

## AMS·AMT series

High speed

# High Voltage Amplifier



AMS·AMT series is a rack mountable type, fast response high voltage operational amplifier. It gives quick response as fast as 100kHz and provides high voltage outputs in reference to its input wave forms such as Sine, Triangle, Saw Tooth, Square Wave Forms and more.

13 different models are available as a standard unit. They are all solid state. Output voltage ranges from  $\pm 600\text{V}$  to  $\pm 20\text{kV}$ .

## FEATURES

- Output  $\pm 600\text{V}$  to  $\pm 20\text{kV}$
- High speed response  $360\text{V}/\mu\text{sec}$  (AMT)
- Various types of output wave forms according to the input wave
- DC bias function
- DC output voltage monitor (3½ digit meter)

## APPLICATIONS

- Beam deflection
- Corona discharge
- Electrostatic chuck
- Electrophotography process
- Breakdown voltage testing
- Electroviscosity fluid
- Lighting discharge tube
- Various electrostatic testing

## LINEUP

### < AMS series : High Speed model >

Output voltage (Vdc)	Output current (mA)	MODEL	Slew Rate (full scale)	Frequency Response(-3dB)*	
				full scale	10% of full scale
-600 to +600	50	AMS-0.6B50	30V/ $\mu\text{s}$	DC to 15kHz	DC to 30kHz
-1k to +1k	30	AMS-1B30		DC to 10kHz	DC to 20kHz
-1.5k to +1.5k	20	AMS-1.5B20		DC to 6kHz	DC to 12kHz
-3k to +3k	10	AMS-3B10		DC to 3kHz	DC to 6kHz
-5k to +5k	6	AMS-5B6		DC to 2kHz	DC to 4kHz
-10k to +10k	2	AMS-10B2		DC to 1kHz	DC to 2kHz

### < AMT series : Ultra High Speed · High Power model >

Output voltage (Vdc)	Output current (mA)	MODEL	Slew Rate (full scale)	Frequency Response(-3dB)*	
				full scale	10% of full scale
-600 to +600	100	AMT-0.6B100	250V/ $\mu\text{s}$	DC to 100kHz	DC to 100kHz
-1k to +1k	60	AMT-1B60		DC to 60kHz	DC to 100kHz
-1.5k to +1.5k	40	AMT-1.5B40		DC to 40kHz	DC to 80kHz
-3k to +3k	20	AMT-3B20	360V/ $\mu\text{s}$	DC to 30kHz	DC to 60kHz
-5k to +5k	20	AMT-5B20		DC to 20kHz	DC to 40kHz
-10k to +10k	10	AMT-10B10		DC to 10kHz	DC to 20kHz
-20k to +20k	10	AMT-20B10		DC to 5kHz	DC to 10kHz

\* Typical value at sine wave.

## SPECIFICATIONS

<b>Input voltage</b>	115VAC $\pm 10\%$ 50/60Hz single phase
<b>Output control</b>	External voltage control Vcon-in -10V to +10V *1 (input impedance : $\geq 10\text{k}\Omega$ )
<b>DC Bias</b>	Front panel 10-turn potentiometer enables setting between -100% and +100%
<b>Regulation</b>	Line $\pm 0.05\%$ ( $\pm 10\%$ line change) Load 0.05% (10 to 100% load change) *2
<b>Ripple</b>	AMS: $\leq 0.1\%$ p-p *2 AMT: $\leq 0.02\% + 1\text{Vp-p}$ *2
<b>Stability</b>	0.016%/Hr typ. *2
<b>Digital Panel Meter</b>	3½-digit display *3
<b>Voltage Monitor</b>	-10V to +10V from BNC connector on front panel. (output impedance 1k $\Omega$ )
<b>Remote ON/OFF</b>	Enable to output ON/OFF by external contact signal (short:ON, open:OFF)

<b>Protection</b>	Protection against over current by cutting of HV output. Output short circuit and over voltage. Arc protection and blackout protection.
<b>Operating Temp.</b>	0°C to +40°C
<b>Storage Temp.</b>	-20°C to +60°C
<b>Humidity</b>	20 to 80%RH(no condensation)
<b>Accessories</b>	Input AC cable 2.5meters (1) Output HV cable flying lead 1.5m (1) Instruction Manual (1)

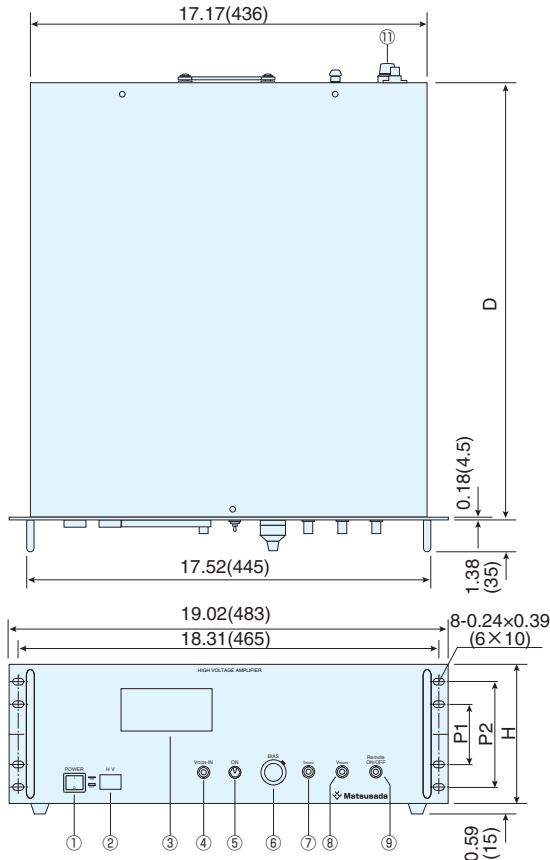
\*1 Offset voltage : within 0.5% of rated output at Vcon-in = 0V

