

PRODUCT	OUTPUT POWER (MAX)	OUTPUT VOLTAGE (MAX)	INPUT VOLTAGE	FEATURES/TYPE	CONTROL	SIZE	RIPPLE (MAX)	TEMP CO PER °C	ISOLATION
MODULES									
XS	100 mW	0 to 100 V	5 or 12 VDC	Single output, regulated, programmable	0 to +5 VDC (digital ready)	1.3 cm ³ (0.08 in ³)	< 50 mV pk to pk	< 50 ppm	
PXS	1.5 W, 3 W	12 models from 25 to 52.5 V to ±75 to ±157.5 V	Proportional DC for 100% output is 3.3, 5, 9, 12, 24, 28VDC	Single output Multi output	Proportional I/P to O/P	1.6 cm ³ (0.1 in ³)	< 1% V pk to pk	< 200 ppm	1 kV
US	100 mW	4 models from 0 to 500 V	5 or 12 VDC	Regulated, programmable	0 to +5 VDC (digital ready)	5.75 cm ³ (0.35 in ³)	< 0.01% V pk to pk	< 50 ppm	
V	0.5, 0.8, 1 W	7 models from 0 to 3 kV	5, 12, 15, 24 V	Single output, regulated, programmable	0 to +5 VDC (digital ready)	13.8 cm ³ (0.84 in ³)	< 0.01% V pk to pk	< 100 ppm	
M	0.5, 0.8, 1 W	7 models from 0 to 3 kV	5, 12, 15, 24 V	Single output, regulated, programmable	0 to +5 VDC (digital ready)	16.4 cm ³ (1 in ³)	< 0.01% V pk to pk	< 100 ppm	
RS	10 W	12 models from ±50 to ±700 V (fixed)	24 VDC	Single output, regulated, programmable Multi output, regulated, programmable	0 to +5 VDC (digital ready)	30.8 cm ³ (1.9 in ³)	< 0.5% V pk to pk	< 200 ppm	2.5 kV
MPM	1.5 W	16 models from 100 to 3 kV	Proportional DC for 100% output is 12 or 24 VDC	Unipolar: positive or negative config	Proportional I/P to O/P	35.2 cm ³ (2.15 in ³)	0.50 0.05 (screened)	< 300 ppm	100 V opt
D	1, 2, 6 W	4 models from 0 to 6 kV	15 or 24 VDC	Single output, regulated, programmable	0 to +5 VDC (digital ready)	36.2 cm ³ (2.21 in ³)	< 0.02% V pk to pk	< 100 ppm	
PM	3 W	5 models from 400 V to 1 kV to 1.6 to 4 kV	Proportional DC for 100% output is 12	Single output	Proportional I/P to O/P	45.8 cm ³ (2.8 in ³)	< 0.05% V pk to pk std < 0.25% V pk to pk opt	< 250 ppm	2 kV
AA	4, 20, 30 W	8 models from 0 to 6 kV	12 or 24 VDC	Single output, regulated, programmable	0 to +5 or +10 VDC (digital ready)	54.8 cm ³ (3.34 in ³)	< 0.15% V pk to pk std < 0.01% V pk to pk opt	< 50 ppm std < 25 ppm opt	
C	20, 30 W	8 models from 0 to 6 kV	24 VDC	Single output, regulated, programmable, cap charger	0 to +5 or +10 VDC (digital ready)	70.5 cm ³ (4.3 in ³)	C load dependent	< 50 ppm std < 25 ppm opt	
A	4, 15, 20, 30 W	15 models from 0 to 40 kV	12 or 24 VDC	Single output, regulated, programmable	0 to +5 VDC (digital ready)	70.5 cm ³ (4.3 in ³)	< 0.01%	< 50 ppm std < 25 ppm opt	
AUX	Dual output: 4, 20, 30 W Triple output: 4, 15, 30 W	Dual: 8 models from 0 to 6 kV (main), 47 to 1050 V @ 1 mA (aux) Triple: 6 models from 10 to 35 kV (main), 1050 V @ 25 µA (aux)	N/A	Dual or triple output, regulated, programmable	N/A	70.5 cm ³ (4.3 in ³) or 104 cm ³ (6.34 in ³)	N/A	< 1100 ppm	
PPM	770 mW, 3 W	3 models from 0 to 1.4 kV	24 VDC	Unipolar: positive or negative config	Analog	92 cm ³ (5.62 in ³)	5 or 25 mV	< 50 ppm	
