

HIGH-VOLTAGE DIFFERENTIAL PROBES

DP120 SERIES



FEATURES

The DP120 series probes deliver high-accuracy performance that exceeds that of conventional high-voltage differential probes. They offer low offset voltage, low temperature drift, and stable operation in demanding test environments.

The high-performance power supply improves stability and reduces probe output noise. LVC models offer higher accuracy by using low-voltage, low-temperature-coefficient internal components. All probe models feature a 50 Ω output impedance, enabling reliable driving of long coaxial cables and making them well-suited for remote or restricted test environments outside the central laboratory.

HIGHLIGHTS & FEATURES

- Low Input Capacitance
- 75 MHz Bandwidth
- Up To 100 kV RMS, 120 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
- Low Noise

APPLICATIONS

The DP120 series probes can be used for HV power supply design, power generation, UPSs, electromagnetic systems, high-energy research, fusion research, transmission power lines, and surge testing, among other applications.

The DP120 can be mounted inside systems, allowing users to replace lower-performance voltage-measuring modules.

Custom versions are available upon request.

GENERAL SPECIFICATIONS AND CHARACTERISTICS

INPUT	DP120-10K	DP120-10K-LVC	DP120-20K	DP120-20K-LVC
Input Voltage CM RMS Max	50 kV		50 kV	
Input Voltage CM Peak Max	60 kV		60 kV	
Input Voltage CM Peak Max†	70 kV		70 kV	
Input Voltage DM RMS Max	50 kV		100 kV	
Input Voltage DM Peak	60 kV		120 kV	
Input Voltage DM Peak Max†	140 kV (non-measurable)		140 kV (non-measurable)	
Bandwidth	75 MHz		75 MHz	
Division Ratio	1:10,000		1:20,000	
Input impedance	200 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	1.0%	0.1%	1.0%	0.1%
Noise	100 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)	22.323" x 11.260" x 20.276" (567 mm x 286 mm x 515 mm)			
Unit Weight	97.0 lb (44.0 kg)			
Cooling System	Convection			
Input Connector	1/4-28 Screws to 2" (50.8 mm) Diameter Brass Spheres			
Output Connector	50Ω BNC			
Power	85-264 VAC, 10 W			
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.

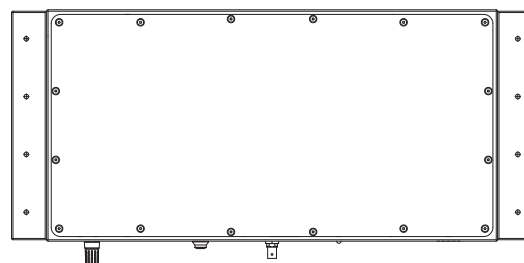
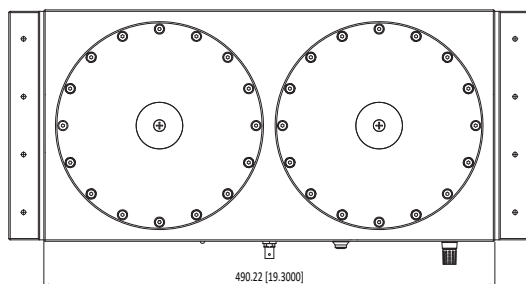
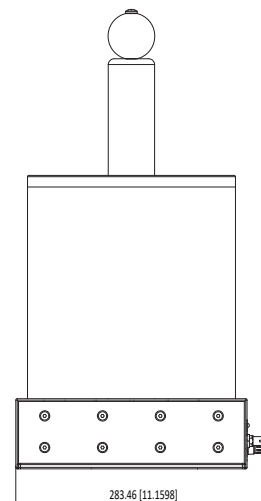
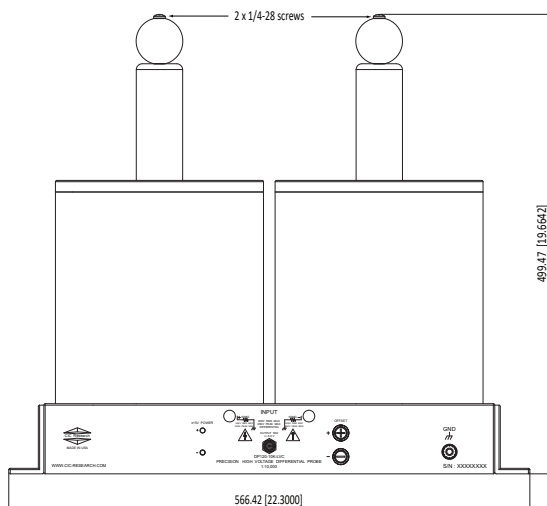
2) All parameters are typical specified at 25°C ambient temperature unless otherwise indicated.

