PRECAUCIÓN

Para cumplir las normas sobre EMI/EMC, debe usar un cable de salida blindado y conectar el blindaje a tierra en el conector de salida de la fuente de alimentación Pinnacle.

WARNING:

To meet SELV (Safe Extra Low Voltage) requirements, you must tie the shield of the UHF connector (positive) to the chamber ground or tie the positive terminal of the three-terminal output connector to chassis ground at the output connector. Do not allow either positive to exceed ± 40 V with respect to ground.

ADVERTENCIA

Para cumplir los requisitos de SELV (del inglés Safe Extra Low Voltage, o tensión extra baja segura), debe unir el blindaje del conector de UHF (positivo) a la conexión a tierra de la cámara, o unir el terminal positivo del conector de salida de tres terminales a la toma de tierra del chasis del conector de salida. No deje que los positivos excedan de ± 40 V con respecto a la conexión a tierra.

The standard output connector is a three terminal, multi-contact, pluggable connector (see Figure 5-6 on page 5-17). The cables for the output connection are not included with the Pinnacle power supply. Use connecting wire consistent with your application and applicable requirements. For connecting instructions, read the following pages.

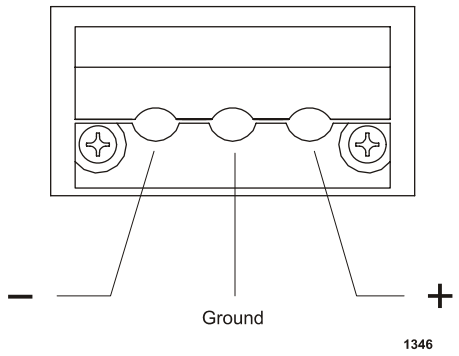


Figure 5-6. *Standard output connector*

STRAIN RELIEF FITTINGS FOR OUTPUT

The three terminal, multi-contact output connector includes a liquid-tight or grounded strain relief fitting. (If your Pinnacle unit is a dual unit, it will have two strain relief fittings of the same size and type.) Depending on the option ordered for your unit, the fitting will be one of the following options:

- PG-11 style (grounded) with 24 mm (0.945 inches) diameter
- PG-16 style (grounded) with 30 mm (1.18 inches) diameter
- PG-36 style (liquid tight) with 50 mm (1.97 inches) diameter
- CD-16 style (liquid tight) with 24 mm (0.945 inches) diameter
- M-32 style (grounded) with 32 mm (1.26 inches) diameter

You may also have a triax cable termination package. The dimensions of the fittings are slightly different, but they function essentially the same.

NEGATIVE OUTPUT

The most common output configuration for sputtering applications is negative output (negative voltage with respect to ground). To achieve negative output, connect the Pinnacle unit's negative terminal on the output connector to the chamber's cathode. Connect the positive terminal on the unit's output connector to the chamber's common or ground.

Use the ground terminal on the Pinnacle unit's output connector to terminate the output cable's shield only. Neither the terminal nor the outer shield of the output cable should carry load current. Do not use the unit's ground terminal as a system ground. Do not connect a current-carrying conductor to the terminal, even if the conductor is a shield element of the cable.

POSITIVE OUTPUT

For special applications that require a positive output voltage (positive with respect to ground), connect the Pinnacle unit's positive terminal on the output connector to the load. Connect the negative terminal on the unit's output connector to the load's common or ground.

Use the ground terminal on the Pinnacle unit's output connector to terminate the output cable's shield only. Neither the terminal nor the outer shield of the output cable should carry load current. Do not use the unit's ground terminal as a system ground. Do not connect a current-carrying conductor to the terminal, even if the conductor is a shield element of the cable.

FLOATING OUTPUT

You can configure the Pinnacle unit's output such that neither the positive output terminal nor the negative output terminal have a direct connection to ground (floating output). To achieve the floating output configuration, connect either the positive or the

negative terminal of the Pinnacle unit's output connector to the load, and connect the opposite polarity terminal to ground indirectly through a passive component or a second power source.

DANGER:

For safety compliance, do not allow the maximum voltage at the Pinnacle unit's output connector terminals to exceed ±1500 V with respect to ground when configuring for floating output. Take into account allowances for ignition voltage (1500 V standard ignition) when determining safety compliance.

