INDUSTRIAL X-RAY SOURCE

1.HVC80203 X-Ray Source

Introduction:

The HVC80203 is a compact, safe, and electrically stable integrated X-ray source. It operates continuously at 100W within the allowable temperature range. The system includes a high-voltage power supply, filament power supply, X-ray tube, and high-voltage oil tank. This high-frequency, self-cooling and self-protecting X-ray source supports a maximum voltage of 80kV and a power of 100W. It consists of a control box and high-voltage oil tank, with RS232 interface for control, monitoring, and firmware upgrades.

Features:

1. Integrated design with high electrical integration and a compact appearance
2. Capable of continuous, uninterrupted operation for extended periods
3. High stability
4. Can be installed in any orientation
5. Standard digital interface, easy to use

Application:

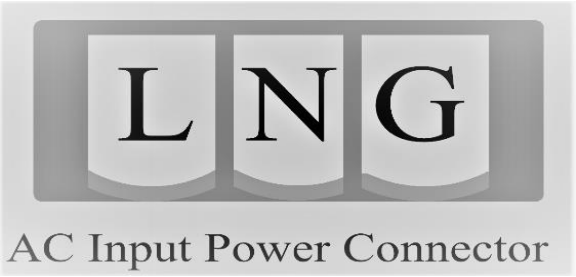
Food testing, industrial non-destructive testing, dangerous goods testing and other fields, mostly used for simple X-ray machines or mobile X-ray testing equipment

Specification:

Item	Specification
Input voltage	230VAC±10%, 50/60Hz, 1.2Amps
Output power of X ray tube	Max continuous output power 100W （80kV/1.25mA,40kv/2.5mA）

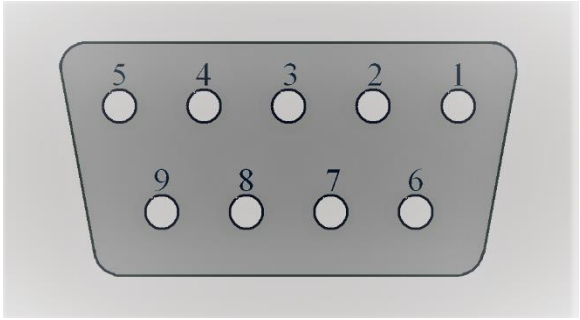
Output voltage	Rated output voltage：Continuously adjustable voltage range 30kV---80kV
	Output voltage ripple：±0.5%（peak to peak）
	Output voltage accuracy：±2% of voltage setting value
	line regulation：±0.1%
	load regulation：±0.1%
Tube current	Rated tube current：Continuously adjustable current range 0.2mA-2.5mA
	Tube current accuracy：±1% mA of current setting value
	line regulation：±0.5%
	load regulation：±0.5%
Rise time of output voltage	At maximum power, the output voltage rise time is less than 0.6 second
	When the output voltage is below 40kV, the rise time is less than 0.1 seconds.
Filament power supply:	input voltage：24VDC
	filament voltage：2.0 to 5.3Vac
	filament：3.0 to 3.8 Amps RMS
	preheating time：3sec
Tube feature	Tube type： fixed anode, glass envelope, tungsten target
	focus：0.8mm
	inherent filtration：0.8mm Be，0.7mm Al
	radiation angle：80°*16° fan beam
	target angle：25°
Cooling	transformer oil，natural air cooling
Working temperatures	-10℃---40℃
Storing temperature	-20℃---60℃
System temperature protection	60°C ± 3°C of Oil temperature:
Humidness	98%，Non-condensation
Weight	24.6kg
Installation direction	Installation in any direction
Radiation angle	16°×80°
X-ray leakage	Less than 0.5mR/hr at 5cm from the surface of the HVC80203.

JB1/AC~(AC Input Power Connector)



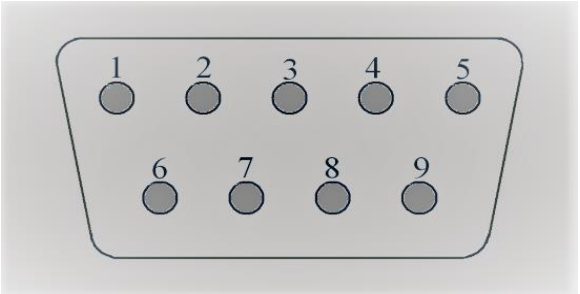
Pin	Signal	Parameter
1	L	live wire
2	N	Neutral line
3	G	PE

JB2/COM (DMR-9S interface definitions)



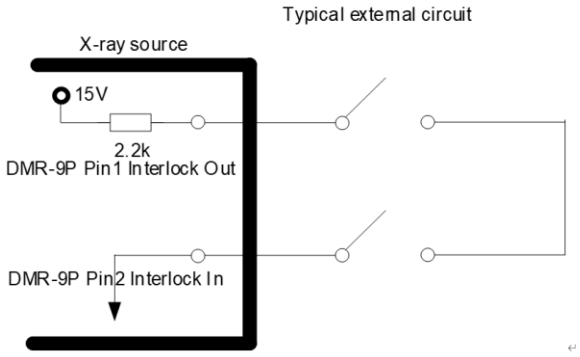
Pin	Signal	Parameter
1.4.6.7.8.9	N/C	No connect
2	TXD	Data transmit
3	RXD	Data receive
5	GND	Signal gnd

JB3/Interlock,(DMR-9P interface definitions)



Pin	Signal	Parameter
3/4/5/6/7/8/9	N/C	No connect
1	Interlock Out	
2	Interlock In	

Short connect pin1 and pin2 make X ray source normal operation. Typical connection：



Led indicator

ID	Color	Meaning
XrayOn	Yellow	indicate X ray on
ARC	Red	Arcing in oil tank
OT	Red	Over temperature
EP_Err	Red	Tube voltage error
IP_Err	Red	Tube current error
Power	Green	Power on

Tank size

HVC80203
Unit: mm