# **HIGH VOLTAGE POWER SUPPLIES**



## **DESCRIPTION**

The PS3042P & PS3042N 4W power supplies provide a closely regulated and virtually ripple free high voltage output.

## **FEATURES & APPLICATIONS**

- Recommended for photomultiplier & electron multipliers
- good stability, low HF ripple and low LF noise
- output voltage / current monitors and optional status LED
- constant current mode (externally programmable)
- positive and negative output types



# **SPECIFICATION**

INPUT VOLTAGE / CURRENT +22V to 28V / <300mA at full output & load	OUTPUT POLARITY fixed (see ordering information)
OUTPUT VOLTAGE see output ratings table (other voltages to special order)	NOISE (0.1HZ TO 10HZ) 6mV peak to peak
LINE REGULATION <20ppm / 1V of input voltage change	LOAD REGULATION <20ppm for zero to maximum rated load at maximum rated voltage
SHORT TERM DRIFT <15ppm during any 15 min period (after 1 hour warm up)	LONG TERM DRIFT <50ppm during 8 hours (after 1 hour warm up)
OUTPUT VOLTAGE CONTROL 0 to +10V = 0 to 100% of rated output voltage ( $\pm 2\%$ ), input Z = 1M $\Omega$	OUTPUT CURRENT CONTROL (see pin 9)  OV to reference voltage = 0 to 105%  of rated output current (±2%)

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# **SPECIFICATION CONTINUED...**

#### Reference

FIXED REFERENCE	VARIABLE REFERENCE
+10.5V @ 3m4 +50nnm /°C	10 turn potentiometer

#### **Monitors**

VOLTAGE MONITOR  1000:1 voltage (±2%) output Z =3kΩ (5V or 10V monitor to special order)	CURRENT MONITOR  O to +10V = 0 to 100% of output current ( $\pm$ 2%), output Z = $10k\Omega$
STATUS LED (OPTION) green = voltage mode, current < limit red = current mode, voltage < limit orange = overload	

#### **Protection**

CURRENT (CONSTANT CURRENT MODE, PIN 9) output current is limited to <115% this may be set to a lower value, input Z = $1M\Omega$	<b>FLASHOVER</b> protected against intermittent flashover to ground
INPUT protected against input reversal	

#### **Temperature**

OPERATING	STORAGE
0 to +50°C	-5 to +70°C

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# **SPECIFICATION CONTINUED...**

#### **Connections (input)**

PIN OPTION (P) 9 off 1mm pins, 0.1" pitch	CONNECTOR OPTION (C) Molex 4 & 5 way, 0.1" pitch
LEAD OPTION (L) 8 off 24AWG leads 0.5m long	<b>USE MOLEX HOUSINGS:</b> 22-01-2045 & 22-01-2055

#### Package size

<b>DIMENSIONS (P &amp; C)</b> 95.3mm x 45.8mm x 15mm	DIMENSIONS (L) 80.9mm x 45.8mm x 24mm
WEIGHT 100G	

# **OUTPUT RATINGS**

OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE (HF) (peak to peak at maximum output and load)	TEMPERATURE COEFFICIENT (<50ppm to special order)
<100V to 3kV	O to 1.3mA	<15mV	100ppm/ °C





# **ORDERING INFORMATION**

INPUT VOLTAGE	OUTPUT VOLTAGE	PART NUMBER
24V	+3kV	PS3042/24P100C
24V	+3kV	PS3042/24N100C
as above with PCB pins option		PS3042/24x100 <b>P</b>
as above with input leads option		PS3042/24x100 <b>L</b>

Part number formation example:

PS3042/24P100L, is broken down (bold/underline):

<u>P</u>ower, <u>S</u>upply, maximum output voltage is <u>30</u>00V, wattage is <u>4</u>W, generation <u>2</u>nd, nominal input volt-age is <u>24</u>V, output polarity is <u>P</u>ositive, temperature-coefficient is <u>100</u>ppm/°C, control & input are <u>L</u>eads.

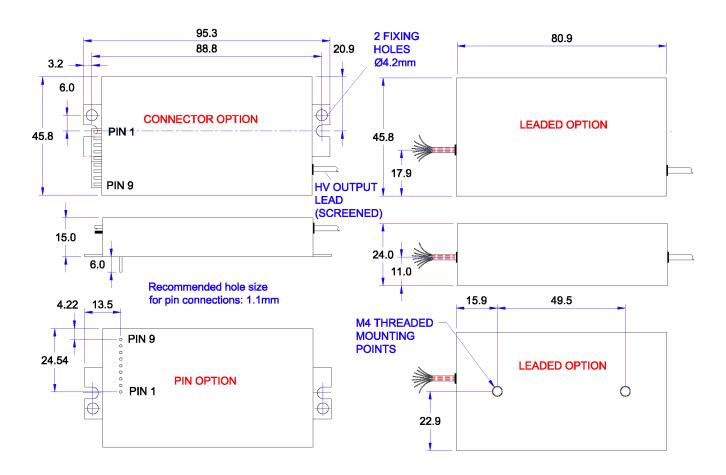
## **CONNECTIONS**

PIN NO.	LEAD COLOUR (0.5M)	ASSIGNMENT
1	red	power input (+24V)
2	black	power return
3	grey	signal ground
4	brown	fixed reference output
5	blue	voltage control input
6	green	variable reference output
7	pink	voltage monitor output
8	white	current monitor output
9	n/c (option)	current control input (internal IMΩ pull-up to pin4)
output		un-terminated coaxial cable, 0.5m long (RG174)

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## **OUTLINE DRAWING MM**



# SAFETY & EMI COMPLIANCE

Designed to meet UL61010-01.

These supplies are constructed in a fully enclosed metal case for compliance with current 3GHz EMI legislation.

## **WARNING**

High voltages generated by these products present an electrical shock hazard and appropriate precautions must be taken.

They must be installed by qualified personnel and operated within the specified ratings. Do not operate outside the ratings limit, this may result in loss of performance or permanent damage.

#### **SENS - TECH**

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The company reserves the right to modify these designs and specifications without notice. Developmental devices are intended for evaluation and no obligation is assumed for future manufacture. While every effort is made to ensure accuracy of published information the company cannot be held responsible for errors or consequences arising therefrom.

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