



# BERTAN PMT SERIES

## Precision Photomultiplier Power Supply Modules

The PMT Series is a family of high performance regulated dc to dc modular power supplies equally applicable for OEM and laboratory applications for photomultipliers, ultrasonic transducers and other devices requiring a precision source of high voltage within the ratings listed in the chart below.

Output voltage can be controlled over the full output range either by a local 20 turn potentiometer, an external 5kΩ potentiometer or a remote 0 to +9V voltage source. The control method is selectable by the user at the input connector.

Input power, programming and monitoring are provided through a single 12 pin printed circuit board connector. The mating printed circuit connector is furnished with each unit. High voltage output is provided via a shielded RG-59/U cable.

### SPECIFICATIONS ALL MODELS

**Input:** Option #1: +24 to +30Vdc @ 350 mA max.  
Option #3: ±12 to ±18Vdc @ 350mA max.

**Regulation:** Line: 0.001% for ±1% variation in input voltage.  
Load: 0.001% for NL-FL or FL-NL.

**Stability:** 0.005%/hr., 0.02%/8 hrs. (after 30 min. warmup).

**Temp Coeff.:** 100 ppm/°C over the range of 0 to 50°C.

**Connections:** Input Power, programming and metering — Amphenol 143-012-01 or equivalent.  
H.V. Output - 18" flying lead. (RG59A/U)

**Size:** 3-7/8"W x 1-1/4"H x 6-5/16"D (98 x 29 x 160 mm)

**Protection:** Short circuit and arc protected, self restoring.

The use of proprietary **BERTAN** linear circuit techniques in the PMT Series eliminates the spikes and noise common to saturated switching inverter circuits. Linear control circuitry enables the units to be easily adjusted and programmed over the full output range. In addition, linear operation is more reliable since it eliminates the surge of high peak power inherent in switching inverter circuits.

The PMT Series employs all solid state circuitry. The metal encased units are electrically reliable and mechanically rugged.

The output is fully short circuit and arc protected. Sustained short circuit operation is permissible without causing damage to the unit. No external heat sinking is required and the unit may be operated in any position.

Each unit is fully tested prior to shipment and is guaranteed against defects in material and workmanship for a period of one year.

### ORDERING INFORMATION

Specify model, output polarity P for Positive or N for Negative plus input voltage option 1 or 3 desired.

Example: A 2000V positive output polarity unit to be powered from a +28V dc supply, order as follows: PMT-20AP Option #1.



Recognized under the component program of Underwriters Laboratories Inc.

| Model*      | Output Volts | Output mA   | Ripple pk-pk | Voltage Monitor <sup>1</sup> |
|-------------|--------------|-------------|--------------|------------------------------|
| PMT-05A-P,N | 0 to 500     | 0 to 8mA    | 5mV          | 0 to 5V/100μA                |
| PMT-10A-P,N | 0 to 1000    | 0 to 4mA    | 4mV          | 0 to 1V/100μA                |
| PMT-20A-P,N | 0 to 2000    | 0 to 2mA    | 2mV          | 0 to 2V/80μA                 |
| PMT-50A-P,N | 0 to 5000    | 0 to 0.5mA  | 10mV         | 0 to 5V/50μA                 |
| PMT-75A-P,N | 0 to 7500    | 0 to 0.25mA | 100mV        | 0 to 7.5V/37.5μA             |

\*Specify model, output polarity P for Positive or N for Negative plus input voltage option 1 or 3 desired.

<sup>1</sup>The voltage Monitor can be either a volt-meter or current-meter.



**ADJUSTMENT**

An internal 20 turn potentiometer is provided. The output voltage may also be varied over the full range by an external 5kΩ potentiometer or an external 0 to +9V voltage source.

