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# R&S®RT-ZHD HIGH VOLTAGE DIFF. PROBE FAMILY
## versus LeCroy HVD3220

### The R&S®RT-ZHD family outperforms the LeCroy HVD3220 probe with low noise and exceptionally high linearity for precise high voltage measurements

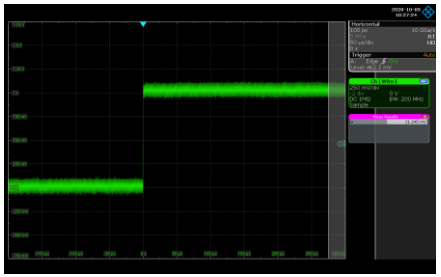
Switching loss has to be minimized for maximum power efficiency and power density in switched-mode power supplies, which requires modern, fast-switching semiconductors. The R&S®RT-ZHD high voltage differential probes offer a bandwidth of up to 200 MHz and an excellent common mode rejection ratio (CMRR) over a broad frequency range, making them ideal for measurements on fast-switching power electronics. Extremely low added noise helps generate high-quality measurements.

| Your benefit | Features |
|---|---|
| 2000 V offset capability with maximum vertical sensitivity | Thanks to their integrated offset circuits, R&S®RT-ZHD probes offer an offset voltage range independent of oscilloscope vertical settings and probe attenuation factors. The smallest ripple voltages can be measured on large DC link voltages without compromising sensitivity. |
| Excellent functions | Automatic range adjustment, overrange signaling, integrated DC voltmeter |
| Accurate results | Accurate, low inherent noise, high bandwidth and slew rate, high linearity, very low drift, high CMRR |

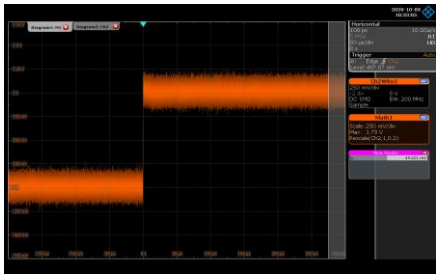
| Parameter | R&S®RT-ZHD07 | R&S®RT-ZHD15 | R&S®RT-ZHD16 | R&S®RT-ZHD60 | LeCroy HVD3220 |
|---|---|---|---|---|---|
| **Specifications** | | | | | |
| Input voltage | 750 V | 1500 V | | 6000 V | 200 V, 400 V, 1000 V, 2000 V (depending on attenuation setting) |
| Bandwidth | 200 MHz | 100 MHz | 200 MHz | 100 MHz | 300 MHz to 400 MHz (bandwidth limits input voltage) |
| Interface | Rohde & Schwarz probe interface | | | | ProBus |
| Input to ground | 300 V CAT III | 1000 V CAT III | | | 1000 V CAT III |
| Attenuation | 25:1<br>250:1 | 50:1<br>500:1 | | 100:1<br>1000:1 | 50:1, 100:1<br>250:1, 500:1 |
| Noise (mV (RMS)) | 12 mV | 20 mV | 25 mV | 70 mV | 180 mV (50:1, 100:1)<br>280 mV (250:1)<br>300 mV (500:1) |
| DC accuracy | 0.5 % | | | | 0.7 % |
| Drift | very low | | | | - |
| **Common mode rejection ratio (CMRR)** | | | | | |
| DC to 60 Hz | > 80 dB (meas.) | | | | > 80 dB |
| to 1 MHz | 60 dB (meas.) | | | | 60 dB |
| to 5 MHz | 55 dB (meas.) | | | | 50 dB |
| to 100 MHz | 30 dB (meas.) | | | | 32 dB |
| **Additional functions** | | | | | |
| Additional offset compensation | ±1000 V | ±2000 V | | | - |
| DC voltmeter | integrated | | | | - |
| R&S®ProbeMeter measurement error | < 0.1 % | | | < 0.12 % | - |

For more information, visit
www.rohde-schwarz.com/product/high-voltage-probes

## Noise performance

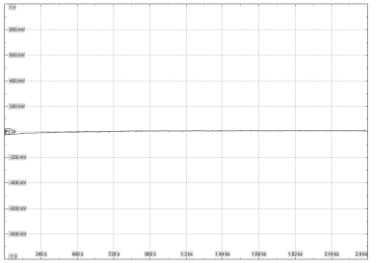


The R&S®RT-ZHD features a low-noise design. Extraordinarily low added noise results in high-quality measurements.

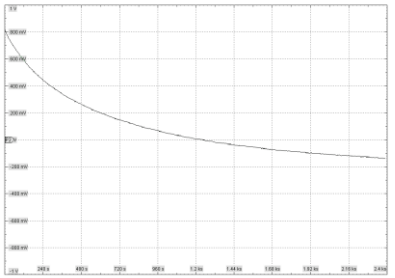


The LeCroy HVD3220 probe has up to 12 times more noise than the R&S®RT-ZHD. High noise reduces the accuracy of measurements and makes it difficult to see small details and trigger on them.

## Zero error comparison



R&S®RT-ZHD probes stand out with small zero error, which ensures minimal variation in measurements and increases confidence in your results.

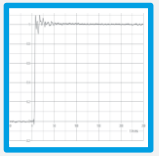


The LeCroy HVD3220 exhibits very low linearity and high zero error. This means a very high susceptibility to errors, the degree of which increases dramatically with time.

## Advantages of the R&S®RT-ZHD over the LeCroy HVD3220

**High measurement accuracy**

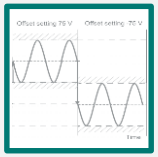

Minimal noise



Very high linearity and very small zero error


Very high temperature stability

**Versatile range of applications**

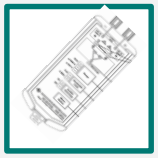


Very high DC offset range
(e.g. ±2000 V with 25 mV/div)


Precise voltage measurements
(0.1 % with R&S®ProbeMeter)

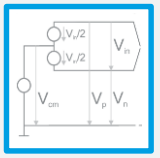

Measurements under CAT III conditions

**Easy operation**



Control the oscilloscope via the probe

DC common mode voltage always readable
(R&S®ProbeMeter)




Automatic divider setting and overvoltage display

Best in class

Unique feature

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