

# HIGH VOLTAGE DIFFERENTIAL PROBES

## DP60 SERIES



### FEATURES

The DP60 series probes offer new and innovative technologies that allow a significant increase in performance over conventional HV differential probes. This and other proprietary technologies improve the performance of our probes by a factor of ten times compared to others when used with high, common mode slew rate input signals. These probes offer high accuracy along with very low offset voltage. A specially designed instrumentation power supply is being used to increase the stability and minimize noise levels. LVC models offer higher accuracy due to use of low voltage and temperature coefficient internal components. All probes have a 50  $\Omega$  output impedance for properly driving long coaxial cables. This makes them useful for testing in off-limits work areas which are outside of the main laboratory.

### HIGHLIGHTS & FEATURES

- Low Input Capacitance
- 75 MHz Bandwidth
- Up To 40 kV RMS, 60 kV Peak
- Two Standard and Two Precision Models with up to 0.5% DC Accuracy
- Excellent Performance when Measuring High CM Slew Rate Signals
- Digital Offset Adjustment
- Low Noise

### APPLICATIONS

Our probes excel in power conversion system testing. Their low input capacitance reduces circuit loading at high frequencies. The DP60 series has a high resonant input frequency, greater than 150MHz, making them prime candidates for applications requiring good accuracy at high frequencies. A proprietary input stage prevents undesirable HF oscillations that are often found in other probes when making extremely high slew rate measurements. DP60 probes can be used in automotive industry, especially for R&D on electrical and hybrid vehicles. Other applications include megawatt traction inverters, power supply design, power generation, UPS's, electro-magnetic systems, high energy research, fusion research and surge testing.

The DP60 can be mounted inside systems allowing users to replace lower performance voltage measuring modules. Other possible uses are for close monitoring of in-system power switching devices for failure prevention in ultra-reliable equipment. Custom versions are available on request.