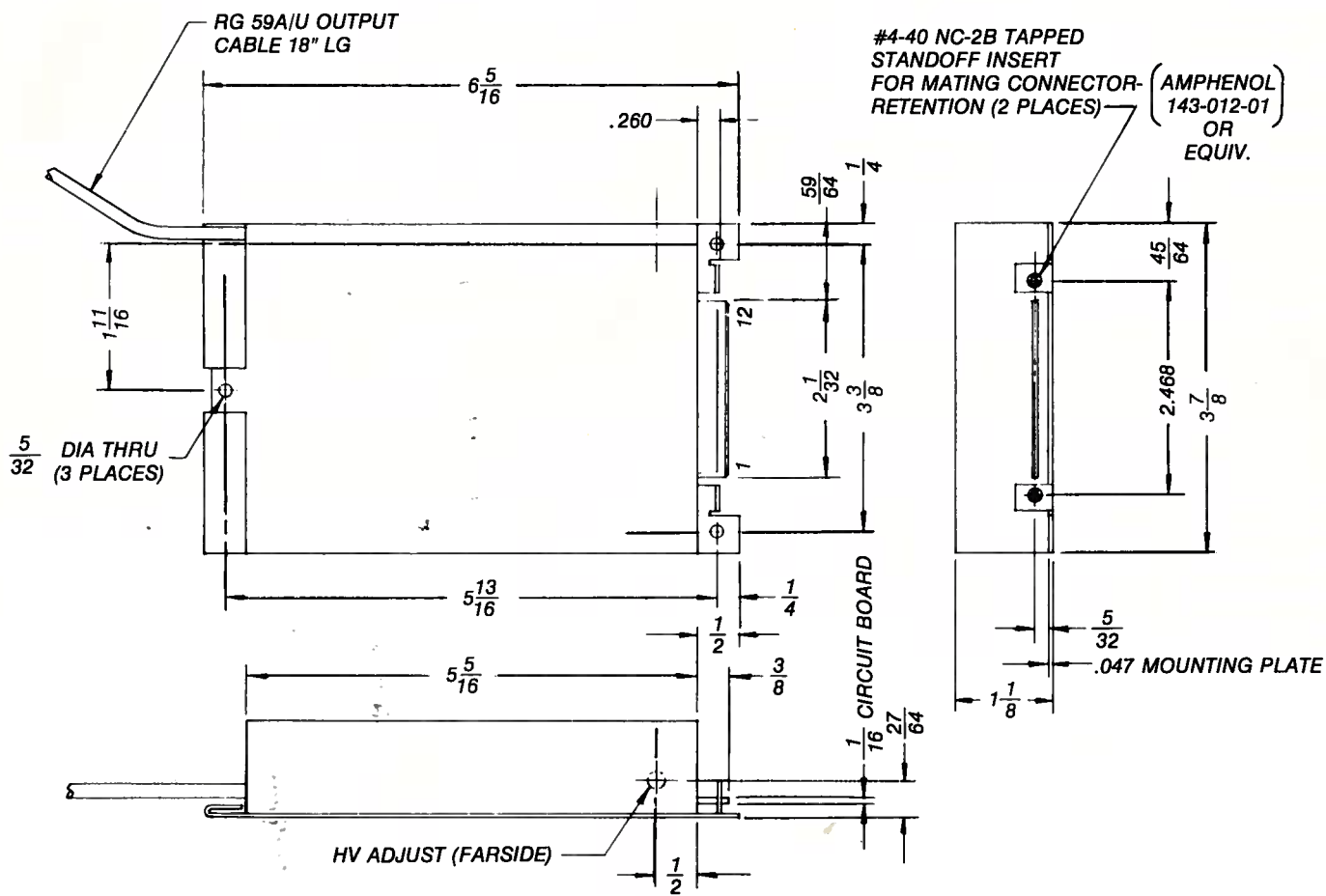
**SPECIAL OPTIONS**

Other input and output voltage and current ranges, custom configurations and connectors can be provided. Please consult the factory for custom requirements.

**INPUT CONNECTOR FUNCTIONS**

| FUNCTION                         | OPTION #1*   | OPTION #3**  |
|----------------------------------|--|--|
| INPUT POWER*                     | B+ @ PIN 3 or 4<br>GND @ PIN 1 or 12                           | V+ @ PIN 3, 4 or 5<br>V- @ PIN 2 or 6<br>GND @ PIN 1 or 12   |
| OUTPUT VOLTAGE MONITOR           | PIN 11   | PIN 11   |
| REMOTE 5kΩ POTENTIOMETER CONTROL | CW TERM @ PIN 10<br>WIPER @ PIN 8<br>CCW TERM @ PIN 1, 7 or 12 | CW TERM @ PIN 10<br>WIPER @ PIN 8<br>CCW TERM @ PIN 1, or 12 |
| REMOTE VOLTAGE PROGRAMMING       | 0 TO +9V APPLIED TO PIN 8                                      | 0 TO +9V APPLIED TO PIN 8                                    |
| INTERNAL CONTROL                 | JUMPER PIN 8 TO PIN 9  | JUMPER PIN 8 TO PIN 9  |

\* FOR OPTION #1: B+ CAN BE +24 TO +30V DC @350 mA MAX.  
 \*\* FOR OPTION #3: V+ AND V- CAN BE ±12V TO ±18V DC @350 mA MAX.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



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