

**LUDLUM MODEL 44-132
GAMMA SCINTILLATOR**

July 2015

**Serial Number 221035 and Succeeding
Serial Numbers**

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Table of Contents

<i>Introduction</i>	<i>1</i>
<i>Specifications</i>	<i>2</i>
<i>Parts List</i>	<i>3</i>
Model 44-132 Gamma Scintillator	3-1
Assembly View, Drawing 385 × 396	3-1
1.125 inch Voltage Divider Board, Drawing 2 × 232	3-1
<i>Drawings and Diagrams</i>	<i>4</i>

Section

1

Introduction

The Ludlum Model 44-132 utilizes a 14.6 cm (5.75 in.) diameter by 2.5 cm (1 in.) thick plastic scintillator for detecting gamma radiation from approximately 60 keV to 2 MeV. The large area plastic scintillator is designed to be a sensitive, durable, lightweight and cost-effective means of detecting gamma radiation. Compatible instruments for use by this detector provide detector high voltage of 700-1100 Vdc.

Unpacking and Repacking

Remove the calibration certificate and place it in a secure location. Remove the instrument and ensure all of the items listed on the packing list are in the carton. Check individual serial numbers and ensure calibration certificates match between instruments and detectors (if applicable).

To return an instrument for repair or calibration, provide sufficient packing material to prevent damage during shipment.

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 form by clicking the “Support” tab and selecting “Repair and Calibration” from the drop-down menu. Then choose the appropriate Repair and Calibration division where you will find a link to the form.

Section

2

Specifications

Voltage Requirements: typically 700 Vdc to 1100 Vdc. Variances in high voltage are due to instrument input sensitivity, cable length, photomultiplier tube (PMT), and specific application.

Scintillator: 14.6 cm (5.75 in.) diameter × 2.5 cm (1 in.) thick; EJ212 material

Photomultiplier Tube: 2.86 cm (1.125 in.) diameter; head-on type; magnetically shielded

Connector: standard series "BNC" (other types available upon request)

Background: 10,000 cpm or less in a 10 μ R/hr field

Sensitivity: typically 1500 cpm/ μ R/hr (137 Cs gamma)

Recommended Energy Range Operation: 60 keV to 2 MeV gamma

Construction: cast-and-drawn aluminum with beige powder-coat finish

Size: 16.8 cm (6.64 in.) diameter by 21.6 cm (8.5 in.) long

Weight: 1.21 kg (2.66 lb)

Section
3

Parts List

	<u>Reference</u>	<u>Description</u>	<u>Part Number</u>
Model 44-132 Gamma Scintillator	UNIT	Completely Assembled Model 44-132 Gamma Scintillator	47-3074
Model 44-132 Assembly, Drawing 385 × 396	*	FOIL-NETIC	01-5019
	*	FOIL-CO-NETIC	01-5026
	*	EJ212 5.75inch × 1inch	01-5662
	*	RECPT-UG6578A BNC	13-8012
	*	O-RING	16-8291
	1 ea	4-40 × 3/16 BH Screw	17-8509
	1 ea	LUG	18-8760
	*	Tube Assembly PMT	4002-572
	*	PM TUBE-1.125"	01-5367
	*	CAPLUG-SC	03-5294
	*	Voltage Divider, 1.125inch, 9 stage	5002-570
	*	M 44-132 BODY ASSY	4385-363
	4 ea	4-40 × 1/4 BH Screw	17-8510
	8 ea	6-32 × 5/16 BH Screw	17-8519
	8 ea	6-32 × 5/16 FH Screw	17-8684
	*	Tube Body and Cover	2385-360
	*	Bottom Cover	7385-357
	*	Connector Cap	7393-058
	3 ea	PONGE 4-P BS	7002-065-04
	1 ea	Bottom Gasket	7385-358
	1 ea	Gasket	7385-362
	*	SIDE FOAM	7385-392
	*	BOTTOM FOAM	7385-393
	*	TOP FOAM	7385-394
Voltage Divider, Drawing 2 × 232	BOARD	Completely Assembled	5002-570
CAPACITORS	C003	0.01uF, 2KV	04-5525

	<u>Reference</u>	<u>Description</u>	<u>Part Number</u>
RESISTORS	R008	1M, 1/4W, 1%	12-7844
	R001-R007	10M, 1/8W, 1%	12-7996
	R009	10M, 1/8W, 1%	12-7996
	R101	10M, 1/8W, 1%	12-7996

