LUDLUM MODEL 297
SIGNAL SPLITTER

June 2025

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LUDLUM MEASUREMENTS, INC
501 OAK STREET, P.O. BOX 810
SWEETWATER, TEXAS 79556
325-235-5494, FAX: 325-235-4672

STATEMENT OF WARRANTY

Ludlum Measurements, Inc. warrants the products covered in this manual to be free of defects due to workmanship, material, and design for a period of twelve months from the date of delivery. The calibration of a product is warranted to be within its specified accuracy limits at the time of shipment. In the event of instrument failure, notify Ludlum Measurements to determine if repair, recalibration, or replacement is required.

This warranty excludes the replacement of photomultiplier tubes, G-M and proportional tubes, and scintillation crystals which are broken due to excessive physical abuse or used for purposes other than intended.

There are no warranties, express or implied, including without limitation any implied warranty of merchantability or fitness, which extend beyond the description of the face there of. If the product does not perform as warranted herein, purchaser's sole remedy shall be repair or replacement, at the option of Ludlum Measurements. In no event will Ludlum Measurements be liable for damages, lost revenue, lost wages, or any other incidental or consequential damages, arising from the purchase, use, or inability to use product.

RETURN OF GOODS TO MANUFACTURER

If equipment needs to be returned to Ludlum Measurements, Inc. for repair or calibration, please send to the address below. All shipments should include documentation containing return shipping address, customer name, telephone number, description of service requested, and all other necessary information. Your cooperation will expedite the return of your equipment.

LUDLUM MEASUREMENTS, INC.
ATTN: SERVICE DEPARTMENT
501 OAK STREET
SWEETWATER, TX 79556

800-622-0828 325-235-5494
FAX 325-235-4672

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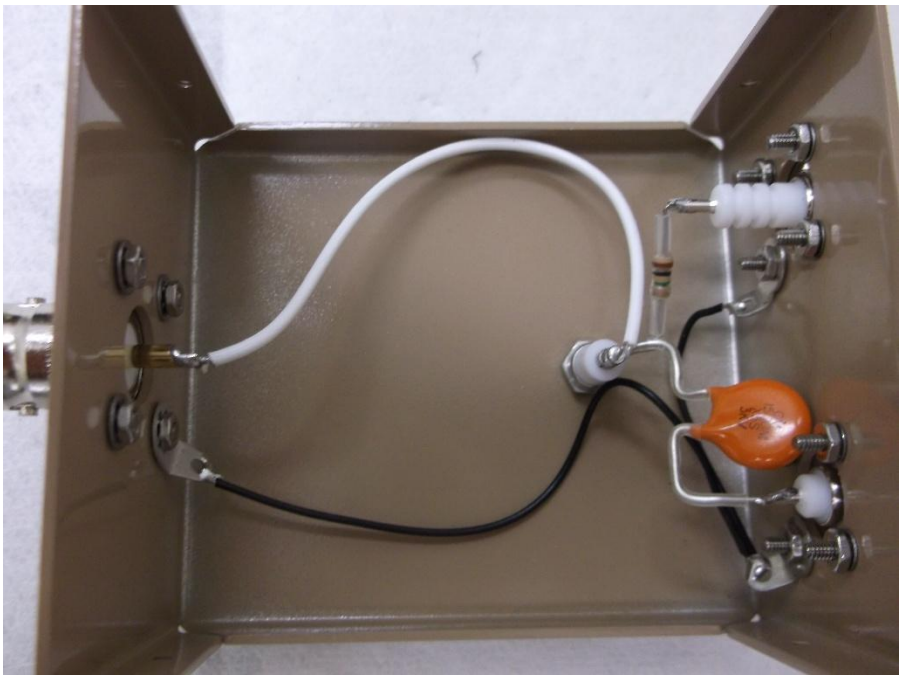
Section 1

Introduction

The Ludlum Model 297 signal splitter is designed to separate the high voltage (HV) and signal components of a cable connection, typically to a radiation detector. Many radiation products (detectors or counting electronics) are designed with single detector connectors that combine the high voltage and signal, while others are designed with two separate connectors. This Model 297 is designed to bridge the gap between these two products.

With the Model 297, you can connect electronics with a single connector (like a type C connector) to a detector that was designed with a separate MHV connector and a separate BNC connector. Alternately you could use the Model 297 to connect a radiation detector with a single connector to a counting electronics with separate HV and signal connectors.



