

# Model HVTA-1410

## Integrated High Voltage Power Supply

The HVTA-1410 contains a fully transistorized voltage divider, charge-sensitive preamplifier (GSP-1000) and power supply assembled in one package. It is for use with scintillation detectors coupled to 14-pin, 10-stage photomultiplier tubes (PMTs) that are operating at positive high voltage. The HVTA-1410 is a plug-on model that simply pushes onto the 14-pin PMT base.

### Standard Features -

- Excellent stability with varying anode currents
- Very low power consumption
- Low noise
- Aluminum housing
- RoHS compliant
- Mount directly to a 14-pin base of a PMT or radiation detector.
- Optimized to work with Saint-Gobain Crystals standard detectors such as the 2M2/2 and 3M3/3 models.



### High Voltage Power Supply Specifications -

- +12V @ 38 mA
- -12V @ 10mA
- Positive 0-1250V
- Control voltage 0-5V (meaning 1V = 250V)
- Ripple p-p <0.005%
- Max Operating temperature -10° to 50°C
- Storage temperature -25° to 95°C
- Temperature coefficient < 25 ppm/ °C
- Signal connector: BNC
- High voltage monitor Jack: POMONA, 72922-2
- High voltage control connector: LEMO ERA.00.250.CTL
- DC Power connector: LEMO EHP.0S.302.CLL
- Supplied DC power cable: 10 feet with Amphenol (9) PIN "D" connector

### Preamplifier Specifications -

- High input impedance
- Nominal charge sensitivity: 2.66 mVpC
- Decay time constant: 50μS (other time constants are possible.)
- Rise time (square input): ~10nS
- Cable driving capability: <750 feet
- Output impedance: 50 Ohms
- Charge rate capacity over 6μC/sec

### Voltage Divider Specifications -

- Transistorized high voltage divider
- Anode load resistor: 2.2MΩ (nominal)
- Voltage ratio cathode to dynode 1 is 2R.
- Support for anode currents >50 uA

### Options -

- Signal connector: Other types available upon request.
- Conformal coating for high humidity applications.
- Charge sensitivity: Other gains as up to 50 mV/pC
- Output impedance: 50 ohm, 93 ohm or capacitor coupled
- Operate at +/- 5V
- Negative high voltage operation