A-F	4, 15, 20, 30 W	15 models from 0 to 6 kV	12, 24 VDC	Single output, regulated, programmable	0 to +5 or +10 VDC (digital ready)	104 cm ³ (6.34 in ³)	< 0.0003%	< 50 ppm std < 25 ppm opt	
GMH8	600 mW	2 models from 0 to 8 kV	Proportional DC for 100% output is 24 VDC	Single or dual positive outputs	Proportional I/P to O/P	244 cm ³ (14.86 in ³)	N/A	N/A	
CP	10 W	6 models from 0 to 15 kV	24 VDC	Single output, regulated, programmable	0 to +10 VDC (digital ready)	287 cm ³ (17.5 in ³)	< 55 V pk to pk	< 100 ppm	
C	60, 125, 250 W	14 models from 0 to 30 kV Bipolar: 7 models from 0 to 6 kV	24 VDC	Single output, above + DC high power Bipolar: multi-output, regulated, programmable	0 to +5 or +10 VDC (digital ready)	317 cm ³ (19.5 in ³) to 634 cm ³ (38.7 in ³)	C load dependent	< 50 ppm std < 25 ppm opt	
FLHV	15 W	+/-1 to +/-6 kV	24 VDC	Precision programing and monitoring	0 to +10 VDC (digital ready)	373 cm ³ (22.8 in ³)	< ±0.05% peak to peak, either + or - to CT < ±0.05% peak to peak across + to -	< 50 ppm std < 25 ppm opt	5 kV
E	4, 15, 20, 30 W	6 models from 0 to 15 kV	24 VDC	Single output, regulated, programmable	0 to +10 VDC (digital ready)	562 cm ³ (34.3 in ³)	< 10ppm	< 25 ppm std < 10 ppm opt	

PRODUCT	≤ 125 V	≤ 150 V	≤ 300 V	≤ 500 V	≤ 1KV	≤ 1.5 KV	≤ 2 KV	≤ 3 KV	≤ 4 KV	≤ 5 KV	≤ 6 KV	≤ 8 KV	≤ 10 KV	≤ 12 KV	≤ 15 KV	≤ 20 KV	≤ 30 KV	≤ 40 KV	≤ 50 KV	≤ 60 KV	≤ 70 KV	≤ 80 KV	≤ 90 KV	≤ 100 KV	≤ 200 KV	≤ 300 KV	≤ 400 KV	≤ 500 KV	
MODULES																													
XS	●																												
PXS	●	●	●																										
US			●	●																									
V					●	●	●	●																					
M					●	●	●	●																					
RS	●	●	●	●	●																								
MPM	●		●	●	●		●	●																					
D					●		●		●		●																		
PM			●		●	●	●	●	●																				
AA	●		●	●	●		●		●		●																		
C	●		●	●	●		●		●		●																		
A	●		●	●	●		●		●		●		●		●	●	●	●	●										
AUX	●	●	●	●	●	●	●		●		●		●		●	●	●	●	●										
PPM				●	●																								
A-F	●		●	●	●		●		●		●																		
GMH8												●																	
CP					●		●		●		●		●		●														
C	●		●	●	●		●		●		●	●	●	●	●	●	●	●											
FLHV					●		●		●		●																		
E					●		●		●		●		●		●														

PRODUCT	OUTPUT POWER (MAX)	OUTPUT VOLTAGE (MAX)	INPUT VOLTAGE	FEATURES/TYPE	CONTROL	SIZE	RIPPLE (MAX)	TEMP CO PER °C	ISOLATION
B	4, 20, 30, 50 W	12 models from 1 to 12 kV fixed	AC	Single output, regulated, fixed with 10% local adjust	Proportional	637 cm ³ (39 in ³)	< 0.45% V pk to pk	< 400 ppm	
PM10	10 W	4 models from 10 V to 1 kV to 50 V to 5 kV	24 VDC	Unipolar: positive or negative config	Analog or potentiometer	475 cm ³ (29 in ³) to 713 cm ³ (43.5 in ³)	10 to 20 mV	< 25 ppm	
PSM10	10 W	5 models from 10 V to 1 kV to 150 V to 15 kV	24 VDC	Unipolar: positive or negative config	Analog or potentiometer	475 cm ³ (29 in ³) to 713 cm ³ (43.5 in ³)	20, 500 mV 1 V	< 50 ppm	
