

HIGH VOLTAGE DIFFERENTIAL PROBES

DP3 SERIES



HIGHLIGHTS & FEATURES

- Low Input Capacitance
- 75 MHz Bandwidth
- Up To 8.4 kV RMS, 12 kV Peak
- Two Standard and Two Precision Models with up to 0.1% DC Accuracy
- Excellent Performance when Measuring High CM Slew Rate Signals
- Digital Offset Adjustment
- 6V DC in 50 Ω Output Capability

APPLICATIONS

Our probes excel in power conversion system testing. Their low input capacitance reduces circuit loading at high frequencies. The DP3 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. DP3 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 DP3 can be mounted inside systems allowing users to replace lower performance voltage measuring modules. Other possible uses are for monitoring of in-system power switching devices for failure prevention in ultra-reliable equipment. Custom versions are available on request.

FEATURES

The DP3 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 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 Ω 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.

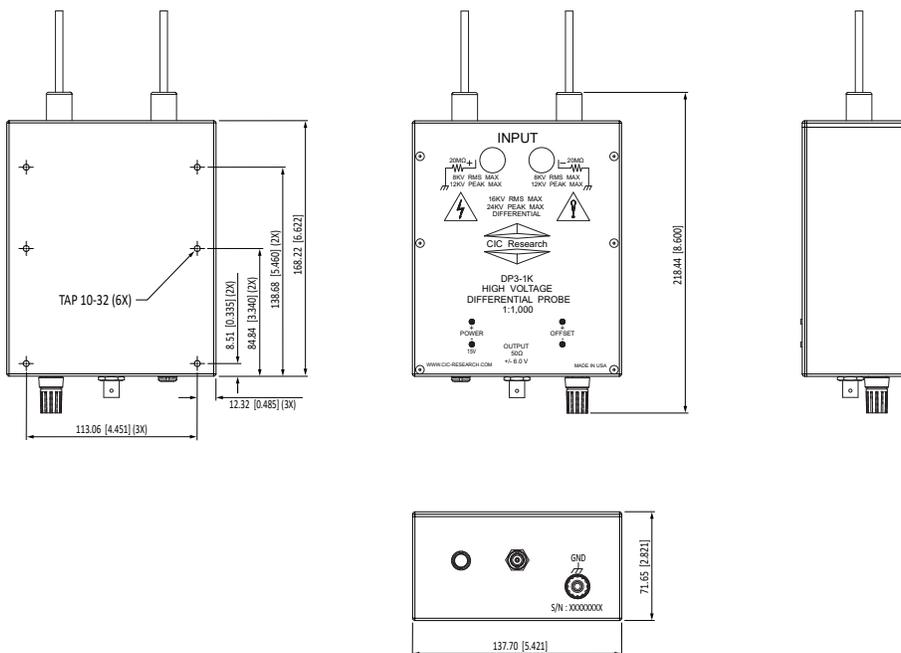
GENERAL SPECIFICATIONS AND CHARACTERISTICS

INPUT	DP3-1K	DP3-1K-LVC	DP3-2K	DP3-2K-LVC
Input Voltage CM RMS Max	4.2 kV		8.4 kV	
Input Voltage CM Peak Max	6 kV		12 kV	
Input Voltage CM Peak Max*	12.5 kV		12.5 kV	
Input Voltage DM RMS Max	4.2 kV		8.4 kV	
Input Voltage DM Peak	6 kV (Measurable)		12 kV (Measurable)	
Input Voltage DM Peak Max*	25 kV		25 kV	
Bandwidth	75 MHz		75 MHz	
Division Ratio	1:1,000		1:2,000	
Input impedance	20 MΩ 2 pF each input to GND	50 MΩ 2 pF each input to GND	20 MΩ 2 pF each input to GND	50 MΩ 2 pF each input to GND
OUTPUT				
Output Voltage DC, RMS	±6.0 V			
Output Voltage Peak	±7.0 V			
Output Impedance	50 Ω (50 Ω termination is required)			
Rise Time	<4.7 ns			
Offset	±600 μV digitally adjustable (~19 μV/step) using the up (+) and down (-) momentary offset switches			
Accuracy	0.5%	0.1%	0.5%	0.1%
Noise	70 μVrms			
Common Mode Rejection				
100Hz	-120 dB	-130 dB	-120 dB	-130 dB
100KHz	-100 dB	-110 dB	-100 dB	-110 dB
10MHz	-90 dB	-100 dB	-90 dB	-100 dB
MECHANICAL				
Case Cover	Aluminum			
Dimensions (L x W x D)	6.622" X 5.421" X 2.821" (168.22 mm X 137.70 mm X 71.65 mm)			
Unit Weight	4.23 lb (1.92 kg)			
Cooling System	Convection			
Input Connector	4 mm safety plugs			
Output Connector	50Ω BNC			
Power	±15.20 V @ 150 mA			
ENVIRONMENT				
Operating Temperature	-40° C to +85° C			
Storage Temperature	-55° C to +100° C			