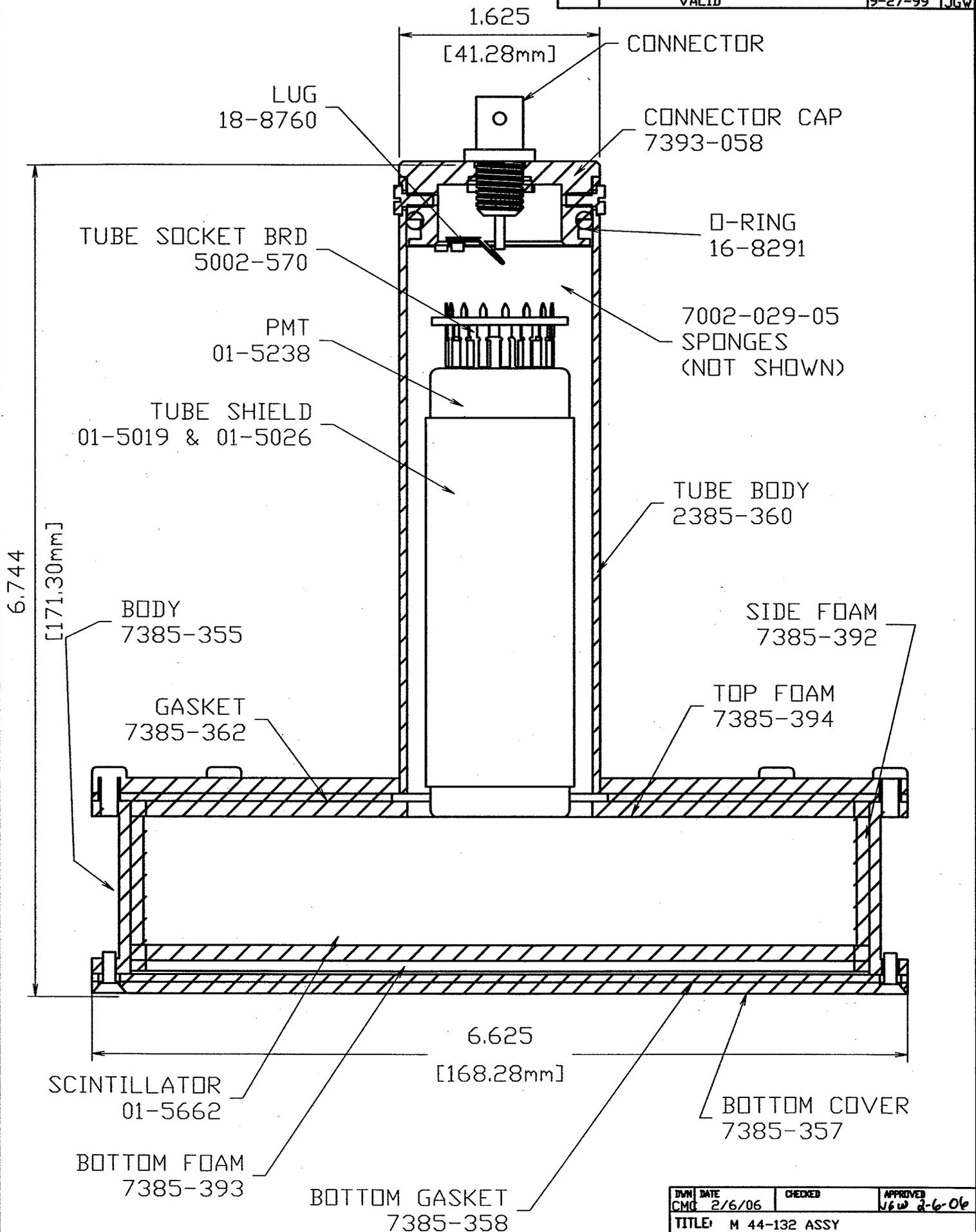
Section
4

Drawings

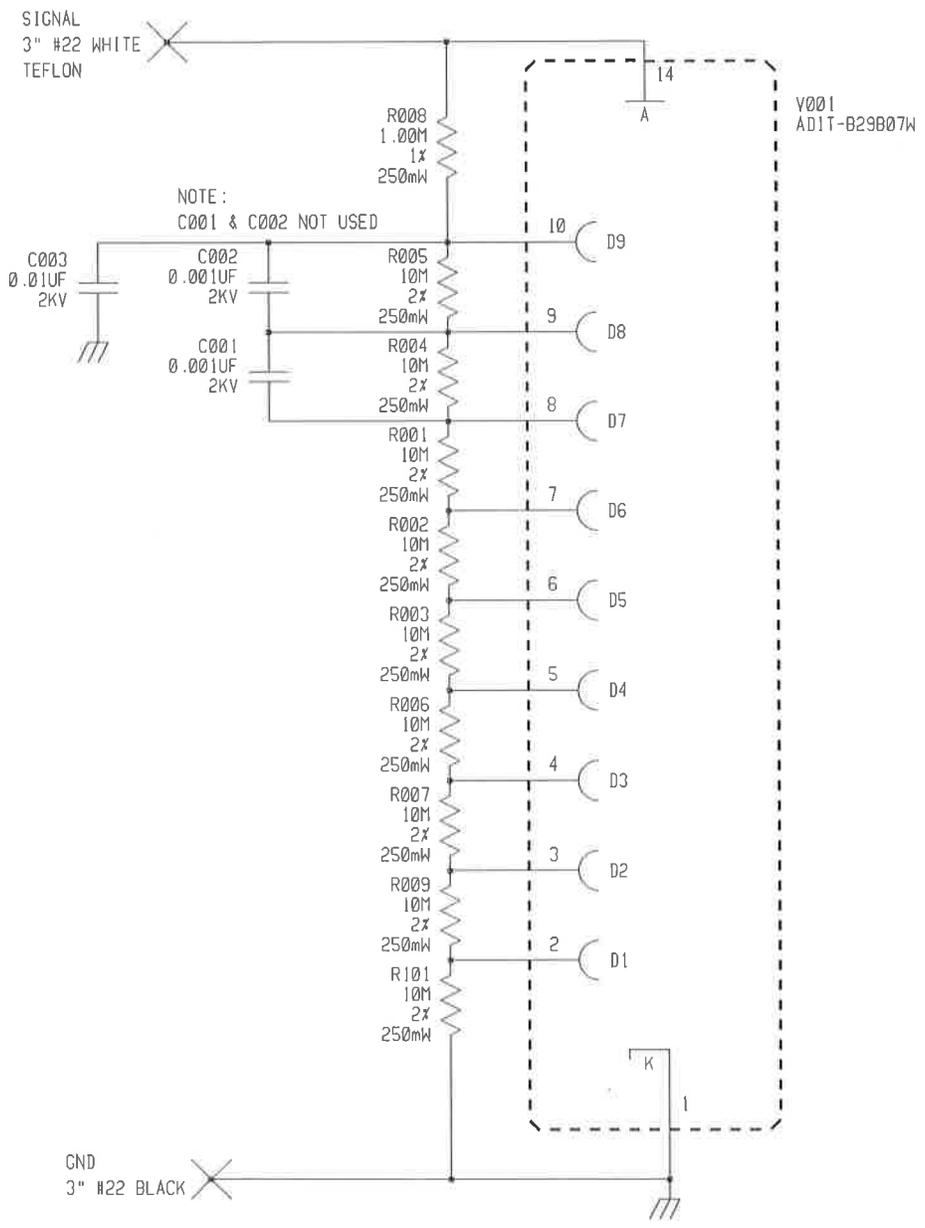
Model 44-132 Assembly View, Drawing 385 × 396

Voltage Divider Board, Drawing 2 × 232

REV #	ALTERATIONS	DATE	BY
	VALID	9-27-99	JGW



DWN	DATE	CHECKED	APPROVED
CMG	2/6/06		JGW 2-6-06
TITLE: M 44-132 ASSY			
LUDLUM MEASUREMENTS, INC. 200 ONE STREET SHERWOOD, TEXAS 75086		SERIES	SHEET
		385	396



UPDATED		LUDLUM MEASUREMENTS INC.	
DR	CKB	25-NOV-97	TITLE : 1.125" VOLTAGE DIVIDER 9 STAGE
DSCN	RC	25-NOV-97	BOARD# 5002-570
APPD	<i>RS</i>	<i>13JAN07</i>	SIZE C MODEL 1.125" SERIES 2 SHEET 232
NEXT HIGHER ASSY		14-06-06	7-Feb-06
		5B002570	SHEET 1 OF 1