



- OUTPUT VOLTAGES FROM 0.3kV TO 30kV, POWER FROM 5W TO 60W
- LOW NOISE, HIGH STABILITY, SIX-SIDED SHIELDED
- BOTH EXTERNAL POTENTIOMETER & VOLTAGE FOR OUTPUT CONTROL
- SMALL SIZE, HIGH POWER DENSITY
- ARC & CONTINUOUS SHORT CIRCUIT PROTECTION
- LOCAL AND REMOTE CONTROL
- OEM CUSTOMIZATION AVAILABLE

INTRODUCTION

Wisman's MT Series modular high voltage power supplies offer positive or negative output voltages from 0.3kV to 30kV. High voltage can be linearly ramped up. The MT incorporates local and remote programming, voltage and current monitoring, over load, arc and short circuit protection.

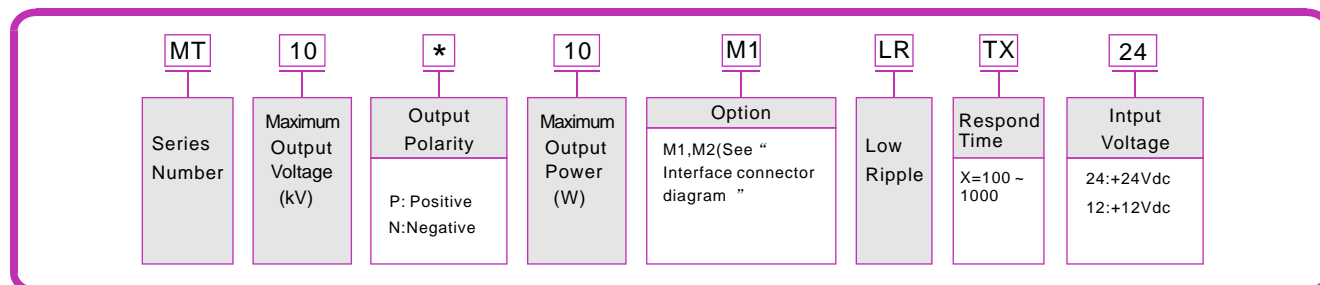
TYPICAL APPLICATIONS

Mass spectrometry, Photomultiplier Tubes (PMT), Piezo crystal devices, Electrostatic discharge Testing ESD, Ultrasonic transducers, Electron multiplier Detectors Electrophoresis, DNA sequencing, Electron Beam and Ion Beam, Electrostatic chuck, High voltage bias, Hipot Testing, Cable Testing, Provides power to the pulse power, Electrospinning, Capacitor Charging, Semiconductor Testing, Electronic component aging, Gas Chromatography, Blood Analysis, Cathode X-Ray, Medical, Chemical Applications, Science, Laboratory Applications, Industrial Applications.

MT SELECTION TABLE

kV	mA	P(W)	MODEL	RIPPLE(LR)(%pp)	kV	mA	P(W)	MODEL	RIPPLE(LR)(%pp)	kV	mA	P(W)	MODEL	RIPPLE(LR)(%pp)	
0.3	16.67	5	MT0.3*5	0.05(0.005)	1.5	13.33	20	MT 1.5*20	0.05(0.005)	15	0.33	5	MT 15*5	0.08(0.001)	
	33.33	10	MT 0.3*10	0.05(0.005)		20.0	30	MT 1.5*30	0.05(0.005)		0.67	10	MT 15*10	0.08(0.001)	
	66.67	20	MT0.3*20	0.05(0.005)		40.0	60	MT 1.5*60	0.05(0.005)		1.33	20	MT 15*20	0.08(0.001)	
	100.0	30	MT0.3*30	0.05(0.005)		1.67	5	MT 3*5	0.05(0.005)		2.00	30	MT 15*30	0.08(0.001)	
0.6	200.0	60	MT 0.3*60	0.05(0.005)	3	3.33	10	MT 3*10	0.05(0.005)	20	0.25	5	MT 20*5	0.08(0.003)	
	8.33	5	MT0.6*5	0.05(0.005)		6.67	20	MT 3*20	0.05(0.005)		0.50	10	MT 20*10	0.08(0.003)	
		16.67	10	MT 0.6*10		0.05(0.005)	10.0	30	MT 3*30		0.05(0.005)	1.00	20	MT 20*20	0.08(0.003)
		33.33	20	MT0.6*20		0.05(0.005)	20.0	60	MT 3*60		0.05(0.005)	1.50	30	MT 20*30	0.08(0.003)
1	50.0	30	MT0.6*30	0.05(0.005)	6	0.83	5	MT 6*5	0.05(0.005)	25	0.20	5	MT 25*5	0.08(0.003)	
	100.0	60	MT 0.6*60	0.05(0.005)		1.67	10	MT 6*10	0.05(0.005)		0.40	10	MT 25*10	0.08(0.003)	
	5.00	5	MT1*5	0.05(0.005)		3.33	20	MT 6*20	0.05(0.005)		0.80	20	MT 25*20	0.08(0.003)	
		10.0	10	MT 1*10		0.05(0.005)	5.0	30	MT 6*30		0.08(0.001)	1.2	30	MT 25*30	0.08(0.003)
1.5	20.0	20	MT1*20	0.05(0.005)	10	10.0	60	MT 6*60	0.08(0.001)	30	0.17	5	MT 30*5	0.08(0.003)	
	30.0	30	MT1*30	0.05(0.005)		0.50	5	MT 10*5	0.08(0.001)		0.33	10	MT 30*10	0.08(0.003)	
	60.0	60	MT 1*60	0.05(0.005)		1.00	10	MT 10*10	0.08(0.001)		0.67	20	MT 30*20	0.08(0.003)	
	3.33	5	MT1.5*5	0.05(0.005)		2.00	20	MT 10*20	0.08(0.001)		1.00	30	MT 30*30	0.08(0.003)	
	6.67	10	MT 1.5*10	0.05(0.005)		3.00	30	MT 10*30	0.08(0.001)						

