

Danger: High Voltage

Before starting the installation, make sure that the facility circuit breaker supplying power to the CV-6SLX is switched OFF and locked out in the manner prescribed by your facility's LOTO procedures and/or OSHA Guideline 29 CFR 1910.147. Also make sure that the ON/OFF switch on the FPS module and the AC MAINS breaker on the HVPS are in the OFF position.

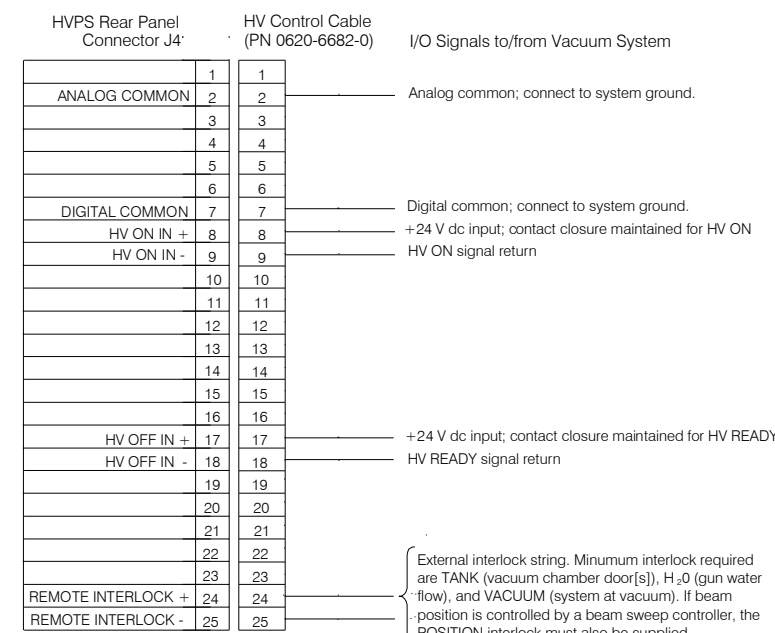
Section I: Installation Procedure for Mandatory Baseline Test

NOTE: This procedure must be performed in exactly the order indicated below. For an illustration of cabling details, see the reverse side of this document.

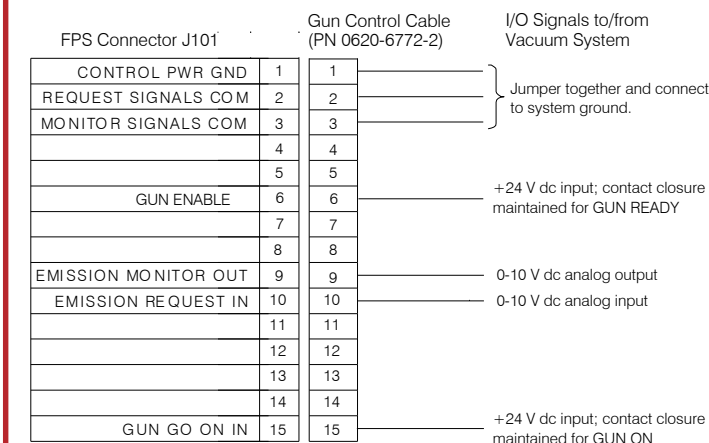
1. Rack mount the HVPS (see section 2.3 in the CV-6SLX manual).
2. Mount the FPS in the vacuum cubicle (see section 2.4 in manual).
3. Install the required grounding apparatus (see section 2.5 in manual and Sheet 2 of drawing 620-4232):
 - Install the required facility RF ground (see Figure 2-2 in manual).
 - Using 1/2" copper strap, connect an RF ground between the HVPS and vacuum system's central grounding point.
 - Using 1/2" copper strap, connect an RF ground between the FPS and the system's central grounding point.
 - Using 3" copper strap, connect an RF ground between the source tray and the system's central grounding point.
 - Using 3" copper strap, connect an RF ground between the system's central grounding point and the facility RF ground.
 - Using #10 AWG wire (user supplied), connect the standard electrical ground required for the HVPS and the FPS.
 - Mount the grounding hook and connect its pigtail to the system's central grounding point.
4. Connect the HV coaxial cable (PN 0620-8684-1) between HVPS J1 and the FPS (see section 2.6.2 in manual).
5. Connect the HV output conduit (PN 0620-9654-1) to the FPS and to the HV feedthroughs on the source tray (see section 2.6.3 in manual).
6. Connect the unit's control/data cables (see section 2.6.4 in manual and cabling guide on reverse of this document):
 - Connect the male end of the HVPS I/O cable (PN 0620-6682-0) to HVPS connector J4.
 - Connect the female end of that cable to the optional 25-pin interface module (PN 6149-2293-637) available from Temescal or to a comparable interface connector.
 - Connect the HVPS-FPS cable (PN 0620-6672-0) between HVPS J5 and J102 on the FPS.
 - Connect the male end of the Gun I/O cable (PN 0620-6672-2) to FPS connector J101.
 - Connect the female end of that cable to the optional 15-pin interface module (PN 6149-2293-624) available from Temescal or to a comparable interface connector.
7. Connect HV and gun I/Os from a PLC terminal block on the vacuum system to the interface modules you connected in Step 6. Connect only the I/Os shown in the diagrams in Section II of this Guide.
8. Connect the FPS input power cable (PN 66-0100-20) between HVPS J1 and the FPS input power receptacle.
9. Connect a user-supplied input power cable to the green terminal connector (PN 6149-1967-485) supplied with the unit and connect that terminal connector to the **AC INPUT** terminals on the HVPS rear panel. For wire gauges and wiring configurations for 208-V and 400-V units, see section 2.6.1 of the manual.
10. Connect the other end of the HVPS input power cable to a facility circuit breaker.

