

## Probes Suit 48-V GaN-Based Power Conversion Measurements

[Teledyne LeCroy's](#) DL-HCM 60-V common-mode differential probes are well suited for 48-V GaN power conversion measurements. Available in 500-MHz and 1-GHz bandwidth, they feature 60 V of common-mode and 80 V of differential-input range (see the figure). The 60 V of common mode is well suited for handling any float of the battery and bulk/absorption voltage during charging, while the 80-V differential input range provides margin for any overshoot. Key applications for the probes include 48-V motors and drives, high-power dc-dc converters, GaN-based PDNs, ac-dc switch-mode power supplies, wireless charging systems and gate-drive measurements.

The DL-HCM probes are calibrated for high-precision measurements to within 0.5% at dc and 0.1-dB flatness from dc to 100 MHz. This ensures high accuracy top and base voltage level measurement of pulse-width modulated signals. The precision gain calibration capability furthers measurement precision by improving the gain accuracy and removing small offset drifts from the measurement configuration.

The common mode rejection ratio (CMRR) is exceptional to very high frequencies. This provides for the best measurement performance when measuring very fast slew rate (high dV/dt) PWM signals typical of GaN devices and systems. Exceptional CMRR, combined with low probe noise and high offset capability, makes the probes capable of measuring very small control signals floating on high common-mode voltages.

The 60-V common-mode differential probes provide both high performance and flexibility for connecting to any device under test. An optional accessory kit and high-temperature solder-in tip are available for further connectivity options.

Part numbers and U.S. list prices are shown in the table. For more information, see the product [page](#) or [datasheet](#) or contact the company's in-house applications engineers at [support@teledynelecroy.com](mailto:support@teledynelecroy.com) or 800-553-2769, option 3.



*Figure. 60 V of common mode and 80 V of differential input range with up to 1-GHz bandwidth make the DL-HCM probe series well suited for lower-voltage GaN power conversion measurements. They feature 0.5% dc gain accuracy for high-precision measurements, 0.1-dB flatness from dc to 100 MHz, exceptional CMRR out to very high frequencies, 50 dB at 100 MHz, a wide variety of tips that come standard, and an optional accessory kit.*

Table. Pricing for the DL-HCM probes.

Part numbers and U.S. list prices are shown.

Part Number	Description	List Price (USD)
DL05-HCM	500 MHz 60V Common Mode Differential Probe. Includes standard set of leads and tips.	\$4,750
DL10-HCM	1 GHz 60V Common Mode Differential Probe. Includes standard set of leads and tips.	\$5,500
DL-HCM-Acc-Kit	DL-HCM series accessories kit with probe holder, micro IC grabbers (Qty 2.), and Y-banana adaptor.	\$425
DL-HCM-HiTemp	DL-HCM series high-temperature solder-in tip, 30 MHz bandwidth, 1 meter length.	\$125