

Piezotron® Coupler

Type 5148

16 Channel Voltage Mode Piezoelectric Sensor Power Supply/Coupler

A simple to use, 16 channel, rack mountable signal conditioner that provides excitation power and acts as an interface between voltage mode piezoelectric sensors and measuring instruments. The coupler is powered by an external AC/DC power line adaptor.



- Provides constant current excitation for Piezotron and voltage mode piezoelectric sensors
- LEDs indicate circuit integrity
- Convenient front/rear BNC connectors
- Standard rack mountable
- Low cost per channel operation
- Conforming to CE

Description

Model 5148 is an economical 16-channel power supply/coupler that provides constant current excitation for, Piezotron, PiezoBeam®, K-Shear®, Ceramic Shear and other similar piezoelectric voltage mode sensors. The coupler can also power external impedance converters and fixed gain in-line charge converters in a high impedance measurement system. Each channel features an individual LED for monitoring circuit integrity. The front panel includes conveniently mounted BNC output connectors, while the rear panel includes both input and output BNC connectors. The 16-channel coupler is DC operated from sources between 8 and 20 volts DC. Power may be supplied by an external AC-DC adaptor, power supply, vehicle source or battery, allowing operation of the coupler in diverse power situations.

Application

The primary use for the 5148 is to provide economical excitation power and signal coupling low impedance, voltage mode piezoelectric pressure, force and acceleration sensors. Its low profile, relatively light weight construction provides excellent portability for a measurement system both in the laboratory or in the field.

Technical Data

Type	Unit	5148	
Channels		16	
Display: LED (red)		open/short	
Sensor Excitation			
Voltage	VDC	24	
Constant Current	mA	2	
Fixed Gain		1	
Accuracy	%	±1	
Non-Linearity	%	±1	
Frequency Response, ±5%	Hz	0.05 ... 50000	
Time Constant, ±11%	sec	10	
Noise	µVrms	<100	
Channel Isolation, min	dB	74	
Output			
Voltage	V	±10	
Current	mA	5	
Power Required (see accessories) at max. 6.2 Watts	VDC	8 ... 20	
Environmental			
Operating Temperature Range	°F	32 ... 150	
Relative Humidity	%	<85	
Physical			
Connectors	type	16 x BNC neg.	
Size	W	in	19
	H	in	1.8
	D	in	8.7
Weight	lbs	5.5	

1 g = 9.80665 m/s², 1 Inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.113 Nm

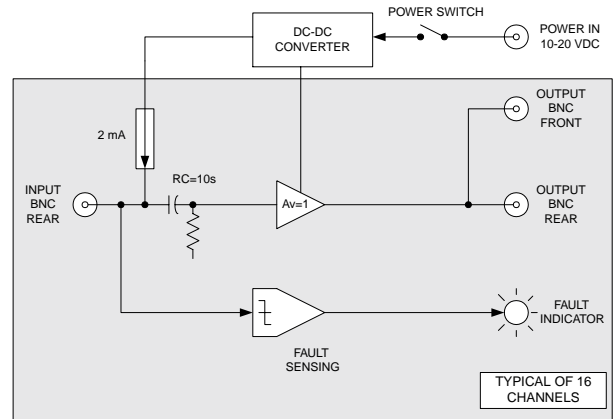
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Mounting

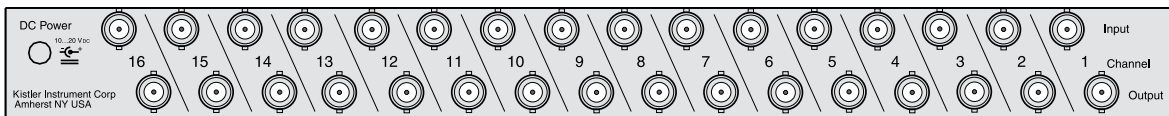
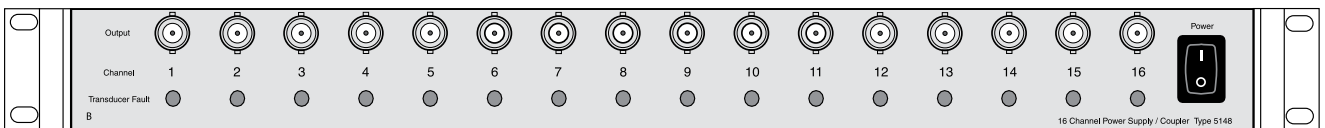
The 5148 is a 16 channel piezoelectric sensor power supply and coupler housed in a standard rack mountable case. It can be used on a laboratory bench top or permanently mounted in a standard 19 inch instrument rack using the supplied mounting brackets.

Accessories Included

	Type
• Power adaptor (115V, 60Hz)	5754
• Power adaptor (230V, 50Hz) (5148...E only)	5764
• Rubber feet (4) with adhesive backing	401-2015-004
• Rack mounting brackets (set of 2)	400-3108-005
• DC power cable with pigtails	704-2068-001



Front Panel



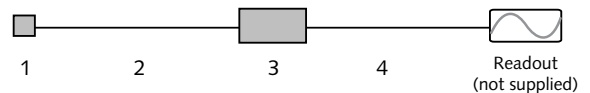
Rückansicht
Rear Panel

Ordering Key

Power		5148 <input type="checkbox"/>
AC Power 115V	-	
AC Power 230V	E	

Measuring Chain

	Type
1 Low impedance sensor	87...
2 Sensor cable, 10-32 pos. to BNC pos.	1761B...
3 Power supply/Signal conditioner	5148
4 Outout cable, BNC pos. to BNC pos.	1511



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