While there are many types of coaxial cables and connectors, the typical Model 297 uses the following common coaxial type connectors:

- **Type C:** connection to the combined HV+ signal detector or electronics.
- **Type MHV:** (marked HV) connection to an HV only source or connector.
- **Type BNC:** (marked SIGNAL) connection to signal input connection of the detector or counting electronics.

Adapters are available from Ludlum Measurements or other suppliers if your device needs a different type of connector.

Section 2

Getting Started

Unpacking and Repacking

Remove the calibration certificate and place it in a secure location. Remove the instrument and ensure that all of the items listed on the packing list are in the carton. Check individual item serial numbers and ensure calibration certificates match.

To return an instrument for repair or calibration, provide sufficient packing material to prevent damage during shipment. Be aware that the thin mica window of the detector may be damaged (imploded) because of pressure differentials if the unit is shipped by air. Protect the unit by putting it inside a sealed can or other protective enclosure.

Every returned instrument must be accompanied by an **Instrument Return Form**, which can be downloaded from the Ludlum website at www.ludlums.com. Find the for by clicking the "Support" tab and selecting "Service Department" from the drop-down menu. Then choose the appropriate Service Department division where you will find a link to the form.

Section

3

Specifications

High Voltage: tolerates use of high voltages up to 3000 Vdc, current limited through a 1 Mohm (0.25W 5%) resistor

Signal: coupled through a 0.0015 μF (NPO) capacitor

Section

4

Recycling

Ludlum Measurements, Inc. supports the recycling of the electronics products it produces for the purpose of protecting the environment and to comply with all regional, national, and international agencies that promote economically and environmentally sustainable recycling systems. To this end, Ludlum Measurements, Inc. strives to supply the consumer of its goods with information regarding reuse and recycling of the many different types of materials used in its products. With many different agencies – public and private – involved in this pursuit, it becomes evident that a myriad of methods can be used in the process of recycling. Therefore, Ludlum Measurements, Inc. does not suggest one particular method over another, but simply desires to inform its consumers of the range of recyclable materials present in its products, so that the user will have flexibility in following all local and federal laws.

The following types of recyclable materials are present in Ludlum Measurements, Inc. electronics products, and should be recycled separately. The list is not all-inclusive, nor does it suggest that all materials are present in each piece of equipment:

Batteries Glass Aluminum and Stainless Steel

Circuit Boards Plastics Liquid Crystal Display (LCD)

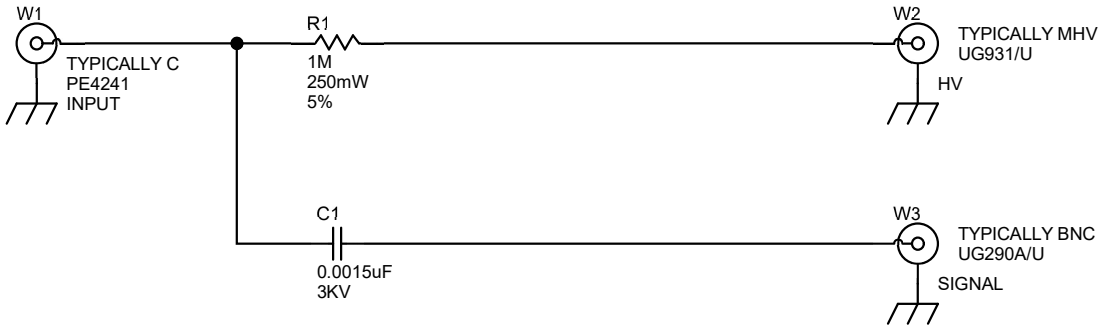
Ludlum Measurements, Inc. products that have been placed on the market after August 13, 2005, have been labeled with a symbol recognized internationally as the "crossed-out wheelie bin," which notifies the consumer that the product is not to be mixed with unsorted municipal waste when discarding. Each material must be separated.

Section

5

Drawings and Diagrams

SIG & HV Divider Board Schematic	Drawing 002 x 100



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Drawn: PAB	6/12/2025	**Title:** SIG & HV DIVIDER		
Design: RSS	6/10/2025	**Model:** 297		
		Board#: 5002-100		
Approve:	6/13/2025	**Sheet:** 1 of 1	**Series**	**Sheet**
Print Date: 6/13/2025 12:29:29 PM		**Rev:** 1	002	100
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