Section II: I/O Setup for Mandatory Baseline Test

The diagram below shows the HV-related I/Os required for the test described in Section III. For the purposes of that test, make only the connections shown below.



The diagram below shows the gun-related I/Os required for the test described in Section III. For the purposes of that test, make only the connections shown below.



Section III: Mandatory Baseline Test Procedure

The following test procedure must be performed exactly as described below.

NOTE: This procedure assumes that Sections I and II of this document have been completed correctly.

1. Place the desired test evaporant material in the gun's crucible and pump down the vacuum system to 1 x 10 E-5 torr.
2. Remove the LOTO apparatus from the facility breaker supplying utility power to the HVPS and switch on that breaker.
3. Verify that the input line voltages at HVPS rear panel terminals L1, L2, and L3 are within specifications for your facility.
4. Power up the HVPS and the FPS.
5. Check the LEDs on the HVPS front panel to verify that the power supply is in its nominal state. Figure 3-10 in the CV-6SLX manual shows the correct LED pattern for this operational state.
6. Switch on the HV by supplying a contact closure at Pin 8 of HVPS rear panel connector J4.
7. Check to see whether the HVPS front panel meter indicates 10 kV. If not, turn the OUTPUT kV ADJUST pot on the HVPS front panel until 10 kV is obtained.
8. Verify that the external control system is requesting 0 mA of emission current.
9. Switch on the gun by supplying a contact closure via Pin 15 of FPS connector J101.
10. After waiting 10 seconds, observe the gun through the vacuum chamber's viewport to verify that the filament is glowing dimly. If not, contact Temescal Technical Support after completing this test procedure.
11. Supply an EMISSION REQUEST IN signal of 1 V (= 60 mA) via Pin 10 of FPS connector J101.
12. Verify that a beam is visible in the vacuum chamber.
13. Switch off the gun by opening the contact closure supplied at Pin 15 of FPS connector J101 .
14. Switch off the HV by opening the contact closure supplied at Pin 8 of HVPS rear panel connector J4.
15. Power down the HVPS and the FPS.

The preliminary baseline test is completed. Now complete the installation by connecting additional I/Os as appropriate for your system. For complete instructions and signal descriptions, refer to section 2.6.5 of the CV-6SLX manual.

NOTE: The polarity of the emission current request from the deposition controller must be positive and must be applied to Pin 56 of rear panel connector G1J2 on the HV/gun remote controller.