

PS1022 & PS2022 DATA SHEET

HIGH VOLTAGE POWER SUPPLIES



SENS - TECH

DESCRIPTION

The PS1022 & PS2022 are 2W power supplies that 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 (12V) +11V to +14V / <360mA at full output & load	INPUT (24V) +23V to +28V / <200mA at full output & load
OUTPUT VOLTAGE see output ratings table (other voltages to special order)	NOISE (0.1HZ TO 10HZ) 4mV peak to peak
LINE REGULATION <20ppm / 1V of input voltage change	OUTPUT VOLTAGE CONTROL (12V input types) 0 to +5V = 0 to 100% of output voltage ($\pm 3\%$), input Z = 1M Ω (10V to special order, no reference*)
LOAD REGULATION <20ppm for zero to maximum rated	OUTPUT VOLTAGE CONTROL (24V input types) 0 to +10V = 0 to 100% of output voltage ($\pm 3\%$), input Z = 1M Ω
SHORT TERM DRIFT <15ppm during any 15 min period (after 1 hour warm up)	OUTPUT CURRENT CONTROL (see pin 9) 0V to reference V = 0 to 105% of maximum rated output current ($\pm 3\%$)
LONG TERM DRIFT <50ppm during 8 hours (after 1 hour warm up)	

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SPECIFICATION CONTINUED...

Reference

(12V INPUT TYPES) +5.25V @3mA temp-co 50ppm / °C	(24V INPUT TYPES) +10.5V @3mA temp-co 50ppm / °C
VARIABLE REFERENCE 10 turn potentiometer	

Monitors

VOLTAGE MONITOR 1000:1 voltage ($\pm 3\%$) output Z: 12V = 4k Ω , 24V = 2k Ω (5V or 10V monitor to special order)	CURRENT MONITOR (12V) 0 to +5V = 0 to 100% of output current ($\pm 5\%$). output Z = 10k Ω
STATUS LED (OPTION) green = voltage mode, current < limit red = current mode, voltage < limit orange = overload	CURRENT MONITOR (24V) 0 to +10V = 0 to 100% of output current ($\pm 5\%$). output Z = 10k Ω

Protection

CURRENT output current is limited to <115% (this may be set to a lower value)	FLASHOVER protected against intermittent flashover to ground
INPUT protected against input reversal	

Temperature

OPERATING 0 to +50°C	STORAGE -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	USE MOLEX HOUSINGS: 22-01-2045 & 22-01-2055

Package size

DIMENSIONS (P & C) 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)
<20V to 1kV	0 to 2mA	<1mV	50ppm / °C
<20V to 2kV	0 to 1mA	<1mV	50ppm / °C

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ORDERING INFORMATION

INPUT VOLTAGE	OUTPUT VOLTAGE	PART NUMBER
12V	+1kV	PS1022/12P50C
12V	+2kV	PS1022/12P50C
24V	+1kV	PS1022/24P50C
24V	+2kV	PS1022/24P50C
as above with negative polarity		PSx022/xxN50C
as above with PCB pins option		PSx022/xxx50P
as above with input leads option		PSx022/xxx50L

Part number formation example:

PS2022/24P50L, is broken down (bold/underline):

Power, Supply, maximum output voltage is 2000V, wattage is 2W, generation 2nd, nominal input volt-age is 24V, output polarity is Positive, temperature-coefficient is 50ppm/°C, control & input are Leads.

for 12V input types with 10V control add suffix -01.*

CONNECTIONS

PIN NO.	LEAD COLOUR (0.5M)	ASSIGNMENT
1	red	power input (+12V or +24V)
2	black	power return
3	grey	signal ground
4	brown*	fixed reference output *(no reference on 12V input with 10V control)
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 1MΩ pull-up to pin4)
output		un-terminated coaxial cable, 0.5m long (RG174)

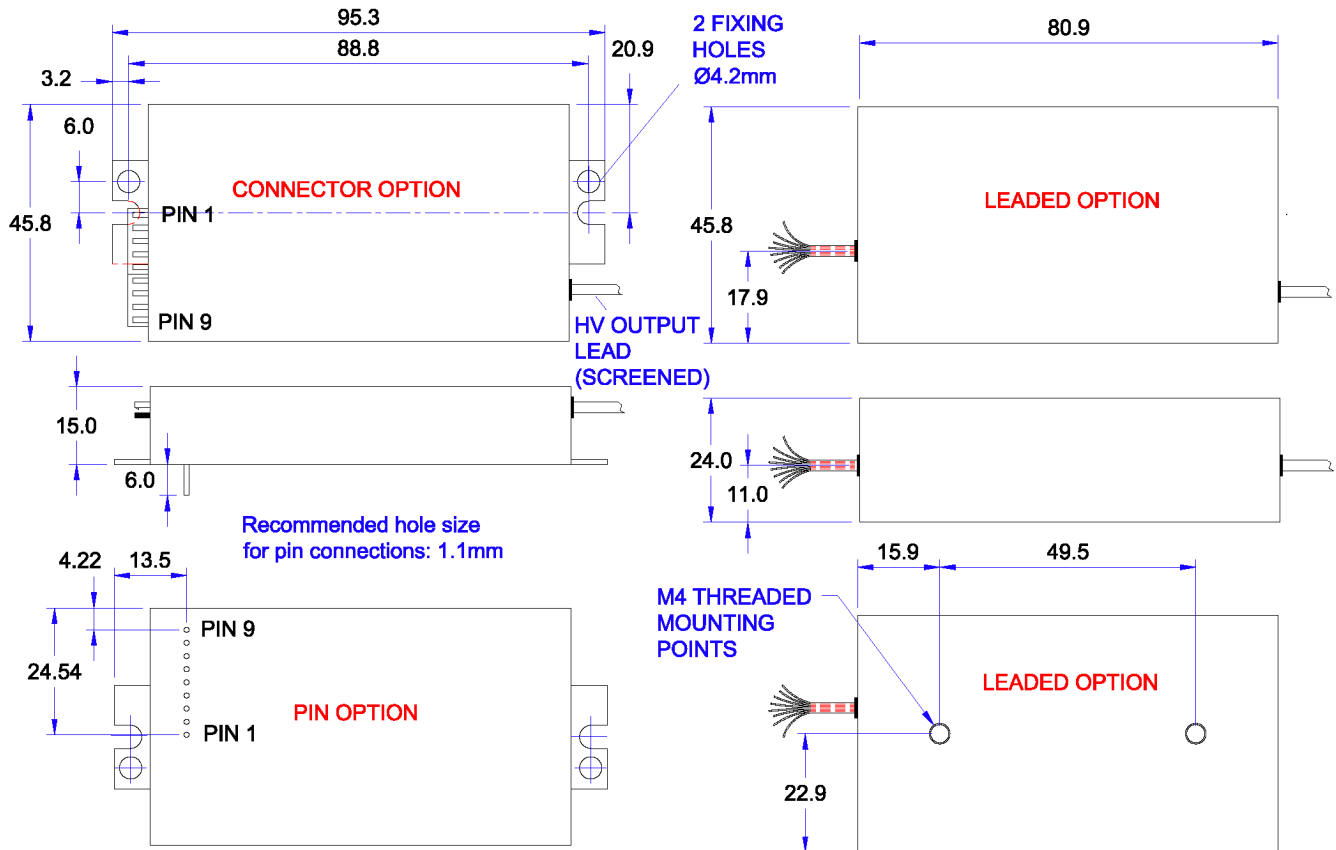
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OUTLINE DRAWING MM



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.