

Chapter 1 Introduction

TOF6120 Series

Mass spectrometer | 30kV, 400 μ A, compact model, distance control, reversible polarity



- Polarity controlled by TTL signal
- Low ripple and noise
- Compact model

Product introduction:

The TOF6120 series is specially designed for mass spectrometry analysis. It adopts a modular, utilizing unique high-voltage encapsulation technology and advanced surface-mount manufacturing technology, resulting in a compact and lightweight design. It boasts ultra-low ripple and noise levels, low temperature coefficients, high stability, and high accuracy. Additionally, it features remote output polarity inversion, which plays a critical role in the accuracy of mass spectrometer analysis results, fully meeting the needs of various complex applications.

Typical Application:

Mass spectrometer

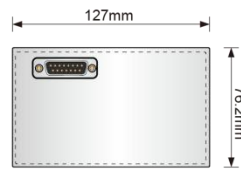
Specifications:

Input	DC24V,±0.5%, -2% Max. 2A
Output	0V ~ +30kV, 0~400 μ A
Polarity	Positive or negative to the ground, controlled by TTL signal
Voltage regulation	Line: 1V input change, 0.001%. Load: 100 μ A to full load change, 0.001%.
Current regulation	Line: +5% to -2% input change, 0.05%. Load: 0 to Max output voltage change, 0.1%.
Ripple	Less than 0.7%p-p under rated output.
Stability	0.02% after 0.5 hour warm-up
Temp. Coefficient	Less than 25ppm/°C.
Environmental	Operational: 0°C ~ +50°C . Storage: -20°C ~ 65°C.
Humidity	10% to 90%, non-condensing.
Control interface	Voltage Prog.:0 to 10V = 0 to ±30kV, Zin≥1M Ω Program Accuracy: ±0.15% at 15kV, general accuracy is ±0.25% of rated output voltage TTL reverse polarity: high level = positive, low level = negative Voltage monitor: 0 to 10V = 0 to 30kV, Zout=4.7K Ω Current monitor: 0 to 10V = 0 to 400 μ A, Zout=4.7K Ω
Cooling	Convection
Dimensions	W127mm, H76.2mm, D321.7mm.
Weight	About 4.31kg
Connector	15 pins male connector
HV output connector	Alden B102, with Alden B200 Connector

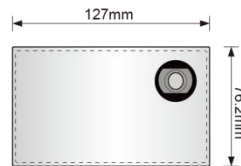
Analog Control JB3:DB15

Pin	Signal	Parameter
1	NC	/
2	Voltage Program	0 to 10V=0 to 100% of rated value
3	NC	/
4	NC	/
5	Voltage Monitor	0 to 10V=0 to 100% of rated value
6	TTL polarity control signal	High level=positive, low level=negative
7	Signal ground	Signal ground
8	Power ground	Power ground
9	NC	/
10	NC	/
11	NC	/
12	TTL HV ON	High level=inhibit, low level=enable
13	Current monitor	0 to 10V=0 to 100% of rated value
14	NC	/
15	+24VDC	+24VDC

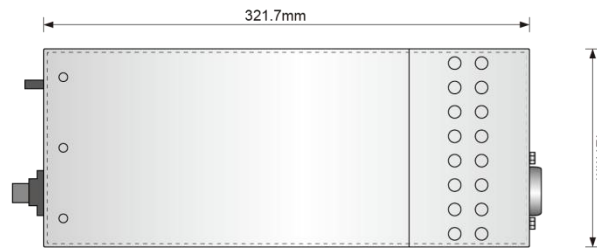
Dimensions: mm



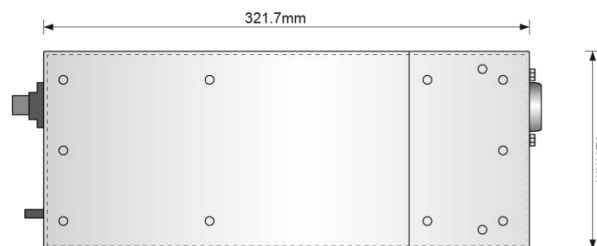
Front View



Rear View



Top View



Bottom View