3) Information and specifications contained within this publication may change without notice.

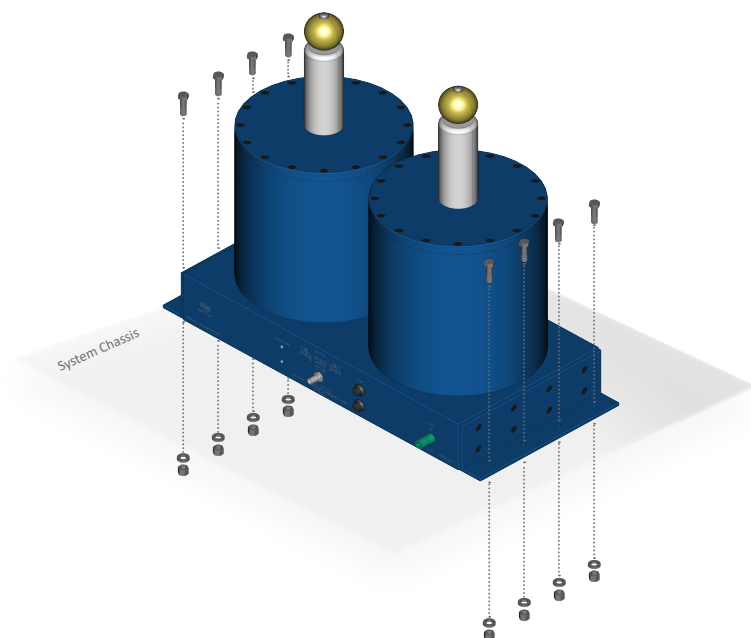
4) Non-Measurable. Peak voltages can be applied for <5 s.

5) CM stands for Common Mode and DM for Differential Mode.

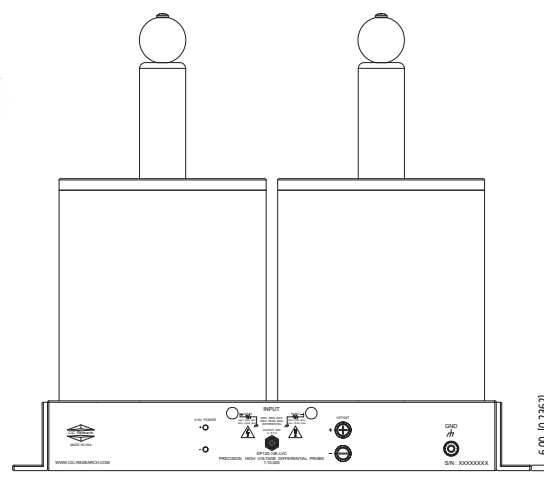
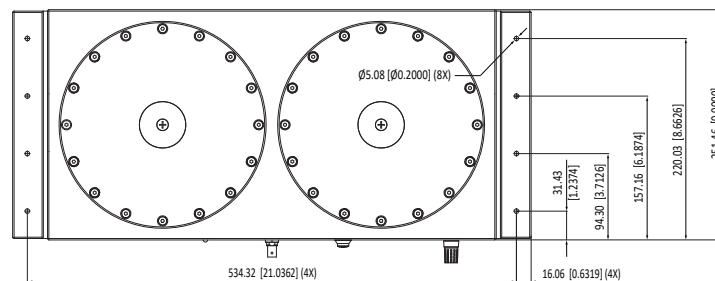
MECHANICAL DRAWINGS



SYSTEM MOUNTING



MOUNTING FLANGE



DP120 series probes can be mounted directly on a base plate or enclosure walls with 8 x #10 or M4 screws.

Note: Units are - mm [in]