

VibraPower™

Type 5110

Multimeter Compatible Coupler

When used with a voltage mode piezoelectric accelerometer, the 5110 coupler transforms a common digital multimeter into a hand held relative vibration measurement system.

- Makes a multimeter into a sensor readout device
- Interfaces with Piezotron™ or voltage mode piezoelectric sensors
- Provides constant current excitation from 9V battery
- Low battery indicator
- Economically priced
- Conforming to CE

Description

Turn a digital multimeter into a hand-held relative vibration measurement system or verify sensor and cable integrity with this portable, low cost, battery-operated coupler. The 5110 provides a simple approach to making sensor measurements directly, using the functions found on today's digital multimeters or scope meters (i.e., AC RMS, frequency, DC bias, peak hold, PC interface, etc.). The VibraPower coupler supplies constant current excitation for low impedance, voltage mode piezoelectric sensors. Direct plug-in to most common multimeters is provided by banana type connectors on the back of the case. An AC coupled BNC type output connection is also provided on the side panel for interface to other measurement devices. The coupler, a multimeter/scope-meter, and a voltage mode piezoelectric sensor provide a hand-held system ideally suited for roving vibration monitoring in a machinery maintenance environment.

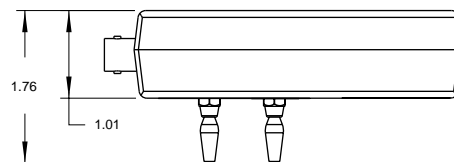
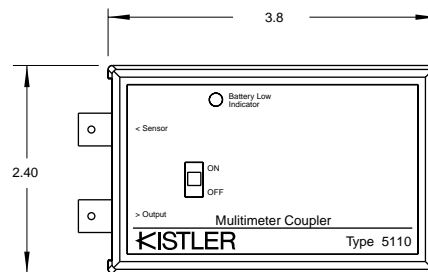
The coupler extends the measurement capability of the multimeter, while it's small size retains the convenience of hand-held operation.

Application

The primary use for the 5110 is to transform an ordinary digital voltmeter into a simple vibration measuring tool. Low unit cost, makes it ideal as an addition to your tool box for troubleshooting sensors, cable or vibration problems in an industrial environment.



Typical system shown; digital multimeter, connecting cable and accelerometer are not supplied



000-329a-05.03 (K12.5110)

Technical Data

Type	Units	5110
Sensor Input		
Excitation Current ($\pm 10\%$)	mA	2
No Load Voltage	VDC	≈ 20
Sensor Output:		
Voltage swing	V _{pp}	≈ 18
Voltage gain:		
Noise	μV_{rms}	100
Output to BNC Connector:		
Impedance	Ω	<100 in series with 47 μF
Frequency Response ($\pm 5\%$)*		
10V _{pp}	Hz	0.07 ... 30k
5 V _{pp}	Hz	0.07 ... 60k
1 V _{pp}	Hz	0.07 ... 300k
Time Constant ($\pm 10\%$):	s	10
Output to Multimeter		
Frequency Response ($\pm 5\%$)*		
10 V _{pp}	Hz	DC ... 30k
5 V _{pp}	Hz	DC ... 60k
1 V _{pp}	Hz	DC ... 300k
Power:		
Internal battery 1ea., type IEC 6LR61	type	9V alkaline
Battery Life (typ., 75 °F, continuous, 2mA to sensor)	hr	≥ 45
Connectors:		
Sensor Input and Signal Output	type	BNC neg.
Multimeter	type	banana
Temperature Range Operating	°F	14 ... 130
Temperature Range Storage	°F	-4 ... 140
Weight (battery included)	g	150

1 g = 9.80665 m/s², 1 inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 Nm

Supplied Accessories

300-0092-002 9V alkaline battery

Optional Accessories

5110S1 kit includes 5110, carrying case, mounting wax and 9V battery