

NEW

X-ray HV Power Supply

Anode ground type

XPg series

— Switching power supply —

Output Voltage: -160kV to -30kV

Output Power: 600W to 4000W



* X-ray tube is separate item.



- Low ripple and high stability
- Integrated Floating AC Filament Supply
- Maximum 3kW and 4kW output power models are also available.

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XPg Series is high stability and low ripple negative X-ray power supply with floating AC filament supply and generates stable X-ray output. Interlock and useful function are installed for safer and convenient operation. With combination with digital controller CO/USB series, control via GPIB, RS-232C, RS-485 and USB is available.

FEATURES

- HV power supply designed for XRD, XRF and X-ray tube
- Maximum 3 kW and 4 kW output power models are also available.
- For Anode ground type X-ray tube
- Integrated Floating AC Filament Supply
- Low ripple and high stability
- Digital interface
- Constant Voltage/Current operation with full protection for safety operation

APPLICATIONS

- X-ray non-destructive inspection
- XRD (X-ray Diffraction)
- XRF (X-ray Fluorescence Analysis)

LINE UP

Output Voltage	Output Current	Output Power	Model
-30 kV	20 mA	600 W	XPg-30N20
	40 mA	1200 W	XPg-30N40
-40 kV	15 mA	600 W	XPg-40N15
	30 mA	1200 W	XPg-40N30
-50 kV	12 mA	600 W	XPg-50N12
	24 mA	1200 W	XPg-50N24
-60 kV	10 mA	600 W	XPg-60N10
	20 mA	1200 W	XPg-60N20
	50 mA	3000 W	XPg-60N50
	67 mA	4000 W	XPg-60N67
-100 kV	6 mA	600 W	XPg-100N6
	10 mA	1000 W	XPg-100N10
-160 kV	4 mA	640 W	XPg-160N4

SPECIFICATIONS

Input Voltage /Current

Input Voltage Output Power	single phase		three phase
	100 Vac * to 120 Vac	200 Vac to 240 Vac	200 Vac * to 220 Vac
600 W - 640 W	13 A	6.5 A	—
1000 W	—	11.5 A	—
1200 W	—	13 A	—
3000 W	—	20 A	11 A
4000 W	—	25 A	15 A

*option

Output Control

(Local mode)
Voltage: front panel 10-turn potentiometer
Current: front panel 10-turn potentiometer
(Remote mode)
Voltage: external voltage source (Vcon) 0 Vdc to 10 Vdc (input impedance greater than 1 MΩ) or by external 5 kΩ potentiometer
Current: external voltage source (Icon) 0 Vdc to 10 Vdc (input impedance greater than 1 MΩ) or by external 5 kΩ potentiometer

Voltage Regulation

Line: ±0.005% of maximum voltage for ±10% input line change
Load: 0.005% of maximum voltage for full load change

Current Regulation

Line: ±0.05% for ±10% input line change
Load: 0.05% ±100 μA of output voltage change from 10% to 100%

Ripple

Less than 0.03%rms (below 1 kHz)
Less than 0.7%rms (over 1 kHz)

Stability

0.01%/8 Hr

Temperature Coef.

50 ppm/°C

Filament

12 V/5 A AC
stand-by 0.5 A
Filament limit is variable with 10-turn potentiometer on rear panel

Metering

Output voltage: 3.5-digit digital meter -1999
Output current: 3.5-digit digital meter 1999

Monitor Output

Voltage monitor: 0 V to 10 V (output impedance 1 kΩ typ.)
Current monitor: 0 V to 10 V (output impedance 1 kΩ typ.)

Protections

Protection against over voltage, over current, output short circuit, Filament protection, arc and over temperature.
Disable HV output after AC power line recovery.

Other Functions

Remote ON/OFF switch (outside relay)
Interlock (outside relay)
Output status signal (inside relay)

Output Connector

30 kV to 60 kV: Federal Standard 75 kV 3-pin
100 kV, 160 kV: European Standard R24

