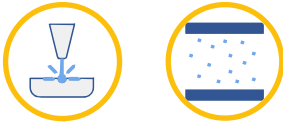


## ELECTRON BEAM UP TO 60KV POWER UP TO 80KW+



Multisource power supply is dedicated to Electron Beam application. EB-M power supplies provides 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

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

**TECHNICAL SPECIFICATIONS - CATHODE POWER SUPPLY**

FORMAT	19" cabinet or 19" cabinet with separated oil tank
EFFICIENCY	> 92% at full load
MAINS INPUT	400 VAC $\pm$ 10%, 47-63 Hz 3 Phases + Earth
INPUT POWER FACTOR	$\geq$ 0.90 at full load
INRUSH CURRENT	Limited to operating current at full power
VOLTAGE LOAD REGULATION	< 0.1% (for 10-100% load)
VOLTAGE LINE REGULATION	< 0.05% (for Mains Voltage $\pm$ 10%)
CURRENT LOAD REGULATION	< 0.05% (for 10-100% load)
CURRENT LINE REGULATION	< 0.05% (for Mains Voltage $\pm$ 10%)
STABILITY (AFTER ONE HOUR WARM-UP)	0.1% / hour, 0.03 % / 8 hours of operating with constant load and ambient temperature
STORED ENERGY	<1 J/kW
ACCESSORIES	3m removable coaxial HV cable, interlock terminator

**TECHNICAL SPECIFICATIONS - AUXILIARY POWER SUPPLIES**

FILAMENT POWER SUPPLY	Voltage: up to 20V Current: up to 15A
WEHNELT/BIAS POWER SUPPLY (3 CONFIGURATIONS AVAILABLE)	Voltage: 2kV, 3kV or 3.8kV Power: 5W
BOMBARDMENT POWER SUPPLY (4 CONFIGURATIONS AVAILABLE)	1kV - 50mA 1.7kV - 80mA 3kV - 45mA 5.5kV - 130mA

**CONTROL**

REMOTE CONTROL INTERFACE	Standard: 0-10V Analogue
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## OPERATING ENVIRONMENT

OPERATING TEMPERATURE	From 0 to 40°C
STORAGE TEMPERATURE	From -20°C to 40°
TEMPERATURE COEFFICIENT	200 ppm/°C

## STANDARDS AND REGULATIONS

CE CERTIFIED AND ACCORDING	<p>Low voltage directive: 2014/35/EU</p> <p>EMC directive: 2014/30/EU</p> <p>RoHS directive: 2011/65/EU</p> <p>EN 61000-6-2:2005 + AC (2005)</p> <p>EN 61000-6-4:2007 + A1 (2011)</p> <p>EN 61326-1:2013</p> <p>EN 61000-3-2:2014</p> <p>EN 61000-3-3:2013</p> <p>EN 61010-1:2010</p> <p>EUROLAB EMC decision n°11: issue 1 of 18 of December 2007</p>
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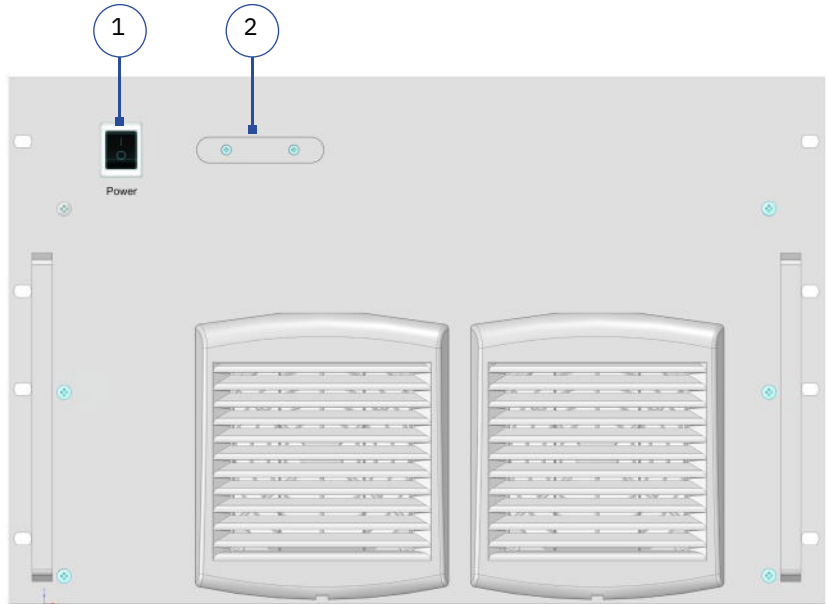
## DOCUMENTATION AND SERVICES

