

HIGH VOLTAGE DIFFERENTIAL PROBES

DP41 SERIES



FEATURES

The DP41 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 has been 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 very long length coaxial cables. This makes it ideal for off-limit test areas which are outside of the main laboratory.

HIGHLIGHTS & FEATURES

- Low Input Capacitance
- 120 MHz Bandwidth
- Up To 10 kV RMS, 15 kV Peak
- One Standard and One Precision Models with up to 0.1% DC Accuracy
- Unmatched 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 DP41 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. DP41 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 DP41 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.

GENERAL SPECIFICATIONS AND CHARACTERISTICS

INPUT	DP41-10K	DP41-10K-LVC
Input Voltage CM RMS Max	5 kV	5 kV
Input Voltage CM Peak Max	7.5 kV	7.5 kV
Input Voltage CM Peak Max*	7.5 kV	7.5 kV
Input Voltage DM RMS Max	10 kV	10 kV
Input Voltage DM DC/Peak	15 kV (Measurable)	15 kV (Measurable)
Input Voltage DM Peak Max*	15 kV	15 kV
Bandwidth	120 MHz	
Division Ratio	1:10,000	
Input impedance	75 M Ω 2 pF each input to GND	
OUTPUT		
Output Voltage DC, RMS	± 1.75 V	
Output Voltage Peak	± 2.00 V	
Output Impedance	50 Ω (50 Ω termination is required)	
Rise Time	<2.9 ns	
Offset	± 580 μ V digitally adjustable (~ 36 μ V/step) using the up (+) and down (-) momentary offset switches	
Accuracy	1%	0.1%
Noise	10 μ Vrms	
Common Mode Rejection		
100Hz	-140 dB	-150 dB
100KHz	-110 dB	-120 dB
10MHz	-100 dB	-110 dB
MECHANICAL		
Case Cover	Aluminum	
Dimensions (L x W x D)	5.125" X 3.125" X 1.675" (130 mm X 79 mm X 43 mm)	
Unit Weight	1.27 lb (575g)	
Cooling System	Convection	
Input Connector	4 mm safety plugs	
Output Connector	50 Ω BNC	
Power	± 5.20 V @ 100 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.

