



- **Integrated HV Supply, Filament Supply, X-Ray Tube, Beam Port and Control Electronics**
- **Compact & Lightweight**
- **Power Factor Corrected**
- **Can be Mounted in Any Physical Orientation**
- **Standard RS-232 Digital Interface**

Spellman's XRB160PN688/CT Monoblock® X-Ray source is designed for OEM applications powering its internal X-Ray tube up to 160kV at 688W. Features like small package size and RS-232 digital interface simplify integrating this unit into your X-Ray system. Proprietary emission control circuitry provides excellent regulation of X-Ray tube current, along with outstanding stability performance.

TYPICAL APPLICATIONS

X-Ray Scanning: Food Inspection, Fill Level Confirmation and Security Applications

SPECIFICATIONS

X-Ray Characteristics:

Tube Type: Glass tube, Tungsten target, Be filter
Focal Spot: 2.5mm x 2.5mm (IEC 60336)
Beam Filter: 1.5mm glass, 9-26mm oil, 0.4mm Al
Beam Geometry: Asymmetrical fan 93° x 15° ±2°

Input Voltage:

230Vac, ±15%, 50/60Hz, 5A max

X-Ray Tube Voltage:

Nominal X-Ray tube voltage is adjustable between 50kV to 160kV

X-Ray Tube Current:

0.25mA to 4.3mA over specified tube voltage range

X-Ray Tube Power:

688W maximum continuous

Voltage Regulation:

Line: ±0.1% ±10%
Load: ±0.1% 0.25 to 4.3mA

Voltage Accuracy:

Voltage measured across the X-Ray tube is within 1% of the programmed value

Voltage Risetime:

Ramp time shall be 500ms nominal, 1 second maximum from 10% to 90% of rated output

Voltage Overshoot:

Within 5% of rated voltage

Voltage Ripple:

1% p-p of rated voltage

Current Regulation:

Line: ±0.5% ±10%
Load: ±0.5% 0.25 to 4.3mA

Current Accuracy:

Current measured through the X-Ray tube is within 5% of the programmed value

Current Risetime:

500ms nominal, 1 second maximum

Arc Intervention:

4 arcs in 10 seconds = shutdown

Filament Configuration:

Internal high frequency AC filament drive with closed loop filament emission control

Digital Interface:

RS-232 interface.

Control Software:

A demo GUI for engineering evaluations will be provided for the RS-232 digital interface upon request.

Interlock Signals:

A hardware interlock function is provided

Operating Temperature:

5°C to +40°C

Storage Temperature:

-25°C to +65°C

Humidity:

10% to 90% relative humidity, non-condensing

Cooling:

Heat exchanger w/fan and oil pump, powered from AC

Input Line Connector:

5 pin Molex 26-60-4050

Heat Exchanger Power Connector:

4 pin AMP part no. 206061-1

Digital Interface Connector:

9 pin D connector, female

Grounding Point:

M5 ground stud provided on chassis

Dimensions:

See drawing

Weight:

140lbs ±10lbs (64kg ±4.5kg)

Orientation:

Can be mounted in any orientation.

X-Ray Leakage:

Less than 300uR/hr at a distance of 10cm from all surfaces

Special Features:

Stationary or rotating CT application up to 100rpm at a maximum radius 20.25" (514mm)

**AC INPUT POWER
J1 5 PIN MOLEX 26-60-4050 CONNECTOR**

PIN	SIGNAL	PARAMETERS
1	Line	230Vac Input
2	Line	230Vac Input
3	N/C	No Connection
4	Neutral	230Vac Neutral
5	Neutral	230Vac Neutral