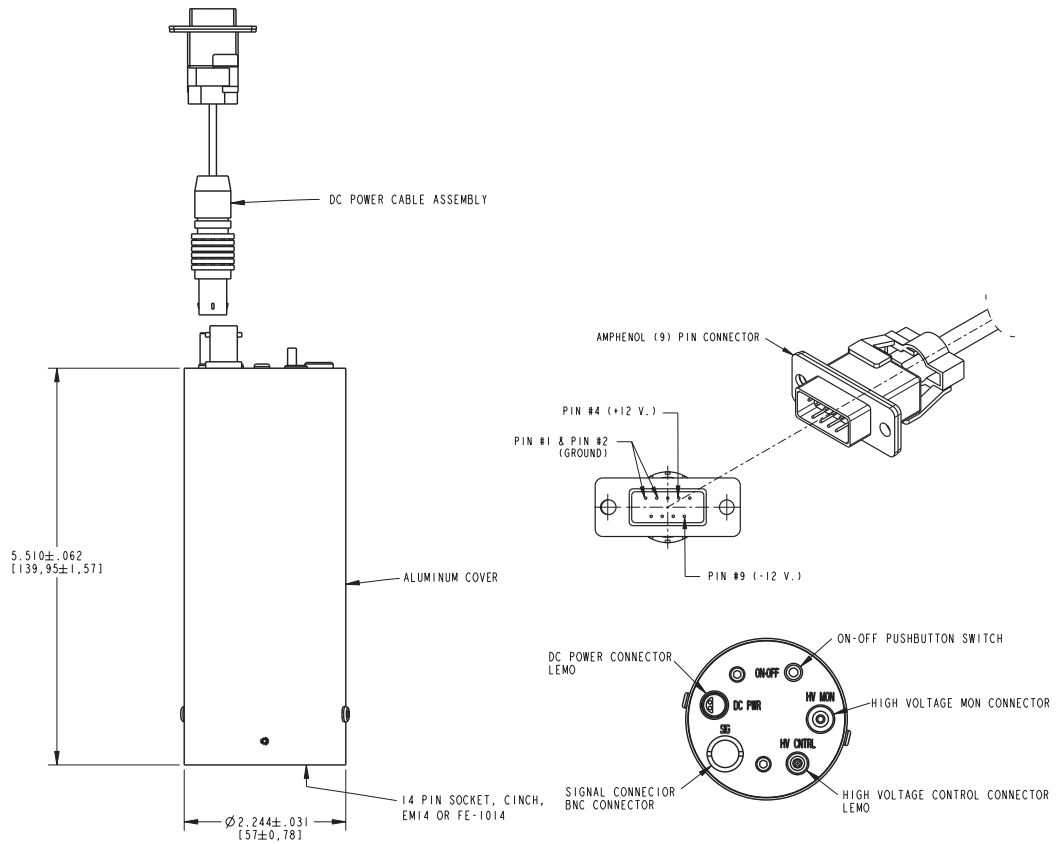
| Compatible Photomultiplier Tubes |            |             |                      |                 |   |
|----------------------------------|------------|-------------|----------------------|-----------------|---|
| Size                             | ADIT Model | Burle Model | Electron Tubes Model | Hamamatsu Model | Photonis Model                                      |
| 2"                               | B51D01     | S83019      | 9266K                | R550<br>R2154   | XP2201B<br>XP2202B<br>XP2203B<br>XP3230B<br>XP6202B |
| 3"                               | B76B01     | S83021      | 9305K                |                 | XP3330B<br>XP3332B<br>XP6302B                       |
| 3.5"                             | B89B01     | S83013      | 9306K                |                 | XP3730B<br>XP3732B                                  |
| 5"                               | B133D01    | S83006      | 9390K                | R877<br>R1513   | XP3530B<br>XP3540B<br>XP3550B                       |

CRYSTALS

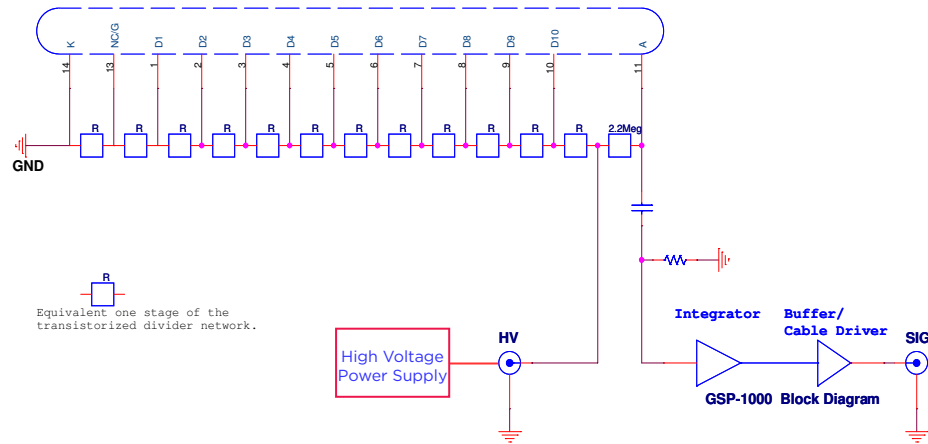
SAINT-GOBAIN

# Model HVTA-1410 POWER SUPPLY

## Configuration -



## TA-1410 Schematic -



The drawing dimensions are nominal and subject to change. Call the factory for current values.



Saint-Gobain Crystals

www.crystals.saint-gobain.com

Manufacturer reserves the right to alter specifications.

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