PELIGRO

Por motivos de seguridad, no permita que la tensión máxima en los terminales del conector de salida de la unidad Pinnacle excedan de ±1.500 V con respecto a tierra cuando realice la configuración para salida flotante. Tenga en cuenta las tolerancias para la tensión de ignición (ignición estándar de 1.500 V) al determinar la conformidad con las normas de seguridad.

OPTIMAL OUTPUT CONNECTION

You must use shielded output cable between the Pinnacle supply and your chamber. See Figure 5-7 for the optimum output cable connection. The shielded cable minimizes system noise from chamber arcs and takes full advantage of the Pinnacle unit's improved process rate. The following paragraphs describe recommended connections and cable types.

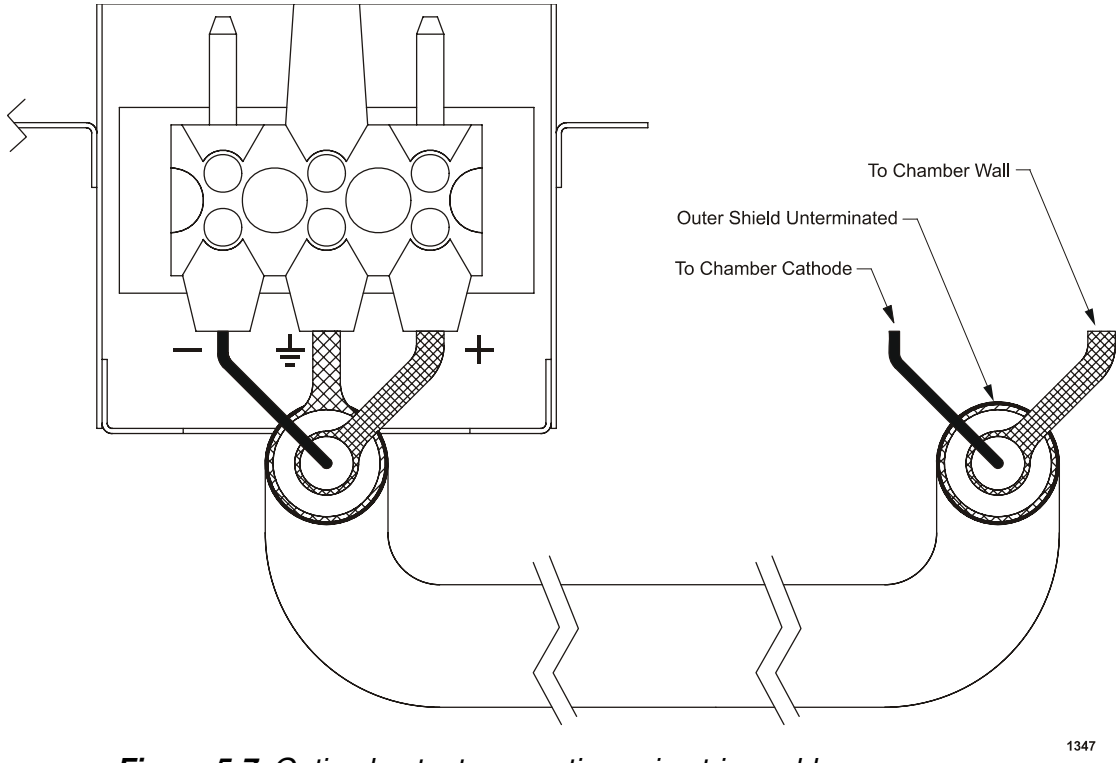


Figure 5-7. *Optimal output connection using triax cable*

The most effective output connection has the following qualities:

1. The outer shield should be terminated at one end only. (If the shield is terminated both at the Pinnacle unit and at the load, the outer shield could carry some of the load current, causing the cable to radiate noise.) Terminate the outer shield at the ground connection provided at the Pinnacle output connector only (leaving the shield unterminated at the load).
2. The current-carrying elements of the output cable should be in close proximity to each other to minimize magnetic noise fields. (Note that the conducting elements are those parts of the cable connected to the positive and negative terminals on the Pinnacle output connector.) Magnetic noise fields occur in a size proportional to the "loop area" between the conducting elements. If you minimize the loop area, you can minimize the magnetic noise.