40 C to 60 C	60, 125, 250 W	3 models from 40 to 60 kV	24 VDC	40,000 VDC output 50,000 VDC output 60,000 VDC output	0 to +5 or +10 VDC (digital ready)	2622 cm ³ (160 in ³)	< 1%		
MH	<u>60</u> , <u>100</u> W	9 models from 0 to 50 kV	24 VDC	Unipolar: positive or negative config	Analog	2238 cm ³ (136.6 in ³) to 2838 cm ³ (173.2 in ³)	0.05 0.10	< 100 ppm	
MHX	100 W	2 models from 0 to 60/80 kV	24 VDC	Unipolar: positive or negative config	Analog or potentiometer	5719 cm ³ (349 in ³)	0.10	< 200 ppm	
BENCH TOP									
BT-GP	30 W	7 models from 0 to 30 kV	DC or AC	Regulated, adjustable, metered	Potentiometer	6800 cm ³ (415 in ³)	< 0.03% pk to pk	< 200 ppm	
19" RACK MOUNT									
HV Rack	250, 500, 750 W, 1 kW	> 600 models from 1 to 4 channels, any 0 to 62 V to 0 to 40 kV A or C modules	AC	Regulated, programmable	Individual CV/cm ³ , metered	N/A		< 50 ppm	
MV2000	2 kW	29 models from 20 to 300 V	230 VAC	Unipolar: positive or negative config	Digital potentiometer, analog, or RS232	1 U	0.20	< 100 ppm	1 kV opt
MV3000	3 kW	Models from 100 to 300 V	230 VAC	Unipolar: positive or negative config	Digital potentiometer, analog, or RS232	2 U	0.1%		
OL400W OL600W	400 W 600 W	18 models from 1 to 80 kV	Universal AC	Unipolar: positive or negative config	Digital potentiometer, analog, or RS232	1 or 2 U	0.10	< 100 ppm	
OL1K	1 kW	9 models from 1 to 60 kV	230 VAC	Unipolar: positive or negative config	Digital potentiometer, analog, or RS232	2 U	0.10	< 200 ppm	
OL3000	3 kW	9 models from 1 to 60 kV	208 VAC	Unipolar: positive or negative config	Digital potentiometer, analog	3 or 4 U	0.10	< 100 ppm	
OLS10K	10 kW	30 models from 1 to 80 kV	208, 380 or 400 VAC	Unipolar: positive or negative output	Digital potentiometer, analog, or RS232	6 U	0.05/0.1	< 100 ppm	
OLS10KD	10 kW	21 models from 10 to 80 kV	208, 380 or 400 VAC	Unipolar: positive or negative output, dual output ranges	Digital potentiometer, analog, or RS232	6 U	0.05/0.1	< 100 ppm	
19" RACK PARALLEL PRODUCTS									
OLS10K	10 to 120 kW	Various models from 1 to 80 kV	208, 380 or 400 VAC	Unipolar: positive or negative config; master and slave config	RS232	6 to 74 U	0.1% of max output	< 100 ppm	
HV POWER SYSTEMS									
OLH10K	10 kW	33 models from 60 to 500 kV	208, 380 or 400 VAC	Unipolar: positive or negative config	Analog or RS232	3 U excl stack	0.10	< 100 ppm	
OLH10KD	10 kW	33 models from 60 to 500 kV	208, 380 or 400 VAC	Unipolar: positive or negative config; dual output ranges	Analog or RS232	3 U excl stack	0.10	< 100 ppm	
OL20K	20 kW	16 models from 60 to 200 kV	208 or 400 VAC	Unipolar: positive or negative config	Analog or RS232	6 U excl stack	0.10	< 200 ppm	

PRODUCT	≤ 125 V	≤ 150 V	≤ 300 V	≤ 500 V	≤ 1KV	≤ 1.5 KV	≤ 2 KV	≤ 3 KV	≤ 4 KV	≤ 5 KV	≤ 6 KV	≤ 8 KV	≤ 10 KV	≤ 12 KV	≤ 15 KV	≤ 20 KV	≤ 30 KV	≤ 40 KV	≤ 50 KV	≤ 60 KV	≤ 70 KV	≤ 80 KV	≤ 90 KV	≤ 100 KV	≤ 200 KV	≤ 300 KV	≤ 400 KV	≤ 500 KV
B					•		•		•	•	•	•	•	•														
PM10					•		•	•		•																		
PSM10					•		•			•			•															
