Spellman’s XLF Series of X-ray generators are well regulated high voltage power supplies with output voltages to 60kV and very low ripple achieved through the use of advanced resonant conversion techniques. Extremely stable voltage and emission current outputs result in significant performance improvements over previously available technology. The XLF Series provides power, control and support functions required for X-ray applications including a regulated ac filament supply referenced to the cathode. These units also incorporate local and remote programming, monitoring, safety interlock, short-circuit and overload protection.

**TYPICAL APPLICATIONS**
- Plastics Sorting
- Crystal Inspection
- Diamond Inspection

**OPTIONS**
- APT: Adjustable Power Trip
- AT: Arc Trip
- SS(x): Non-Standard Slow Start
- NSS: No Slow Start
- IO: Instant ON
- SL: Slides

**SPECIFICATIONS**

**Input Voltage:**
- XLF 600W:
  - 115Vac±10%, 50-60Hz single phase or
  - 220Vac±10%, 50-60Hz single phase.
- XLF 1200W:
  - 220Vac±10%, 50-60Hz single phase only.

**Output Voltages:**
- Output Voltages to 60kV
- Integrated Floating Filament Supply
- Low Ripple
- “Hot Cathode”
- Negative Polarity
- Local & Remote Programming
- OEM Customization Available

**Filament:**
- 12 volts @ 5 amps, preheat level is 0.45 amps in standby.

**Voltage Regulation:**
- Load: 0.005% of full output voltage no load to full load.
- Line: 0.005% for input voltage range change.

**Current Regulation:**
- Load: 0.05% of full current ±100µA from 0 to full voltage.
- Line: 0.05% of rated current over specified input range.

**Ripple:**
- 0.03% rms below 1kHz.
- 0.75% rms above 1kHz.

**Temperature Coefficient:**
- 100ppm/°C.

**Stability:**
- 0.01%/8 hrs after 1/2 hour warm-up.
- 0.02% per 8 hours (typical).

**Cooling:**
- Fan cooled.

**Metering:**
- Digital voltage and current meters (3.5 digits), 1% accuracy.

**Voltage and Current Monitors:**
- 0 to +10Vdc proportional to rated output.

**HV Output:**
- 75kV, 3 conductor Federal Standard X-ray connector.

**I/O Connectors:**
- 25 pin D-type for control interface with mating connector provided.

**Dimensions:**
- 3.5”H x 19”W x 20”D (8.9cm x 48.3cm x 50.8cm).

**Regulatory Approvals:**

**FRONT PANEL STATUS INDICATORS:**
- Overvoltage
- Overtemperature
- Regulation Error
- Arc
- HV ON: Red
- Voltage Control Mode
- Current Control Mode
- Interlock Open
- Interlock Closed
- HV OFF: Green
600W, 1200W XLF SELECTION TABLE

<table>
<thead>
<tr>
<th>KV</th>
<th>mA</th>
<th>Model</th>
<th>KV</th>
<th>mA</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>20</td>
<td>XLF30N600</td>
<td>30</td>
<td>40</td>
<td>XLF30N1200</td>
</tr>
<tr>
<td>40</td>
<td>15</td>
<td>XLF40N600</td>
<td>40</td>
<td>30</td>
<td>XLF40N1200</td>
</tr>
<tr>
<td>50</td>
<td>12</td>
<td>XLF50N600</td>
<td>50</td>
<td>24</td>
<td>XLF50N1200</td>
</tr>
<tr>
<td>60</td>
<td>10</td>
<td>XLF60N600</td>
<td>60</td>
<td>20</td>
<td>XLF60N1200</td>
</tr>
</tbody>
</table>

XLF CONNECTOR 25 PIN

<table>
<thead>
<tr>
<th>JB1 SIGNAL</th>
<th>SIGNAL PARAMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Power Supply Common</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>2 External Inhibit</td>
<td>Ground=Inhibit, Open=HV On</td>
</tr>
<tr>
<td>3 External Interlock</td>
<td>+15V at Open, &lt;15mA at Closed</td>
</tr>
<tr>
<td>4 External Interlock Return</td>
<td>Return for Interlock</td>
</tr>
<tr>
<td>5 Current Monitor</td>
<td>0 to 10V=0 to 100% Rated Output</td>
</tr>
<tr>
<td>6 kV Test Point</td>
<td>0 to 10V=0 to 100% Rated Output</td>
</tr>
<tr>
<td>7 +10V Reference</td>
<td>+10Vdc @ 1mA Max</td>
</tr>
<tr>
<td>8 Remote Current Program In</td>
<td>0 to 10V=0 to 100% Rated Output</td>
</tr>
<tr>
<td>9 Local Current Program Out</td>
<td>Front Panel Program Voltage</td>
</tr>
<tr>
<td>10 Remote Voltage Program In</td>
<td>0 to 10V=0 to 100% Rated Output</td>
</tr>
<tr>
<td>11 Local Voltage Program Out</td>
<td>Front Panel Program Voltage</td>
</tr>
<tr>
<td>12 Power Monitor</td>
<td>0 to 10V=0 to 100% Rated Output</td>
</tr>
<tr>
<td>(Optional)</td>
<td></td>
</tr>
<tr>
<td>13 Remote Power Program In</td>
<td>Connect to HV OFF for Fp Operation</td>
</tr>
<tr>
<td>14 Local HV Off Out</td>
<td>+15V at Open, &lt;25mA at Closed</td>
</tr>
<tr>
<td>15 HV Off</td>
<td>Connect to HV OFF for Fp Operation</td>
</tr>
<tr>
<td>16 Remote HV On</td>
<td>+15V, 10mA Max=HV Off</td>
</tr>
<tr>
<td>17 Remote HV Off Indicator</td>
<td>0=HV On, +15V, 10mA Max=HV Off</td>
</tr>
<tr>
<td>18 Remote HV On Indicator</td>
<td>0=HV Off, +15V, 10mA Max=HV On</td>
</tr>
<tr>
<td>19 Remote Voltage Mode</td>
<td>Open Collector 50V Max, 10mA Max</td>
</tr>
<tr>
<td>20 Remote Current Mode</td>
<td>On=Active</td>
</tr>
<tr>
<td>21 Remote Power Mode</td>
<td>0=Fault, +15V, 0.1mA Max=No Fault</td>
</tr>
<tr>
<td>22 Remote PS Fault</td>
<td>+15V Output</td>
</tr>
<tr>
<td>23 +15V Output</td>
<td>+15V, 100mA Max</td>
</tr>
<tr>
<td>24 Power Supply Common</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>25 Shield Return</td>
<td>Shield Return</td>
</tr>
</tbody>
</table>

HIGH VOLTAGE CONNECTOR PINOUT

- HIGH VOLTAGE OUTPUT CONNECTOR
  - LS-INTERNALY CONNECTED.
  - C-CATHODE H V OUTPUT
- FILAMENT
- X-RAY TUBE
- ANODE

DIMENSIONS: in.[mm]

FRONT VIEW

TOP VIEW

BACK VIEW

25 PIN MINI-D CONNECTOR FOR REMOTE CONTROL MONITORING MATING CONNECTOR PROVIDED

6 ft OF LINE CABLE SUPPLIED WITH UNIT

MATING HV CABLE NOT PROVIDED