



Spellman's XRB200PN400 Monoblock® X-Ray source is designed for OEM applications powering its internal X-Ray tube up to 200kV at 400W. Features like universal input, small package size, standard analog monitoring and RS-232 digital interface simplify integrating this unit into your X-Ray system. Standard models are available with fan shaped beam geometry. 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, Security Applications

SPECIFICATIONS

X-Ray Characteristics:

Tube Type: Glass tube, Tungsten target, Be filter
Focal Spot: 0.8mm x 0.5mm (IEC336)
Beam Filter: Glass 1.8mm, Oil 10mm, Al 1mm
Beam Geometry: Symmetrical fan 85° x 10° ±1°

Input Voltage:

100Vac-240Vac ±10%, 50/60Hz, 6A maximum

X-Ray Tube Voltage:

Nominal X-Ray tube voltage is adjustable between 100kV to 200kV

X-Ray Tube Current:

0.5mA to 2mA over specified tube voltage range

X-Ray Tube Power:

400W maximum continuous (350W average without external forced air)

Voltage Regulation:

Line: ±0.1% for a ±10% input line change
Load: ±0.1% for a 0.5mA to 2mA load change

Voltage Accuracy:

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

Voltage Risetime:

<1 second from 10% to 90% of rated output

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

Voltage Overshoot:

5% in less than 100ms

Voltage Ripple:

≤0.2% pp of rated maximum voltage

Current Regulation:

Line: ±0.1% @ 100-200kV, 0.25mA to 2mA
Load: ±0.5% @ 100-200kV, 0.25mA to 2mA

Current Accuracy:

Current measured through the X-Ray tube is within ±1% of the programmed value

Current Risetime:

<1 second from 10% to 90% of rated output

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:

0°C to +40°C

Storage Temperature:

-40°C to +70°C

Humidity:

5% to 95% relative humidity, non-condensing

Cooling:

Heat exchanger w/fan and oil pump, powered from 24Vdc, 2A power supply (customer provided). External forced air cooling if needed to keep oil temperature below 55°C

Input Line Connector:

3 pin Phoenix Contact 1829167

Analog Interface Connector:

10 pin Phoenix Contact 1755503

Digital Interface Connector:

9 pin D connector, female

Grounding Point:

M5 ground stud provided on chassis

Dimensions:

See drawing

Weight:

148.0lbs (67.0kg)

Orientation:

Can be mounted in any orientation.

X-Ray Leakage:

Not to be greater than 5uSv/hr at 5cm outside the external surface

**AC INPUT POWER
3 PIN PHOENIX CONTACT**

PIN	SIGNAL	PARAMETERS
1	Line	Line
2	GND	Ground
3	Neutral	Neutral

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

PIN	SIGNAL	PARAMETERS
1	+24	+24Vdc
2	RTN	Return
3	+24	+24Vdc
4	RTN	Return

**ANALOG INTERFACE—
10 PIN PHOENIX CONTACT**

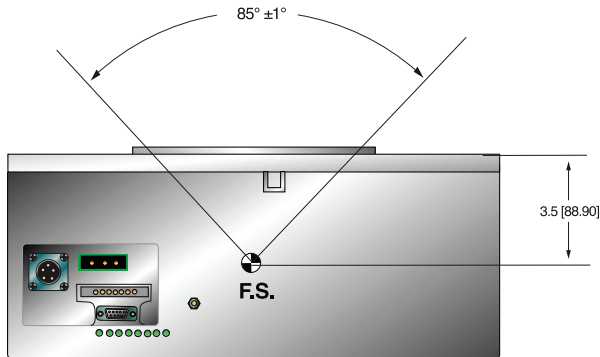
PIN	SIGNAL	PARAMETERS
1	X-Ray	+24Vdc = enable X-Ray
2	X-Ray Return	X-Ray Return
3	N/C	N/C
4	kV Monitor Output	0 to 9Vdc = 0 to 100% Rated Voltage
5	SGND	Signal Ground
6	mA Monitor Output	0 to 9Vdc = 0 to 100% Rated Current
7	Fault	Open Collector, Open = No Fault
8	Relay N/O	HV On, 50V @ 1A maximum
9	Relay Common	HV On, 50V @ 1A maximum
10	Relay N/C	HV On, 50V @ 1A maximum

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

PIN	SIGNAL	PARAMETERS
1	N/C	No Connection
2	Transmit Data	Conforms to E/A RS-232-C
3	Receive Data	Conforms to E/A RS-232-C
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]

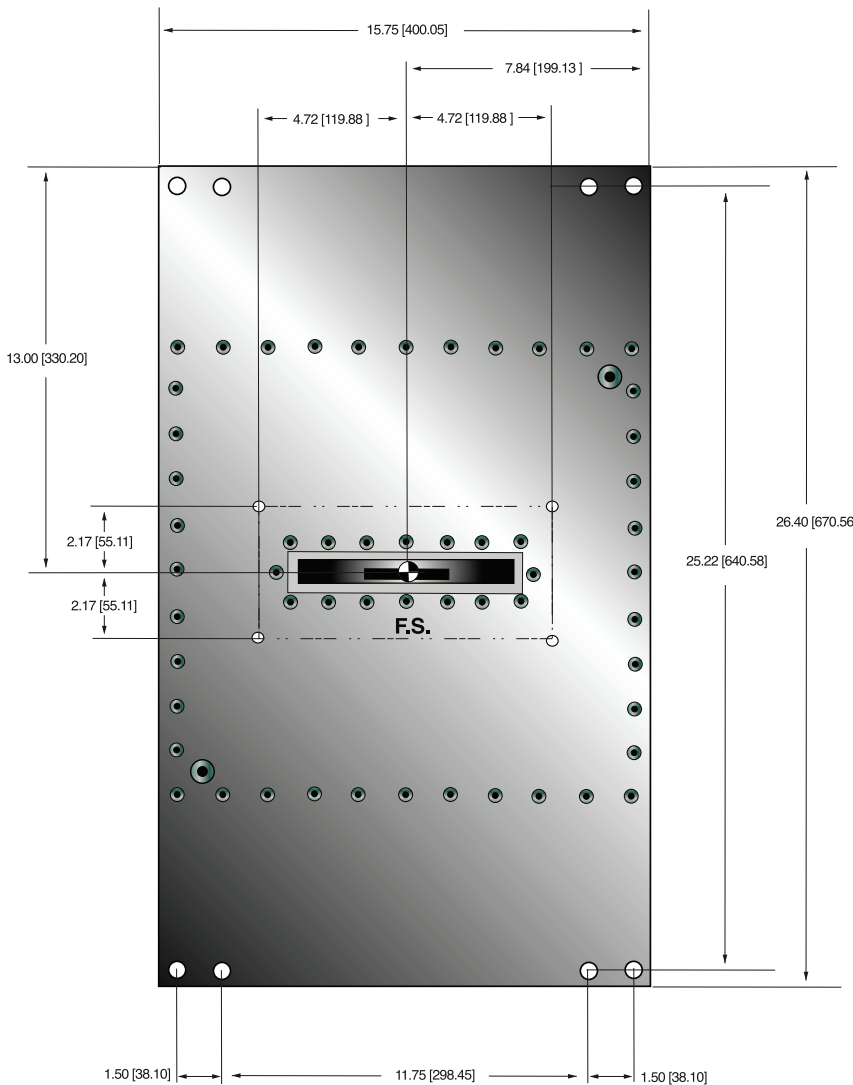
FRONT VIEW



BACK VIEW



TOP VIEW



SIDE VIEW

