

- Optional ET, RS-232, fiber control
- Electron Beam, Ion Beam Power System
- High Accuracy, High Stability, Low Ripple
- Integrated Single Chassis Solution
- Corona Free Operation
- Over-voltage, over-current, shortcircuit protection
- OEM customization available

## INTRODUCTION

Wisman's EMB high voltage power supply is an integrated multi-output high voltage power supply with digital control. Typical applications include Scanning Electron Microscopy, Electron Beam, Ion Beam, Field Emission Electron Microscopy, Vacuum Chambers, Semiconductor Analysis, Ion Beam Etching, Focused Ion Beam Lithography.

The power supply adopts modular design. Interface, logic, and control circuitry are surface-mounted to minimize cost and form factor. Each component (Accelerator, Filament, Suppressor, Extractor) is engineered to meet stringent application-specific requirements with ultra-low output ripple, excellent regulation, stability, temperature coefficient, drift, and accuracy. Each suspended high-voltage power supply is isolated and measured and controlled by Wisman's unique high-voltage isolation technology.

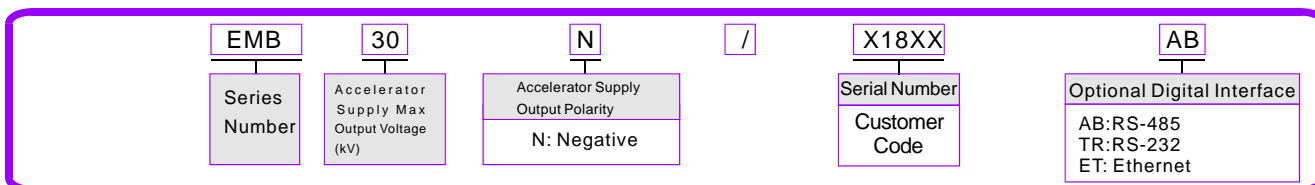
## TYPICAL APPLICATION

Scanning electron microscope, electron gun, ion gun, vacuum gun, semiconductor analysis, ion beam etching, focused ion beam lithography, life science, medical chemical industry, scientific experiment, industrial application.

## EMB SELECTION TABLE

Accelerator Supply				Filament Supply			Suppressor Supply				Extractor Supply			
Voltage(kV)	Current(uA)	Ripple	Stability	Current(A)	Ripple	Stability	Voltage(V)	Current(uA)	Ripple	Stability	Voltage(KV)	Current(uA)	Ripple	Stability
-30	350	<20mV	10ppm/min	3	<1mA	0.5mA/1hr	-1000	150	<15mV	0.2V/15min	10	700	<15mV	10ppm/min

## EMB SELECTION EXAMPLE



## SPECIFICATION

PARAMETER	DESCRIPTION
Input	+24Vdc±5%, max current 5A.
Output	Output Voltage 0~-30kV, Output Current 0~350uA.
Accuracy	±20V or <1% (from -100V to -30kV).
Line Regulation	<0.3V (Input Voltage change ±5%).
Ripple	<20m Vp-p.
Temperature coefficient	25ppm/°C.
Stability	<10ppm/15min after 2 hours' warm-up.



**SPECIFICATION**

PARAMETER		DESCRIPTION
Filament	Output	Output Voltage 3Vdc, Output Current 0~3A.
	Load Regulation	<±0.1% (no load to rated load)
	Line Regulation	<100ppm(Input Voltage change ±10%)
	Ripple	<1mA
	Temperature coefficient	<100ppm/°C
	Stability	0.5mA/hr s after 1 hour' warm-up
Suppressor	Output	Output Voltage 0~-1000Vdc, Output Current 150uA.
	Accuracy	±5V or <1% (from -10V to -1000V)
	Line Regulation	<±100ppm(Input Voltage change ±10%)
	Ripple	<15mV
	Temperature coefficient	10ppm/°C
	Stability	0.2V/15min after 2 hours' warm-up
Extractor	Output	Output Voltage 100V~10kV, Output Current 700uA.
	Accuracy	±10V or <1% (from 100V to 10kV)
	Line Regulation	<±100ppm(Input Voltage change ±5%)
	Ripple	<15mVp-p
	Temperature coefficient	25ppm/°C
	Stability	10ppm/15min after 2 hours' warm-up
Operating temperature		0°C ~ +40°C
Storage temperature		-20°C ~ +50°C
Cooling		Natural convection
Humidity		20% ~ 85% Rh, no condensing
Dimensions		6.22" H x 19" W x 14.17" D (158.0mm x 483.0mm x 360.00mm)
Weight		23kg

Note: The abbreviations in this manual are explained as follows:

ACL -- Refers to Accelerator Supply

EXT -- Refers to Extractor Supply

FIL -- Refers to Filament Supply

SUP -- Refers to Suppressor Supply



**RS-232 DIGITAL INTERFACE<sup>Ⓛ</sup>**

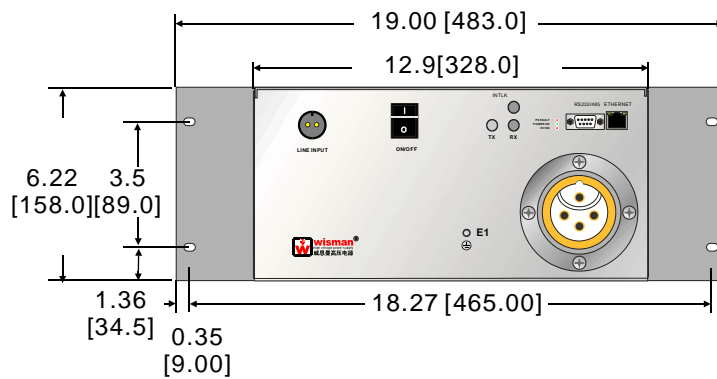
	SIGNAL		SIGNAL
1	N/C	6	N/C
2	TXD/Transmit	7	N/C
3	RXD/Receive	8	N/C
4	N/C	9	N/C
5	GND		

**ETHERNET INTERFACE<sup>Ⓛ</sup>**

	SIGNAL		SIGNAL
1	RX+(Receive +)	6	TX-(Transmit -)
2	RX-(Receive -)	7	N/C
3	TX+(Transmit +)	8	N/C
4	N/C	9	N/C
5	GND		

**EMB DIMENSION**

FRONT VIEW



TOP VIEW