Notes

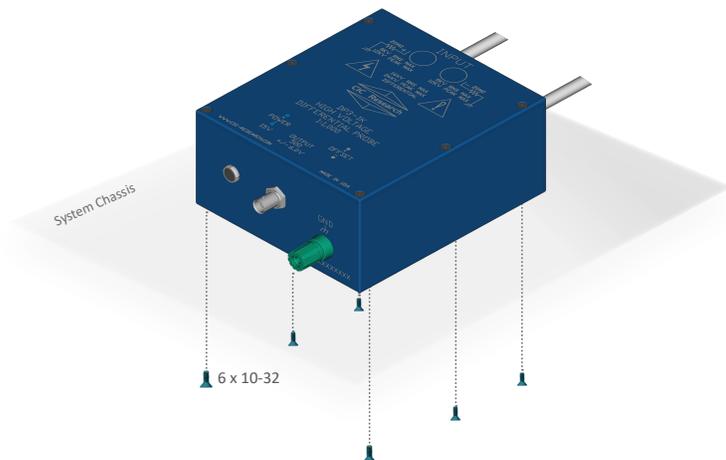
- 1) At 25°C ambient temperature horizontal mounting orientation.
- 2) All parameters are typical specified at 25°C ambient temperature unless otherwise indicated.
- 3) Information and specifications contained within this publication may change without notice.
- 4) Non-Measurable. Peak voltages can be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

MECHANICAL DRAWINGS



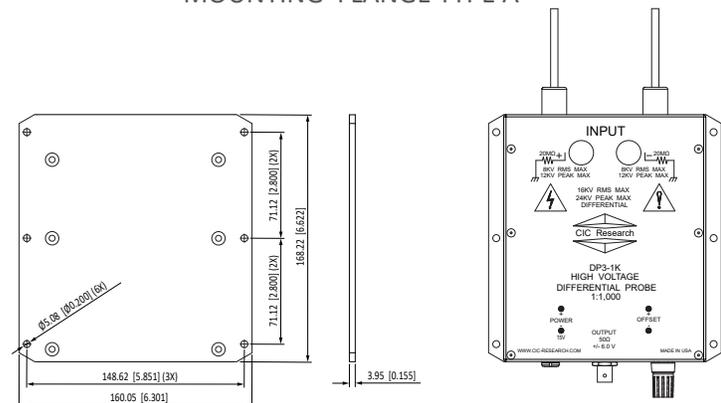
SYSTEM MOUNTING

DIRECT MOUNTING

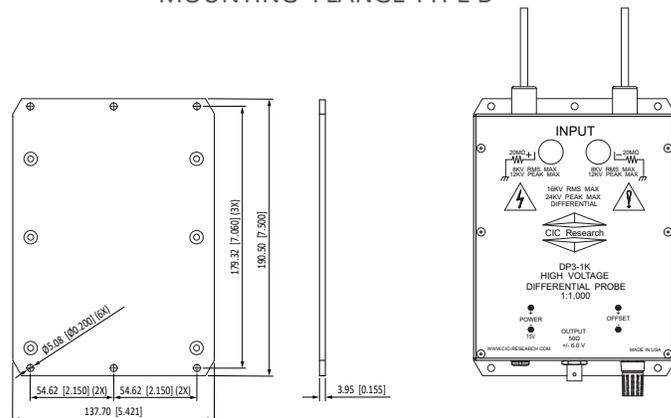


DP3 series probes can be mounted directly on a base plate or enclosure walls with 6 x 10-32 screws.

MOUNTING FLANGE TYPE A



MOUNTING FLANGE TYPE B



Note: Units are - mm [in]