40 C to 60 C																		•	•	•								
MH										•			•				•	•	•									
MHX																					•		•					
BENCH TOP																												
BT-GP													•			•	•											
19" RACK MOUNT																												
HV Rack	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
MV2000	•	•	•																									
MV3000																												
OL400W OL600W					•					•			•			•	•	•	•	•		•						
OL1K					•		•			•			•			•	•	•	•	•								
OL3000					•		•			•			•			•	•	•	•	•								
OLS10K					•		•			•			•			•	•	•	•	•			•					
OLS10KD													•			•	•	•	•	•			•					
19" RACK PARALLEL PRODUCTS																												
OLS10K					•		•			•			•			•	•	•	•	•			•					
HV POWER SYSTEMS																												
OLH10K																				•		•		•	•	•	•	•
OLH10KD																				•		•		•	•	•	•	•

PRODUCT	OUTPUT POWER (MAX)	OUTPUT VOLTAGE (MAX)	INPUT VOLTAGE	FEATURES/TYPE	CONTROL	SIZE	RIPPLE (MAX)	TEMP CO PER °C	ISOLATION
HV AMPLIFIERS									
HVA	1, 1.5, 2 W	9 models from 0 to 20/±20 kV	24 VDC	Regulated, programmable, precision amplifier/reversible output	0 to ±10 VDC (digital ready)	468 cm ³ (28.5 in ³)	< 0.05% V pk to pk std < 0.0025% V pk to pk opt	< 25 ppm std < 15 ppm opt	
MASS SPEC MODULES									
MSS	5 W	3 models from 5 to 20 kV	24 VDC	Unipolar: positive or negative config general purpose	Analog or internal potentiometer	529 cm ³ (32.3 in ³)	0.02	300 ppm	
MSQ	85 W	Quad outputs 2 models from ±430 V to ±1.35 kV	24 VDC	High leakage electrostatic lens PSU	Fixed at factory	1085 cm ³ (66.2 in ³)	0.05	250 ppm	
MSP	10 W	6 models from 10 V to 20 kV	24 VDC	Unipolar: positive or negative config precision, low ripple, high stability	Analog or Internal potentiometer	529 cm ³ (32.3 in ³) to 1159 cm ³ (70.7 in ³)	10 to 200 mV	25 ppm	
MSRL	10 W	6 models from 10 V to 30 kV	24 VDC	Bipolar, low ripple, high stability	Analog or Internal potentiometer	921 cm ³ (56.2 in ³) to 2695.7 cm ³ (164.5 in ³)	10 to 300 mV	25 ppm	
MSRZ	3.2 W	6 models from 1 to 10 kV	24 VDC	Bipolar, reversible, speed typ 30 ms, low ripple, high stability	Analog or Internal potentiometer	1352 cm ³ (82.5 in ³)	< 1 V	25 ppm	
MSRF	3.2 W	4 models from 2.5 to 10 kV	24 VDC	Bipolar, reversible, speed typ 10 ms, medium ripple, high stability	Analog or Internal potentiometer	1352 cm ³ (82.5 in ³)	< 1 V	25 ppm	
MSRD	1.8 W	4 models from 5 to 12 and 3 kV	24 VDC	Unipolar: positive or negative config bias PSU, floating detector, speed typ 100 ms	Analog or Internal potentiometer	2904 cm ³ (177.2 in ³)	< 200 mV or < 3 V	100 ppm	
PRECISION FILAMENT									
FIL	15 W	0 to 5V	24 VDC	Regulated, programmable, precision	0 to +5 VDC (digital ready)	104 cm ³ (6.34 in ³)	N/A	< 15 ppm	
HV ISOLATED LV PSU									
FL	12, 24, 36 W	2 models 12, 24 V (fixed main) -15 V, +5.6 V (fixed aux)	24 VDC	Regulated, fixed, isolated to 15 kV, floating hot deck	1 up channel, 2 down channels	10 in ³ (164 cm ³)	N/A	N/A	15 kV