**AC POWER FOR HEAT DISSIPATION UNIT
4 PIN AMP 206061-1 CONNECTOR**

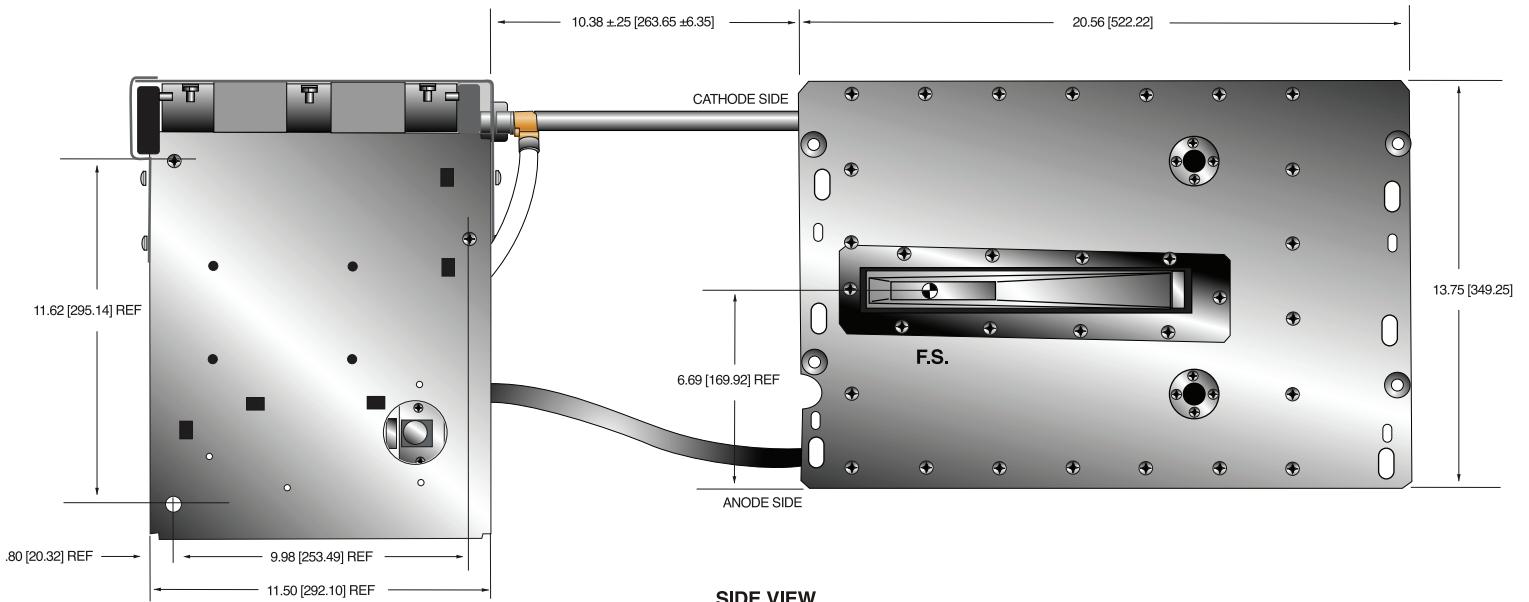
PIN	SIGNAL	PARAMETERS
1	Line	230Vac Input
2	N/C	No Connection
3	Neutral	230Vac Neutral
4	GND	Chassis Ground

**RS-232 DIGITAL INTERFACE—
J5 9 PIN FEMALE D CONNECTOR**

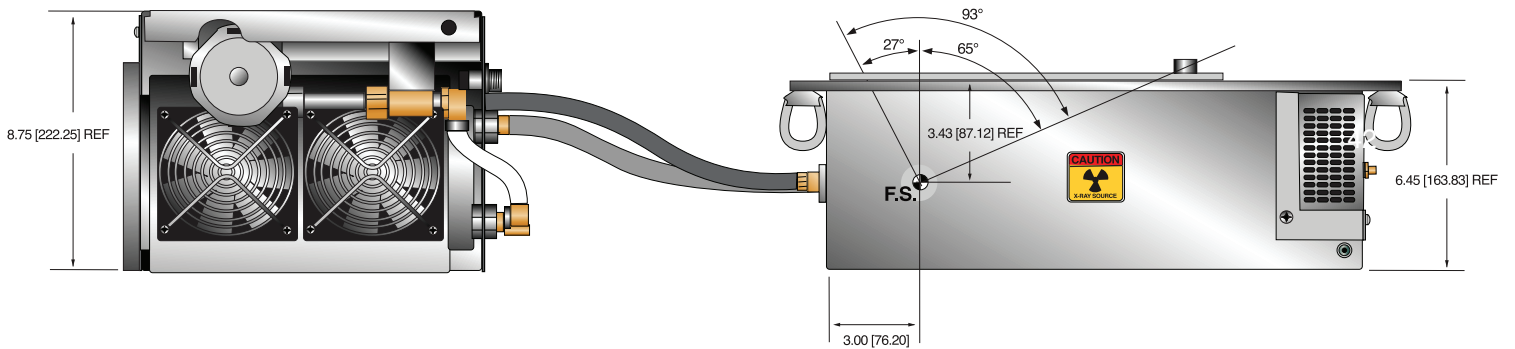
PIN	SIGNAL	PARAMETERS
1	N/C	No Connection
2	TX	Transmit Data
3	RX	Receive Data
4	N/C	No Connection
5	SGND	Signal Ground
6	N/C	No Connection
7	N/C	No Connection
8	N/C	No Connection
9	N/C	No Connection

DIMENSIONS: in.[mm]

TOP VIEW



SIDE VIEW



BOTTOM VIEW

