EB-K DC POWER SUPPLY

ELECTRON BEAM UP TO 60KV

POWER UP TO 80KW+

Single source power supply dedicated to Electron Beam application. EB-K Power Supplies provide rapid rise time and advanced arc management to ensure beam continuity.

APPLICATIONS

- Beams (Electron-Ion)
- Tubes
- Welding
- Additive manufacturing (3D printing)
- Sterilization
- Surface treatment
- PVD (Physical Vapor Deposition)

MAIN SPECIFICATION

- Voltage: up to 60kV (70kV with no load)
- Charging Power: 6kW to 80kW+
- Polarity: Negative
- Rise-time(10-90%): <3ms
- Ripple+Noise: 0.2% RMS of max output voltage
- Remote interface: 0-10V Analog interface

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TECHNICAL SPECIFICATIONS

FORMAT	19” rack or 19” cabinet May include a separate HV block (option)
EFFICIENCY	> 92% at full load
MAINS INPUT	400 VAC ±10%, 47-63 Hz 3 Phases + Earth
INPUT POWER FACTOR	≥ 0.90 at full load
INRUSH CURRENT	Limited to full power current
VOLTAGE LOAD REGULATION	< 0.1% (for 10–100% load)
VOLTAGE LINE REGULATION	< 0.05% (for Mains Voltage ± 10%)
CURRENT LOAD REGULATION	< 0.05% (for 10–100% load)
CURRENT LINE REGULATION	< 0.05% (for Mains Voltage ± 10%)
STABILITY (AFTER 1-HOUR WARM-UP)	100 ppm, 300 ppm of operating with constant load and ambient temperature
ACCESSORIES	3m removable coaxial HV cable, D-sub plug connected

CONTROL

REMOTE CONTROL INTERFACE	0-10V Analog

OPERATING ENVIRONMENT

OPERATING TEMPERATURE	From 0 to 50°C
STORAGE TEMPERATURE	From -20°C to 50°C
TEMPERATURE COEFFICIENT	100 ppm/°C

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STANDARDS AND REGULATIONS

CE CERTIFIED	Low voltage directive: 2014/35/EU EMC directive: 2014/30/EU RoHS directive: 2011/65/EU EN 61000-6-2: 2019 EN 61000-6-4: 2019 EN 61326-1: 2021 EN 61000-3-2: 2019 EN 61000-3-3: 2013 + A1: 2019 EN 61010-1: 2010 + A1: 2019 EUROLAB EMC decision n°11: issue 1 of 18 of December 2007

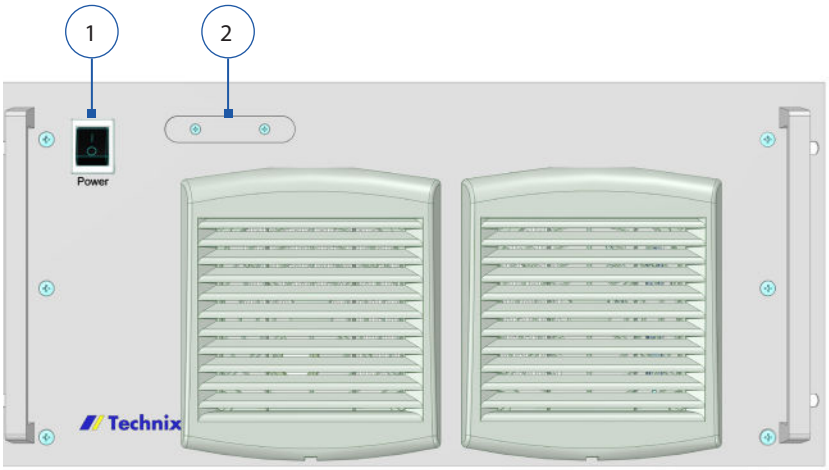
DOCUMENTATION AND SERVICES

DOCUMENTATIONS	User manual Test report EU declaration of conformity CE RoHS2 declaration of conformity
WARRANTY	2 years Extension on demand
ON DEMAND	Witnessed Factory Acceptance Test (FAT) Detailed design report Custom tests Manufacturing process certification Special engineering

