

MC102A ICCP Power Supply

Features:

- Provides power for microphones, accelerometers and other ICCP transducers
- 2 channel input/output with BNC connector
- LED indicators show the status of each input channel
- 4 mA/24 V ICCP power supply
- 7 V~30 V wide voltage DC power supply



Applications:

- Power for microphones, accelerometers and other ICCP compatible transducers

Introduction

MC102A power supply can provide power for prepolarized microphones, accelerometers and other ICCP (Integrated Constant Current Power) compatible transducers. It has two channels input/output with BNC connector, and wide voltage power supply supports the use of various DC power supplies.

ICCP is a well-established standard which is widely used in the acoustic and vibration field to convert the high impedance signal of measurement microphones and piezoelectric transducers to a low impedance voltage output signal. The abbreviation ICCP stands for "Integrated Constant Current Power" and has many manufacturer specific names such as ICP® (Integrated Circuit Piezoelectric), CCLD (Constant Current Line Drive), DeltaTron®, ISOTRON® and IEPE (Integrate Electronics Piezoelectric). MC102A is compatible with microphones and transducers using any of the above proprietary names.

MC102A has an all-aluminum housing, which can effectively shield the internal signal. The LED indicators display the power supply status and the input status of each channel (input open (sensor not connected), OK (sensor connected), and input shorted). Each channel has a 35Vp input and output protection circuit, which can protect sensors and data acquisition equipment.

®TRADEMARK

ICP is a registered trademark of PCB Piezotronics, Inc., DeltaTron is a registered trademark of Hottinger Brüel & Kjær A/S, ISOTRON is a registered trademark of ENDEVCO. This document only describes the technical principles involved and inevitably mentions the registered trademarks of other manufacturers, which is not intended and will not harm the interests of trademark owners. The registered trademarks mentioned above belong to their respective owners.

Specifications

Input Channel	2 x BNC
Output Channel	2 x BNC
Constant Current Source	4 mA (3.5 mA~5 mA), 24V (±1 V)
Maximum Input Voltage ¹	±10 Vp
Maximum Output Voltage ¹	±10 Vp
Input / Output Protection Voltage	35 Vp
Output Impedance ²	As source in serial with 10 µF and parallel 100 kΩ
Frequency Response ¹	4 Hz ~ 100 kHz (±0.2 dB), 0.4 Hz ~ 200 kHz (±3 dB)

Output Noise	A-weighted	<3 μ V (2.5 μ V typ.)
	Linear	<5 μ V (3.8 μ V typ.)
Crosstalk		-120 dB (linear, ICCP powered enabled)
Input Status Indicator		Bi-color LED: off=input open, yellow=OK, red=input shorted, Cable Fault Voltage threshold: 2 V and 22 V.
Power Supply		7 V~30 V DC power supply, \geq 200 mA
Operating Temperature Range		- 10 °C ~ 50 °C
Operating Humidity Range		0 %RH ~ 95 %RH (no condensation)
Dimensions (mm)		W82 x H44 x D142
Weight		262 g

Note 1: Depend on the performance and frequency response of preamplifier.

Note 2: Source output impedance refers to the output impedance of the device connected to the input of the power supply / conditioner, which is generally the output impedance of the preamplifier.

Front and Rear Panels

