 m	2 m or 10 m
ProbeMeter	•; R&S®ProbeMeter	–
Probe interface	Rohde&Schwarz propriety and SMA	only TekVPI interface
Price range	▶ 3 m version: € 9500 to € 28200 ▶ 10 m version: € 13000 to € 31700	€ 12000 to € 33400 (€ 17400 to € 38300)

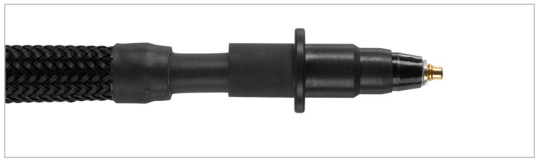
Thermal drift stability

Isolated probes are typically used in high power environments where thermal variation in the DUT can affect probe performance. Most probes require constant calibration and alignment to improve stability. Tektronix IsoVu has additional frequency response corrections that can drift with the temperature. The R&S®RT-ZISO has stable thermal performance and prevents waveforms from drifting over time. The system also includes a powerful frontend chip in the probe head to maintain pristine performance for accurate measurements.



Safe attach for flexible setups

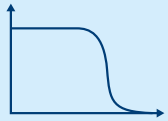
Probe tips can be swapped out without a wrench. The setup is completely covered in plastic with no expose metal. The CAT III 1000 V safety input rating means the guard ring for the area is safe to touch. Tektronix IsoVu requires a wrench to secure the probe tip and only has CAT I and II safety ratings.



Minimize mechanical stress on connector

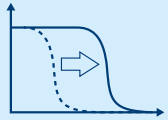
R&S®RT-ZISO ductile and formable tips reduce the weight of the cable places on the DUT. The tripod probe stand provides stable placement without using the cable angle for stability. Tektronix solution uses a bi-pod stand and can be combined with a rigid elastic cable that can stress connectors. When dealing with a surface mount connector, the mechanical stress on the heated component could damage the setup.

The R&S®RT-ZISO versus the Tektronix IsoVu TIVP



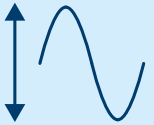
Bandwidth

More
Bandwidth models
(100 MHz to 1 GHz)



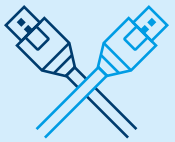
Bandwidth

Upgradeable
Bandwidth option

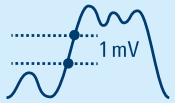


Input range

20 %
Higher input range



Connectivity
Rohde & Schwarz probe interface and BNC connection



Sensitivity

2 ×
Better input sensitivity

Safety

Safety
CAT III 1000 V