

# TXR1017 Series

## X-Ray High Voltage Power Supply

1~20kV, 20W, Integrated Filament Power Supply, Small Size.



Teslaman TXR1017 series high voltage power supply is a special power supply for small volume X-ray machine. It integrates a filament power supply with an output of 5V DC and an adjustable current of 0.3A to 3.5A. High voltage and filament current can rise steadily.

TXR1017 series power supply can also be connected with potentiometer to realize remote control of output voltage and current, and has the functions of external voltage and current display, safety interlock and so on. You can choose DB9 control or local control or remote digital communication interface to realize RS-232/RS-485 communication.

- Maximum output voltage is 20kV.
- Integrated adjustable filament power supply
- Voltage and current regulation function
- The emission current can be adjusted remotely.
- Safety interlock function
- Can be customized according to user requirements.

### Typical Application:

Thin film thickness measurement; PCB detection; Liquid level detection; Kevex, Oxford, RTW, Superior, Varian, Trufocus, Keyiwei and other brands of cathode grounded X-ray tubes.

### Specification:

Input: 24VDC  $\pm$ 10%.

Output: 1kV to 20kV and other maximum output voltages are optional, and the maximum output power is 20W. 0 to the highest voltage can be adjusted continuously.

#### Voltage Control:

Inside the power supply: The multi-turn potentiometer provided with the power supply can set the output voltage between 0 to the highest voltage.

External remote control: The external control signal from 0 to 10V can adjust the output from 0 to the highest output voltage.

#### Emission Current Control:

Inside the power supply: The multi-turn potentiometer of the power supply can set the electron beam current from 0 to the highest current.

External remote control: The external 0-10V control signal can set the electron beam current from 0 to the highest current.

#### DC Filament Power Supply:

Constant current output, the output current adjustment range is 0.3A to 3.5A, and the output voltage is limited to 5V.

#### Voltage Regulation Rate:

Relative load: 0.01% (no load to rated load).

Relative input: 0.01% (input voltage change is 1V).

#### Current Regulation Rate:

Relative load: 0.01% (no load to rated load).

Relative input: 0.01% (input voltage change is 1V).

Ripple: under the rated output condition, it is better than 0.1%p-p-p.

#### Ambient Temperature:

Working time: 0°C to +50°C. Storage: -40°C to +85°C.

Temperature coefficient: voltage and current are better than 25ppm/°C.

Stability: less than 0.05% every 8 hours after starting for 0.5 hours.

#### Voltage and Current Indication:

0 to +10V, representing 0 to rated output, with an error of 1%.

#### Overall Dimensions:

65mm wide, 115mm high and 150mm deep.

#### High Voltage Cable:

The standard high-voltage cable is 1m in length outside the power supply, and cannot be plugged and unplugged. Other specifications of high-voltage cables can be customized.

**Weight:** about 1.82kg.

**TXR1017 Series High-Voltage Power Supply  
Model Selection Table:**

Rating Output		Power supply model
kV	mA	
5	4	TXR1017P5-20
10	2	TXR1017P10-20
20	1	TXR1017P20-20

**Analog Port DB9**

Pin	Description	
1	+10Vdc reference	+10Vdc reference voltage
2	Voltage display	0 ~+10VDC = 0-100% rated output, Zout=10kΩ
3	Voltage remote control input	0 ~+10VDC = 0-100% rated output, Zin=10MΩ.
4	Voltage local control output	0 ~+10 VDC, potentiometer adjustment
5	Current display	0 ~+10VDC = 0-100% rated output, Zout=10kΩ
6	Current remote control input	0 ~+10VDC = 0-100% rated output, Zin=10MΩ.
7	Current local control output	0 ~+10 VDC, potentiometer adjustment
8	External interlock	Grounding = high voltage on
9	Interlocking return	Ground

\*C0001 standard DB9 port definition

**Power Input/Filament Output Interface**

Pin	Description	
1	+24Vdc input	+24 VDC 10%, maximum current 5A.
2	+24Vdc ground	Power supply ground
3	Filament voltage output	+5V@3A, max
4	Ground	Ground

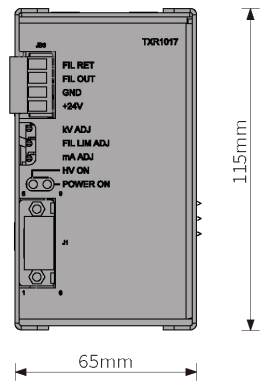
**RS-232/RS-485 Digital Communication Port**

Pin	Description	Pin	Description
1	leisure	6	leisure
2	TXD/ send data	7	RS-485B
3	RXD/ received data	8	leisure
4	leisure	9	RS-485A
5	Ground		

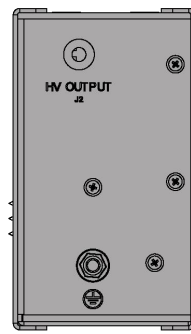
**USB Digital Port**

Pin	Description	
4	VBUS	+5Vdc
2	D-	Data-
3	D+	Data+
4	Ground	USB ground

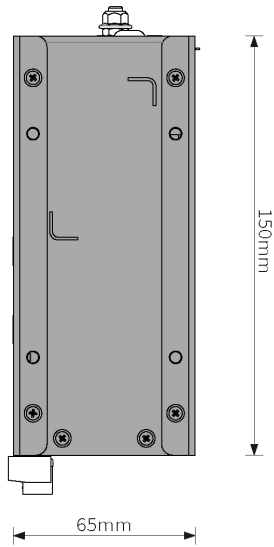
# Overall Dimensions: mm



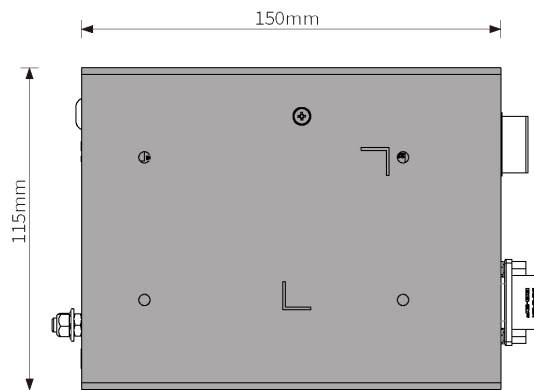
Front View



Rear View



Top View



Side View