Temperature

Operating: 0°C to +40°C, Storage: -20°C to +70°C

Relative humidity

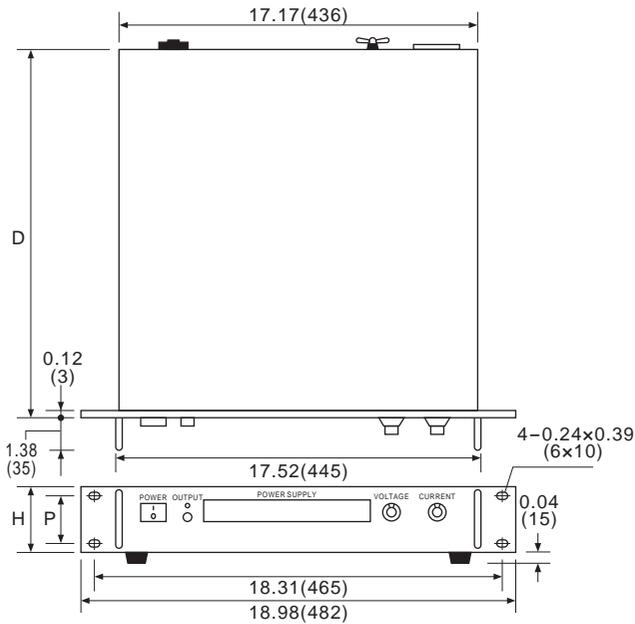
20% to 80%, non condensing

Accessories

AC line input cable 2.5 m (flying lead) (1) (It is not included in 3kW and 4kW models)
Instruction Manual (1)

★ These specifications are at the maximum rated output after a 2Hr warm-up period unless otherwise specified.

DIMENSIONS inch (mm)



MODEL	Standard (EIA)		D
	H	P	
XPg-30N20	5.24 (133)	2.25 (57.2)	18.98 (482)
XPg-30N40			
XPg-40N15			
XPg-40N30			
XPg-50N12			
XPg-50N24			
XPg-60N10	5.24 (133)	2.25 (57.2)	21.65 (550)
XPg-60N20			
XPg-100N6	6.97 (177)	4 (101.6)	24.02 (610)
XPg-100N10			
XPg-160N4			

OPTIONS

- L(100V) 100 Vac to 120 Vac single phase (only for 600 W model and 640 W model)
- L(200V3P) 200 Vac three phase (only for 3000 W and 4000 W model)
- LDf Dual filament (Large focus spot, small focus spot is selectable)
- LT1 Interlock remote reset, AC line remote reset (recovery from HV disable status)

- CNF-75-3P(5) HV output cable for 30 kV to 60 kV (Federal Standard 75 kV 3-pin plugs on both end 5 meters)
- CNF-75-3P(10) HV output cable for 30 kV to 60 kV (Federal Standard 75 kV 3-pin plugs on both end 10 meters)
- CNXP-160-3P(5) 100 kV, 160 kV HV output cable (European Standard R24 plugs on both end 5 meters)
- CNXP-160-3P(10) 100 kV, 160 kV HV output cable (European Standard R24 plugs on both end 10 meters)

★ Add L mark to the model number when ordering. [e.g.] XPg-30N20-LDf with CNF-75-3P(5) Option code is ordered alphabetically and by input voltage value.

Connection with X-ray tube

Below diagram shows the connection of power supply and X-ray tube.

[Standard type]

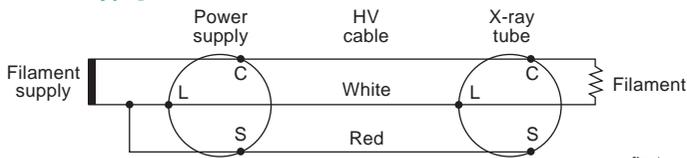
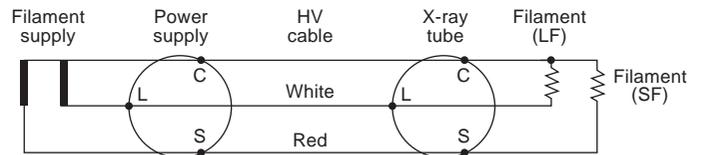
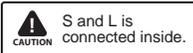


fig.1

[-LDf option (Dual filament) type]



*Wrong connection could cause failure or malfunction.
Make sure the filament connection with your X-ray tube when ordering.



OR

Contact to sales in advance if X-ray tube with C and S of fig.1 or C and L of fig.2 is shorted is used.

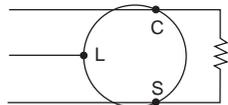


fig.2



Digital Controller CO/USB series

Interface: GPIB/RS-232C/RS-485/USB

The CO/USB series is a line of adapters used to digitally control Matsusada's High Voltage, DC, and AC power supplies via personal computer. It is ideally suited to building safe, stable, versatile and highly accurate automatic inspection and measurement systems, saving your time and cutting labor costs. And, the fiber optic connection secures electrical isolation, resulting in safer operation even when combined with power supplies of different potentials.

- ▶ High resolution 16-bit (1/65535)
 - ▶ Thorough measures against noises
 - ▶ Complete isolation by fiber optic cable
 - ▶ Listner/Talker function
- For more information, please refer to CO/USB series catalog.