MT SELECTION EXAMPLE



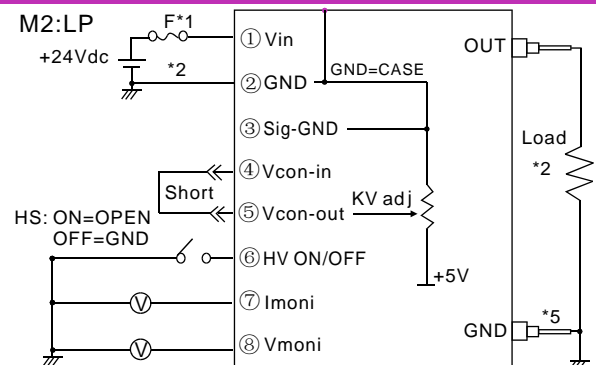
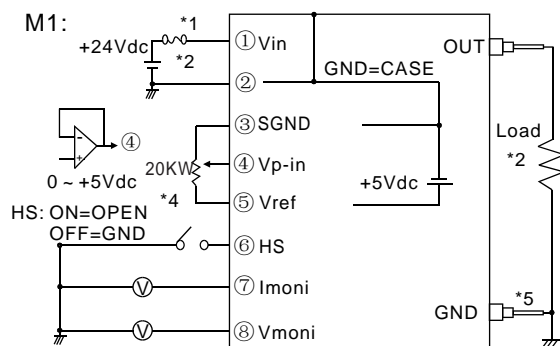


SPECIFICATIONS

PARAMETER	DESCRIBE
Input Voltage	See “MT INPUT VOLTAGE / CURRENT TABLE ” .
Output Voltage	0.3kV~30kV .
Stability	0.01% per 8 hours after 1/2 hour warm-up.
Temperature Coefficient	25ppm/°C.
Ripple	See “MT SELECTION TABLE” .
Reference Voltage	+5Vdc ±1% .
Output Voltage Accuracy	±2%/Vp-in=5.00Vdc.
Voltage/Current Monitor	0~+5Vdc/ 0 to rated output for both voltage /current, Zout=1kW, Accuracy: ±1% .
Local programming	By internal potentiometer 25kW
Remote programing	By external potentiometer 20kW or external control voltage(Vcon-in= 0 to +5Vdc, Zin=100kW, Accuracy: ±1%) .
Voltage Load Regulation	0.01% of output voltage no load to full load.
Voltage Line Regulation	±0.01% for ±10% change in input voltage.
Output Cable	For units 0.3kV to 6kV:HV flying lead 50cm (19.6 in.) ,HV GND flying lead 50cm (19.6 in.)
Output Cable	For units 10 to 30kV: Shield cable 50cm (19.6 in.) .
Output Cable	For LR (10 to 30kV):Shield cable 50cm (19.6 in.)
8 Pin Connector Wire Model	60W models : wire for pin ①,② are AWG18, and wire for pin ③ to ⑧ are AWG22 to 18.
8 Pin Connector Wire Model	Other models : wire for pin ①,② are AWG22, and wire for pin ③ to ⑧ are AWG22 or 24.
Accessory(within 30W)	Plug type:9B2.508 Wire metal pins:9B2.5T
Accessory(beyond 30W)	Plug type:9B3.9608 Wire metal pins:9B3.96T
Operating Temperature	0°C~60 °C (Derating:-40°C~+60 °C) .
Storage Temperature	-20°C~60 °C .
Humidity	20%~85% RH, non-condensing.
Dimensions	See “MT DIMENSIONS TABLE” .