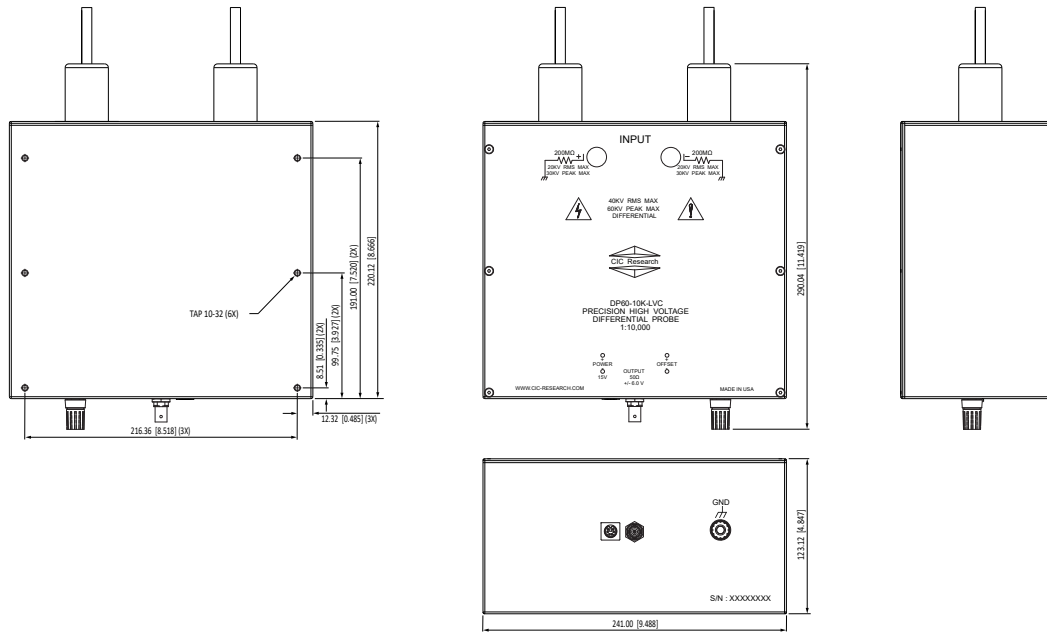
### GENERAL SPECIFICATIONS AND CHARACTERISTICS

INPUT	DP60-10K	DP60-10K-LVC
Input Voltage CM RMS Max	20 kV	
Input Voltage CM Peak Max	30 kV	
Input Voltage CM Peak Max*	30 kV	
Input Voltage DM RMS Max	40 kV	
Input Voltage DM Peak	60 kV	
Input Voltage DM Peak Max*	60 kV	
Bandwidth	70 MHz	
Division Ratio	1:10,000	
Input impedance	200 M $\Omega$    2 pF each input to GND	
OUTPUT		
Output Voltage DC, RMS	$\pm 6.00$ V	
Output Voltage Peak	$\pm 7.00$ V	
Output Impedance	50 $\Omega$ (50 $\Omega$ termination is required)	
Rise Time	<4.7 ns	
Offset	$\pm 580$ $\mu$ V digitally adjustable ( $\sim 36$ $\mu$ V/step) using the up (+) and down (-) momentary offset switches	
Accuracy	1.0%	0.1%
Noise	70 $\mu$ Vrms	
Common Mode Rejection		
100Hz	-120 dB	-130 dB
100KHz	-100 dB	-110 dB
10MHz	-90 dB	-100 dB
MECHANICAL		
Case Cover	Aluminum	
Dimensions (L x W x D)	8.666" X 9.488" X 4.847" (220.12 mm X 241.00 mm X 123.12 mm)	
Unit Weight	14.33 lb (6.50 kg)	
Cooling System	Convection	
Input Connector	4 mm safety plugs	
Output Connector	50 $\Omega$ BNC	
Power	$\pm 15.20$ V @ 150 mA	
ENVIRONMENT		
Operating Temperature	-40° C to +85° C	
Storage Temperature	-55° C to +100° C	

#### Notes

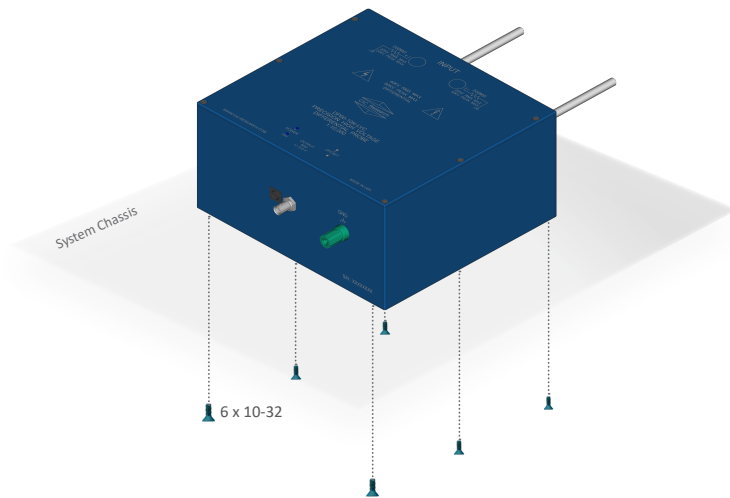
- 1) At 25°C ambient temperature horizontal mounting orientation.
- 2) All parameters are typical specified at 25°C ambient temperature unless otherwise indicated.
- 3) Information and specifications contained within this publication may change without notice.
- 4) Non-Measurable. Peak voltages can be applied for <5 s.
- 5) CM stands for Common Mode and DM for Differential Mode.

## MECHANICAL DRAWINGS



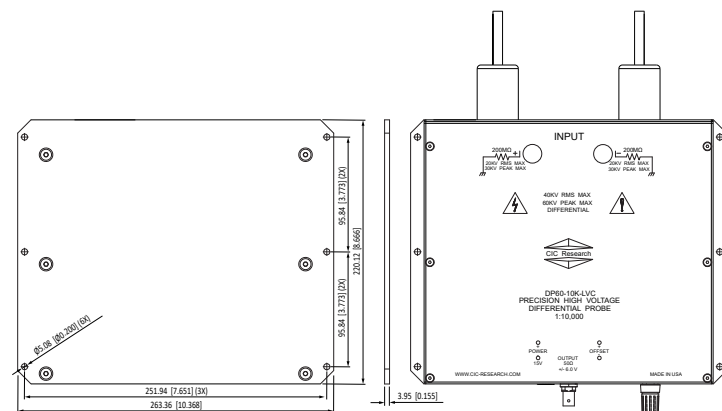
## SYSTEM MOUNTING

### DIRECT MOUNTING

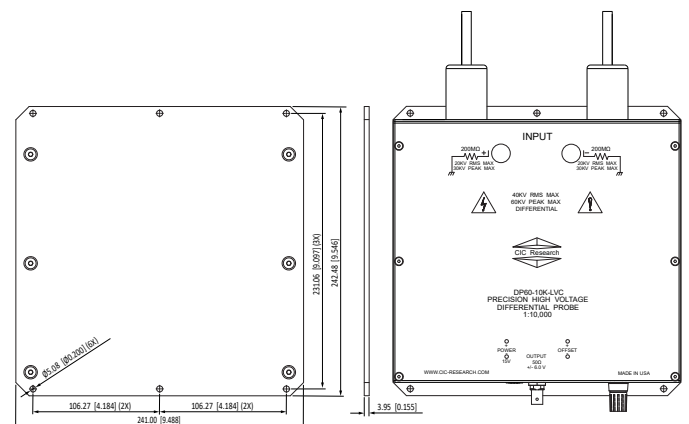


DP60 series probes can be mounted directly on a base plate or enclosure walls with 6 x 10-32 screws.

### MOUNTING FLANGE TYPE A



### MOUNTING FLANGE TYPE B



Note: Units are - mm [in]