

Features

- High precision
- Passive probe
- Standard BNC output connector

Advantages

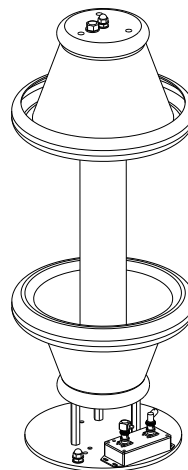
- 10000:1 divider ratio
- DC - 20MHz bandwidth
- 100kV DC / 160kV pulse
- DC, AC and Pulse compatible
- Accuracy up to $\pm 0.1\%$

Applications

- Power supply design
- Power semiconductors
- Switch mode control
- Power converters
- Lightning surge
- Voltage monitoring

Description

The HVD-100 is a type of wideband voltage divider



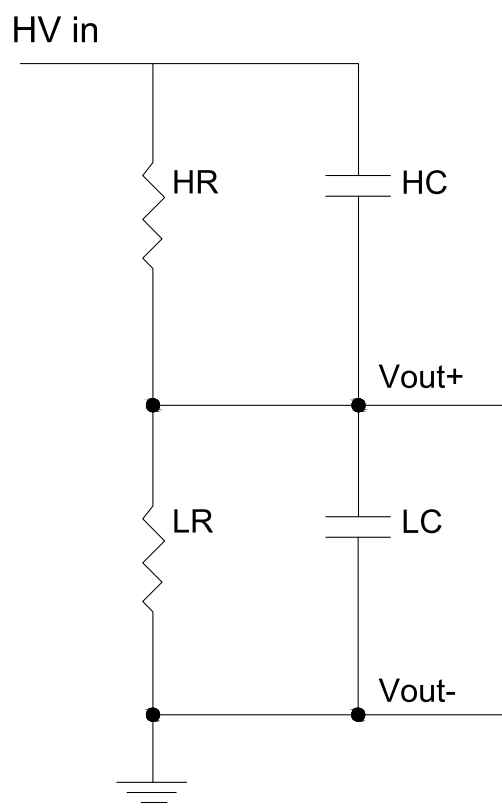
which is designed to measure single-ended high voltage. The HVD-100 can measure multiple single-ended signal such as DC, AC and pulse. The HVD-100 scaled down its input signal and outputs low voltage, which can easily be processed by universal instruments, such as oscilloscope, digital multimeters, etc. You can measure DC voltages up to 100 kV RMS and pulses up to 160 kV peak. The 20 MHz bandwidth enables you to measure fast, high-voltage signals.

Specifications

Electrical				
Parameter	Test conditions	Minimum	Typical values	Maximum
Standard Divider Ratio			10000 : 1	
Max Peak Voltage (DC,AC)			100kV	
Max Peak Voltage (Pulse)			160kV	
Accuracy (DC - 2 Hz)	@ 25°C			0.1% of range
Accuracy (2Hz - 1MHz)	@ 25°C			1% of range
Accuracy (> 1MHz)	@ 25°C			3% of range
Bandwidth (-3dB)			DC-20MHz	
Nonlinear error				0.022%
Rise time			16ns	
Input Impedance			1.6GΩ / 25pF	
Input Signal Type			single-ended	
Output Signal Type			single-ended	

Environmental and mechanical characteristics	
Operation temperature	-15°C ~ 70°C
Storage temperature	-25°C ~ 80°C
Input connector	Nut terminal
Output connector	BNC (jack)
BNC cable length	9m

Block Diagram



HVD-100 block diagram

The HVD-100 consists of a high voltage network represented by a parallel capacitor and resistor, and a low voltage network which consists of a parallel RC network. The input high voltage will be attenuated by 10000 times, and output low voltage which can be processed by instruments.

Testing Setup

1. Connect the output voltage to the instrument, e.g. oscilloscope or digital multimeter, the ground must be well grounded.
2. Connect the measurement voltage to the input, make sure the tested voltage is off before connecting.
3. Turn the tested voltage on.

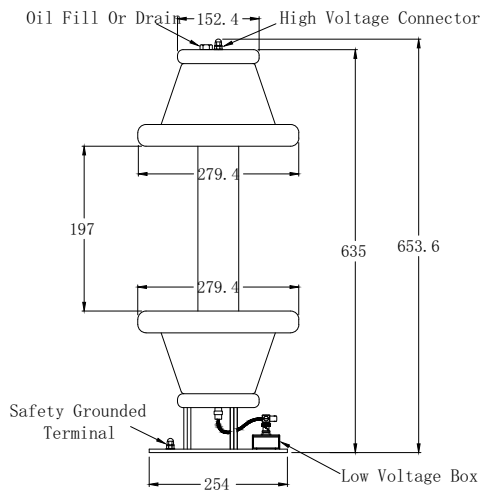
Disassemble

Ensure that the tested voltage source is turned off, then remove the tested voltage wire. Finally, remove the output and grounding wires.

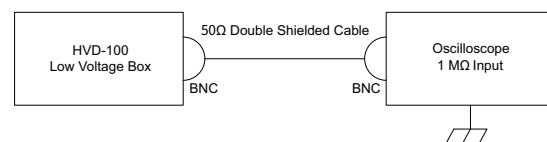
Remark:

1. The oscilloscope should be grounded to safety ground. A $1.111\text{ M}\Omega$ resistance can parallel with digital multimeter ($10\text{ M}\Omega$ input) to produce a $1\text{ M}\Omega$ input impedance.
2. In general, the HVD-100 has a derating characteristic when measuring high frequency AC signal, due to heating in AC dielectric loss and capacitive ESR.
3. The input pulse should not be too high in frequency and too long in duration, when the amplitude of pulse is up to max peak voltage.
4. When DC voltage applied, HVD-100 should not have a derating phenomenon.
5. HVD-100 is immersed in the oil. If you discover oil leakage, please make sure not to use HVD-100.

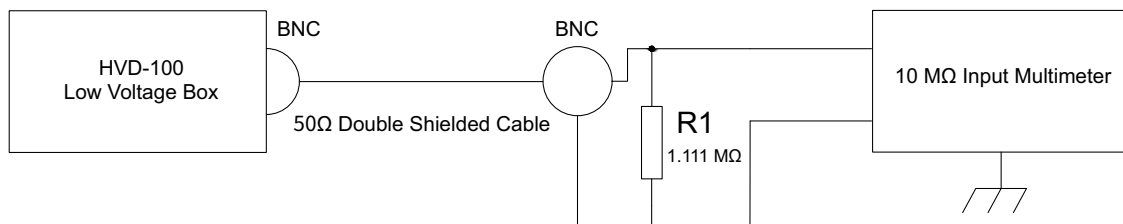
Dimensions (in mm)



HVD-100 Driving Oscilloscope



HVD-100 Driving Meter



Ordering Code

E.g. **HVD-100**

If you have queries regarding the HVD-100 or require specifications outside standard ranges, please do not hesitate to contact us.

CAUTION

Do not connect or disconnect sensor or test leads in operation.

To avoid fire or shock hazard, observe all ratings and markings on the product carefully.

If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do not touch exposed connections and components in operation.

Do not operate in wet/damp conditions.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry.

Warning

The service instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety contents prior to performing service.