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MODULES

MT INPUT CONNECTION DIAGRAM



MT OPERATION NOTES

Do not touch the HV output cable right after turning off the power supply , because there might be residue voltage. Make sure the voltage is 0V before touching the output. Make sure to ground the GND terminal pin ② for extra safety, although this series is designed with various safety features as built-in type HV module. Avoid continuous short circuit

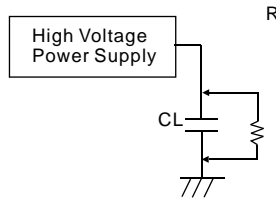
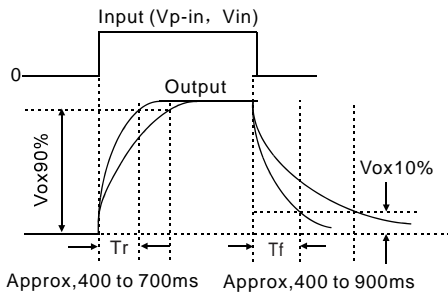
- *1 Please implement 4A fuse for 60W model or UL certified 2A fuse for other models on Vin terminal since this power supply does not install an input fuse.
- *2 GND ,pin ② must be properly grounded.
- *3 Input impedance of Vcon-in pin ④ is $\geq 100k\Omega$
- *4 Potentiometer of T.C $\leq 100PPM/^\circ C$, PC $\geq 1/4W$ is recommended.
- *5 No lead wire for units from 10kV to 30kV.



RESPONSE

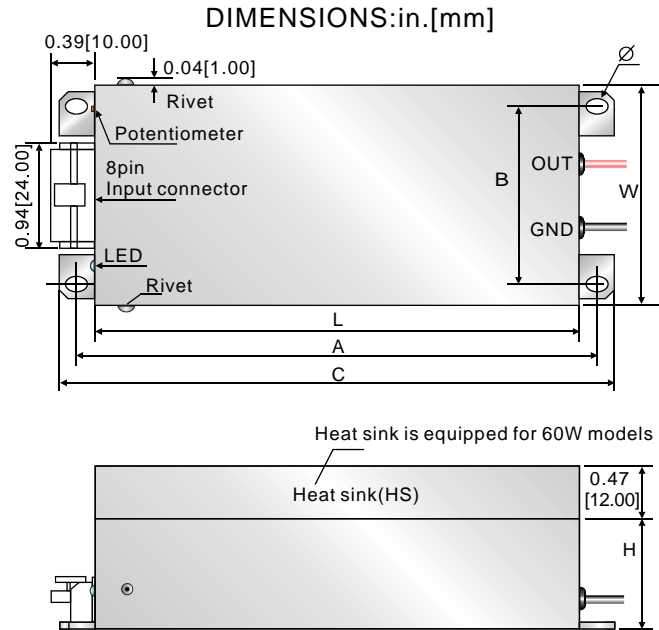
Typical value at rated load

Tr : Rise time Tf : Fall time



Tr, Tf shall be slow with capacitive load.
A dummy resistor R shall work for quick fall time.

DIMENSIONS



C
MODULES

MT INPUT VOLTAGE / CURRENT TABLE

MODEL	INPUT VOLTAGE	INPUT CURRENT
MT*5	12Vdc ~15Vdc±10%	0.8A typ. @12Vdc
MT*10	+24Vdc ± 10%	0.7A typ.
MT*30		1.7A typ.
MT*60		3.4A typ.

LR DIMENSIONS TABLE

Output Voltage	L	W	H	A	C	B	Φ	Weight(g) [With HS]
Up to 6kV (except 60W)	4.33 [110]	1.97 [50]	0.98 [25]	4.65 [118]	4.96 [126]	1.57 [40]	0.14x0.19 [3.5 x 5]	300
Up to 6kV (60W)	4.33 [110]	3.94 [100]	0.98 [25]	4.65 [118]	4.96 [126]	2.76 [70]	0.18x0.24 [4.5 x 6]	600 [760]
10,15,20kV	6.3 [160]	3.94 [100]	1.5 [38]	6.7 [170]	7.09 [180]	2.75 [70]	0.14x0.19 [3.5 x 5]	1000
20,25,30kV	7.3 [185]	3.9 [100]	1.7 [43]	7.7 [195]	8.1 [205]	3.5 [90]	0.14x0.19	1500

MT DIMENSIONS TABLE

Output Voltage	L	W	H	A	C	B	Φ	Weight(g) [With HS]
Up to 6kV (except 60W)	4.33 [110]	1.97 [50]	0.98 [25]	4.65 [118]	4.96 [126]	1.57 [40]	0.14x0.19 [3.5 x 5]	300
Up to 6kV (60W type)	4.33 [110]	3.94 [100]	0.98 [25]	4.65 [118]	4.96 [126]	2.76 [70]	0.18x0.24 [4.5 x 6]	600 [760]
10,15,20kV	5.31 [135]	1.97 [50]	1.18 [30]	5.71 [145]	6.10 [155]	1.57 [40]	0.14x0.19 [3.5 x 5]	450
25,30kV	7.09 [180]	1.97 [50]	1.18 [30]	7.48 [190]	7.87 [200]	1.57 [40]	0.14x0.19 [3.5 x 5]	550