

NEW

Highly stable output HV power supply

SEM, Semiconductor Inspection System Power Supply

AES/AESS series

Output Voltage : 5 kV to 30 kV
Output Current : 500 μ A to 6 mA



AES/AESS series



FEATURES

- Ultra Low Ripple and High stability
- Low temperature coefficient, 25 ppm/°C <AESS>
(Below 10 ppm/°C model is available)
- With Voltage and current monitor
- Remote control via RS-232C
(Control via USB, RS-485, RS-422 or GPIB is also available.)
However, it is different method from the control with
Matusada's digital controller CO series.
Please contact our sales representative for detail.

APPLICATIONS

- SEM
(Scanning Electron Microscope)
- CD-SEM (Critical Dimension SEM)
- E-Beam lithography
- FIB (Focused Ion Beam)
- AES (Auger electron spectroscopy)

SUMMARY

AES/AESS series are high voltage power supplies with quite stable output for various high voltage applications, which require precise outputs.

The low ripple and temperature coefficient secure you the quite stable output voltage.

4-digits digital meter and digital interface will secure more precise monitoring and setting.

LINEUP

Output Voltage	Output Current	MODEL	Ripple	MODEL	Ripple
0 to 5 kV	3 mA	AES-5*3	100 mVp-p	AESS-5*3	10 mVp-p
	6 mA	AES-5*6	100 mVp-p	AESS-5*6	10 mVp-p
0 to 10 kV	1.5 mA	AES-10*1.5	200 mVp-p	AESS-10*1.5	20 mVp-p
	3 mA	AES-10*3	200 mVp-p	AESS-10*3	20 mVp-p
0 to 15 kV	1 mA	AES-15*1	300 mVp-p	AESS-15*1	30 mVp-p
	2 mA	AES-15*2	300 mVp-p	AESS-15*2	30 mVp-p
0 to 30 kV	500 μA	AES-30*0.5	500 mVp-p	AESS-30*0.5	50 mVp-p
	1 mA	AES-30*1	500 mVp-p	AESS-30*1	50 mVp-p

*:P...Positive polar output N...Negative polar output

SPECIFICATIONS

Input voltage	85 to 264 VAC 50 to 60 Hz single phase	Monitor Output	[Analog] Voltage monitor : 10 V/maximum output voltage (output impedance 1 k Ω , accuracy ± 1 % Full Scale) Current monitor : 10 V/maximum output current (output impedance 1 k Ω , accuracy ± 1 % Full Scale) [RS-232C] Voltage monitor : Resolution 16 bit Current monitor : Resolution 16 bit
Output control	Local : Rotary encoder on front panel Remote : External control voltage 0 V to 10 Vdc Input impedance 1 M Ω Setting accuracy $\pm 0.5\%$ Full scale RS-232C Interface : Optical fiber cable Speed : Asynchronous 19200 bps Data length : 8 bit Parity : None Step bit : 1 bit Flow control : None Setting resolution : 16 bit	Protection	Over voltage protection Output voltage is to be limited at rated maximum output voltage at local / RS-232C Control, limited at 105 % of rated maximum output at remote control. Over current protection Output current is to be limited at approx.105 % of rated maximum output current with voltage drop down. Protection against short circuit and arc Blackout protection When recovered from blackout the power supply become stand-by mode. Output cut off when interlock terminal on rear panel is open.
Voltage Regulation	Line : 0.005 % of maximum voltage for ± 10 % input line change Load : 0.005 % of maximum voltage for 10 to 100 % load change	Interlock Operating temp.	+15 $^{\circ}$ C to +35 $^{\circ}$ C
Stability	AES 20 ppm/h, 50 ppm/8 h AESS 10 ppm/h, 25 ppm/8 h (Consult us for greater stability)	Storage temp.	-20 $^{\circ}$ C to +60 $^{\circ}$ C
Temperature Coef.	AES 50 ppm/ $^{\circ}$ C AESS 25 ppm/ $^{\circ}$ C (below 10 ppm/ $^{\circ}$ C model is available)	Humidity	0 to 80 %RH (no condensation)
Warm Up	8 h warm up is required.	Output connector cable	Matsusada's low noise connector and cable (detachable)
Output display	Voltage : 4-digit meter (Accuracy : ± 1 % Full Scale) Current : 4-digit meter (Accuracy : ± 1 % Full Scale)	Accessory	HV output cable 2.5 m (1) (5 kV models : CN-SHV-HVP) (10 kV models : CSSP-10) (15, 30 kV models : CSSP-30) AC input cable (1) CO-OPT cable 3 m (1) CO-OPT2-25 (optical RS-232C Module) (1) Instruction manual (1)

DIMENSIONS inch(mm)