INTERFACES

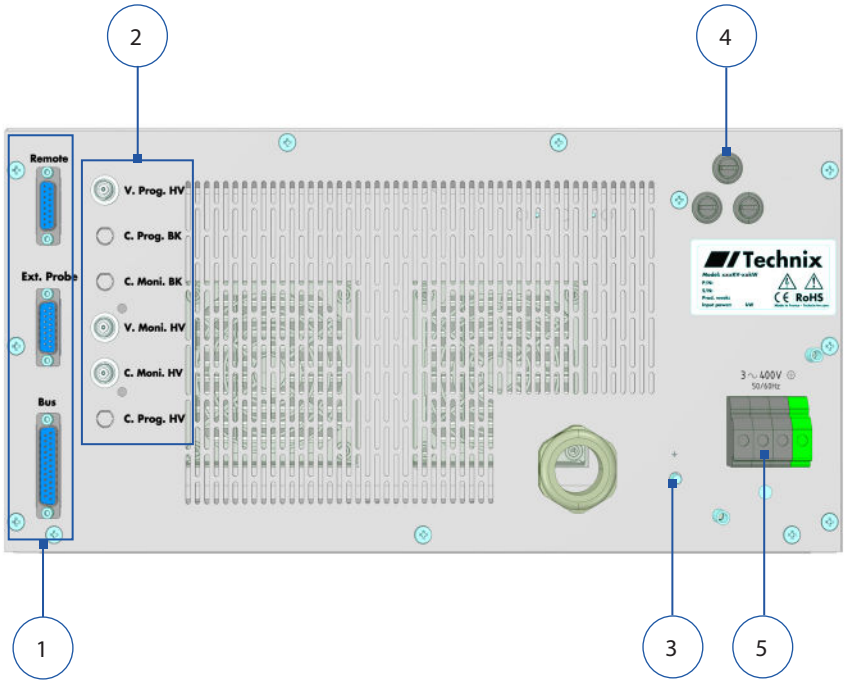
FRONT PANEL

1. ON / OFF
2. Arc protection settings



REAR PANEL

1. D-SUB
2. BNC
3. Earth bolt
4. Fuses
5. Mains input



0-10V ANALOG INTERFACE

PIN	SIGNAL	SIGNAL DESCRIPTION	I/O
1-3	Fault status	Contact Closed = No Fault detected; Contact Open = Fault detected	Output
5-7	D-sub plug connected	Allows the user to know if the D-sub plug is properly connected	Output
9-11	HV-On control	Contact closed by user = HV supplied Contact opened by user = Generator stops to supply HV	Input
4-12-13-15	0V reference	0V ground reference	Output
2-4	Inhibit control	Contact open = Inhibit active (the generator does not produce HV) ; Contact closed = inhibit inactive	Input
6	Arc monitor (Mains Monitor for older models)	When electric arc is detected, the open collector output goes to low level for 100 mS (Monostable)	Output
8	Arc monitor (Mains Monitor for older models)	When electric arc is detected, the open collector output goes to low level in real-time	Output
10	Not connected		
14	Output Voltage control	When Output voltage setting is reached, the open collector output goes to low level	Output

RANGE

MODEL REFERENCE: EBK 30 to 60 kV - 6 to 80 kW

VOLTAGE POWER

OUTPUT POWER	6 kW	15 kW	20 kW	40 kW	60 kW	80 kW
OUTPUT VOLTAGE	Max Current					
30 kV	210 mA	510 mA	667 mA	1.43 A	2.2 A	2.67 A
45 kV	147 mA	367 mA	450 mA	889 mA	1.46 A	1.78 A
60 kV	110 mA	260 mA	340 mA	680 mA	1.1 A	1.34 A

Other values available on demand

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