\*2 Value at DC output with resistive load maximum rating

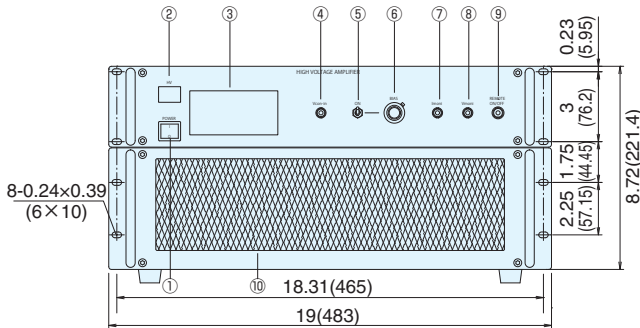
\*3 DC output : DC voltage  
More than 10Hz output : Average voltage

# DIMENSIONS inch(mm)

## AMS · AMT series



## AMT-20B10



Model	H	P1 (EIA)	P2 (JIS)	D	Weight (kg)
AMS : all models	5.23(133)	2.25(57.2)	3.94(100)	19(484)	14 to 18
AMT : 600V to 10kV	7(177)	4(101.6)	5.91(150)	19(484)	14 to 23
AMT-20B10	See the figure			24(611)	27

- ① **POWER ON/OFF switch:** Have priority to all other operations for safety reason.
- ② **HV ON/OFF switch:** To be also used to reset output cutoff status due to output over load, output short circuit protection or black out protection. Remote switch operation is possible only when output switch is on.
- ③ **OUTPUT voltage meter**
- ④ **External control voltage (Vcon-in)input connector :** BNC receptacle
- ⑤ **Bias ON/OFF switch**
- ⑥ **Bias setting dial :** 10-turn potentiometer
- ⑦ **OUTPUT current monitor terminal(option)** BNC receptacle
- ⑧ **OUTPUT voltage monitor terminal** BNC receptacle
- ⑨ **Remote ON/OFF terminal** BNC receptacle
- ⑩ **Air Intake** (only AMT-20B10)
- ⑪ **FUSE**
- ⑫ **OUTPUT connector**
- ⑬ **Ground terminal** M6
- ⑭ **AC inlet**

\* Design of rear panel can be slightly different from model to model. Please contact our sales office if details are required.

## OPTIONS

-LC	CURRENT LIMIT Limits the output current at time of overload
-LN	Cancellation of blackout protection
-L1	Output current monitor -10V to +10V from BNC connector on front panel(output impedance 1kΩ up to 2kHz bandwidth)
-L(230V)	Input Voltage AC230V ±10% single phase

\*When ordering, please suffix L Mark(option mark) to the model number.  
{e.g.} AMS-1B30-LC, AMS-1B30-LC1(230V)  
For combined options, please arrange option marks in an alphabetical order.

## INPUT / OUTPUT CABLE

### Input cable

Input : 115V models      Input : 230V models  
➔ CABLE TYPE1      ➔ CABLE TYPE3

Length is 2.5m for both.(see CABLE series catalog for details)

### Output cable

CN-40-AHVP Output HV cable 1.5m length

Length is 1.5m only.

In case different length is required, contact to nearby sales office.

### Warranty

We warrant that products contained in this catalog (hereinafter, the "Products") are free from defects in material and workmanship under normal use for a period of one (1) year from the date of shipment thereof. However, the warranty period for X-ray detectors and X-ray source shall be either one (1) year from the date of shipment or 1,000 hours, whichever shorter. The above warranty shall not apply to any Product which, at our sole judgment, has been: i) Repaired or altered by persons unauthorized by us; or ii) Connected, installed, adjusted or used otherwise than in accordance with the instructions furnished by us (including being used in an inappropriate installation environment, such as in corrosive gas, high temperature and humidity). We are not liable for any loss, damage or failure of the Products after the shipment thereof caused by external factors such as disasters. If any Product is shown to be defective as satisfactory to us, we, at our sole discretion, repair or replace such defective Products at no cost to the purchaser. We assume no liability to the purchaser or any third party for special, incidental, consequential, or other damages resulting from a breach of the foregoing warranty. This warranty excludes any and all other warranties not set forth herein, express or implied, including without limitation the implied warranties of merchantability or fitness for a particular purpose. The Products are not designed and produced for such applications as requiring extremely high reliability and safety, or involving human lives (such as nuclear power, aerospace, social infrastructure facility, medical equipment, etc.). The use under such environment is not covered by this warranty and may require additional design and manufacturing processes.



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