PA 101C and PA 101C/HV

Charge Sensitive Preamplifiers

Main Features

- Small dimensions and weight
- Low noise
- Low consumption power
- Input circuit protection
- Bias filtering


CZT/500 and CZT/1500
with preamplifiers Model 101

Main Applications

- Gamma ray spectrometers
- Portable instrumentation
- Room temperature semiconductor detectors

TEN YEARS IN THE FIELD OF ROOM TEMPERATURE SEMICONDUCTOR DETECTORS

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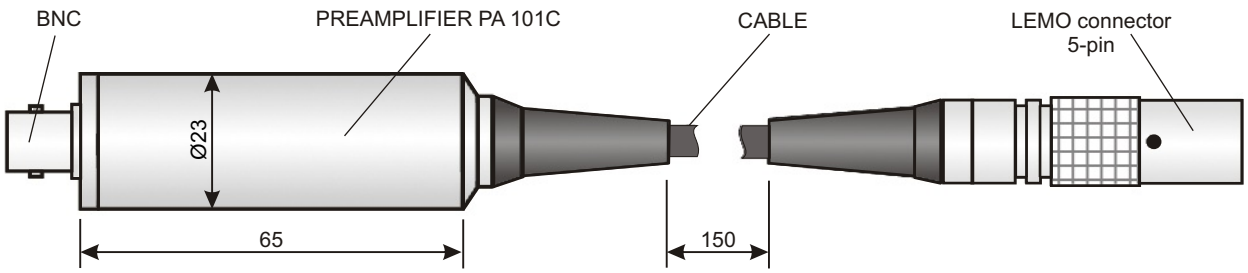
NUCLEAR RADIATION
SEMICONDUCTOR DETECTORS
AND ASSOCIATED ELECTRONICS

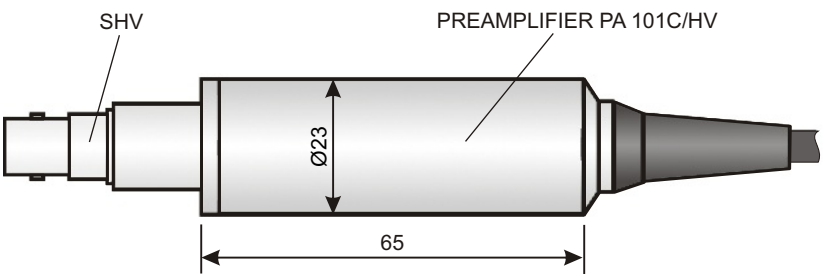
Charge Sensitive Preamplifiers PA 101C and PA101C/HV

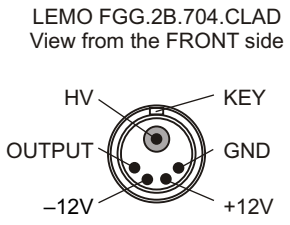
Preamplifier Model PA101C and PA 101C/HV is a miniature, low noise, charge-sensitive preamplifier for gamma spectroscopy with room-temperature-operated semiconductor detectors (CdTe, CdZnTe, HgI_2). These preamplifiers can be used with Large Volume CdZnTe Detectors CZT/500(S) and CZT/1500. The preamplifier scheme includes bias filtering and input circuit protection.

Specifications

Basic	
• noise, based on CdTe equivalent at 1 μs shaping time and operation temperature +22 °C	
with input capacitance 0 pF	≤ 3 keV
with input capacitance 10 pF	≤ 4 keV
• charge sensitivity, based on CdTe equivalent	≥ 40 mV / MeV
• integral nonlinearity (60 keV ... 1.33 MeV)	≤ 0.1%
• gain stability (0 ... +50 °C)	± 0.025 % / °C
• rise time	
with input capacitance 0 pF	≤ 100 ns
with input capacitance 10 pF	≤ 150 ns
• output swing range	± 1 V
• cable driving capability	up to 20 m
• output impedance	50 Ω
• detector bias isolation	
for PA 101C	± 1500 V
for PA 101C/HV	± 3000 V
• bias filtering	yes
• input circuit protection	yes
• power requirement	+12 V, 18 mA; –12 V, 12 mA
Connectors	
• input	
for PA 101C	BNC
for PA 101C/HV	SHV
• output	5-pin LEMO (male)
Dimensions	
• diameter	23 mm
• length (without connectors)	65 mm
• connecting cable length	20 cm







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