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

## INTERFACE

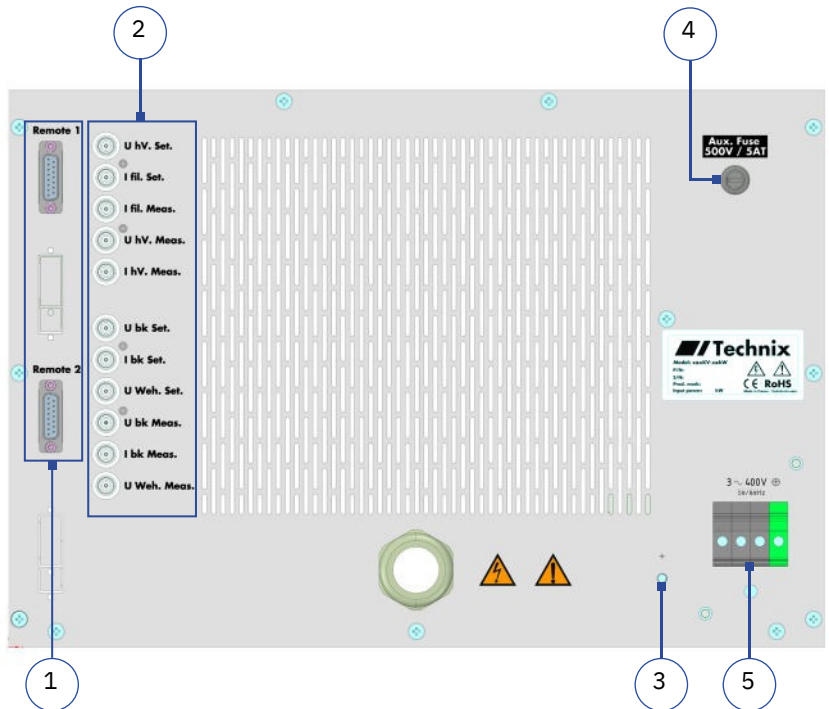
### FRONT PANEL

- 1. ON / OFF
- 2. Arc protection settings



### REAR PANEL

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



**0-10V ANALOG INTERFACE**
**HV CONTROL**

ANALO	0-6V → 0-60kV	HV voltage setting	Input	BNC
G	0-6V → 0-60kV	HV voltage measurement	Output	BNC
ANALO	0-10V → 0 to 100%	HV current measurement	Output	BNC
G	Command	HV ON/OFF	Input	D-SUB
DIGITAL	Status	HV & Filament inhibit	Output	D-SUB
DIGITAL	Status	FAULT	Output	D-SUB
DIGITAL	Status	HV voltage reached	Output	D-SUB

**FILAMENT CONTROL**

ANALO	0-10V → 0 TO 15A	Filament current setting	Input	BNC
G	0-10V → 0 TO 15A	Filament current measurement	Output	BNC
ANALO	Command	Filament ON/OFF	Input	D-SUB
G	Status	FAULT	Output	D-SUB
DIGITAL	Command	Filament & HV inhibit	Input	D-SUB
DIGITAL	Status	Filament current reached	Output	D-SUB

**BOMBARDMENT CONTROL**

ANALO	0-10V → 0 to 100%	Bombardment current setting	Input	BNC
G	100% 0-10V → 0 to 100%	Bombardment current measurement	Output	BNC
ANALO	0-10V → 0 to 100%	Bombardment switching ON/OFF	Input	BNC
G	0 to 100% 0-10V → 0 to 100%	Bombardment voltage measurement	Output	BNC
ANALO	Command	Bombardment ON/OFF	Input	D-SUB
G	Status	Bombardment ON/OFF	Output	D-SUB
ANALO	Command	Bombardment & Wehnelt inhibit	Input	D-SUB
G	Status	FAULT	Output	D-SUB

**WEHNELT CONTROL**

ANALO	0-10V → 0 to 100%	Wehnelt voltage setting	Input	BNC
DIGITAL	0-10V → 0 to 100%	Wehnelt voltage measurement	Output	BNC
ANALO	Command	Wehnelt & BK inhibit	Input	D-SUB
G	Command	Wehnelt ON/OFF	Input	D-SUB

## RANGES

model reference: EBM 0 to 60 kV - 6 to 100 kW - FWB

VOLTAGE

POWER

FILAMENTWEHNELT/BIAS BOMBARDMENT

OUTPUT VOLTAGE	6 kW	8 kW	15 kW	20 kW	40 kW	80 kW
	Max Current					
45 kV	147 mA	188 mA	367 mA	450 mA	889 mA	1.78 A
60 kV	110 mA	143 mA	260 mA	340 mA	680 mA	1.34 A