EFL	12, 24, 36 W	2 models 12, 24 V (fixed main) ±15, ±15 V (fixed aux)	24 VDC	Regulated, fixed, isolated to 15/30 kV, floating hot deck	2 up channels, 2 down channels	11.1 in ³ (182 cm ³)	N/A	N/A	15 and 30 kV
HIGH POWER HV PSU									
HPV	6, 10, 15, 30, 45, 60 kW	0 to 200 kV	AC	Regulated, adjustable, metered	Analog, RS232 or fiber	Various	< 200 ppm +50 mV	< 100 ppm	
X-RAY ANALYSIS									
XRG	50, 60, 65, 70, 72 W	8 models 25 to 90 kV	24 VDC	Grounded filament	Analog or RS232	1879.5 cm ³ (114.7 in ³) to 2376 cm ³ (145 in ³)	0.05 to 0.20	100 ppm	
XRG80	80 W	50 kV 2 mA (80 W max)	24 VDC	Grounded filament	RS232 digital fiber optic interface	3.108 cm ³ (0.19 in ³)	0.2%	100 ppm	
XR150	150 W	0 to -60 kV	24 VDC	Floating filament	Analog or RS232	4582 cm ³ (279.6 in ³)	0.17	100 ppm	60 kV filament

PRODUCT	≤ 125 V	≤ 150 V	≤ 300 V	≤ 500 V	≤ 1KV	≤ 1.5 KV	≤ 2 KV	≤ 3 KV	≤ 4 KV	≤ 5 KV	≤ 6 KV	≤ 8 KV	≤ 10 KV	≤ 12 KV	≤ 15 KV	≤ 20 KV	≤ 30 KV	≤ 40 KV	≤ 50 KV	≤ 60 KV	≤ 70 KV	≤ 80 KV	≤ 90 KV	≤ 100 KV	≤ 200 KV	≤ 300 KV	≤ 400 KV	≤ 500 KV	
OL20K																					●		●		●	●			
HV AMPLIFIERS																													
HVA					●		●		●	●	●		●		●	●													
MASS SPEC MODULES																													
MSS										●			●			●													
MSQ					●	●																							
MSP					●			●		●																			
MSRL					●			●		●			●			●	●												
MSRZ					●			●		●		●	●																
MSRF								●		●		●	●																
MSRD								●		●		●	●	●															
PRECISION FILAMENT																													
FIL	●																												
HV ISOLATED LV PSU																													
FL	●																												
EFL	●																												
HIGH POWER HV PSU																													
HPV																					●		●		●	●			
X-RAY ANALYSIS																													
XRG																	●	●	●	●	●			●					
XRG80																													

PRODUCT	OUTPUT POWER (MAX)	OUTPUT VOLTAGE (MAX)	INPUT VOLTAGE	FEATURES/TYPE	CONTROL	SIZE	RIPPLE (MAX)	TEMP CO PER °C	ISOLATION
XR	1 or 2 kW	2 models from 0 to -90 kV	230 VAC	Floating filament	RS232	3 U	0.25	100 ppm	90 kV filament, suppressor, grid, lens
ION PUMP									
IP100	115 W	0 to 5/7 kV	90 to 265 VAC	Unipolar: positive or negative config	Fiber optic and analog current monitor, remote enabled	4964 cm ³ (302.9 in ³)	30 V	N/A	
CAPACITOR CHARGING									
CC1000	1 kW	4 models from 0 to 2 kV	90 to 255 VAC	Unipolar: positive or negative config	Analog	6375 cm ³ (389 in ³)	N/A	100 ppm	
<i>NOTE: Additional capacitor charging modules that are "dual use" including DC bias are listed in the "MODULES" section on page 1.</i>									
DETECTOR HV PSU									
PMT	1.2 W	125V to 1.25 kV	0 to 9 VDC	Proportional	Proportional	37 cm ³ (2.2 in ³)	< 0.05% V pk to pk	N/A	
PRECISION ELECTRON BEAM									
EG353	Accelerator 6 W Extractor 4 W Suppressor 0.1 W Heater 15 W	Accelerator -30 kV, 200 μA (-35 kV for conditioning) Extractor +10 kV, 400 μA Suppressor -1 kV, 100 μA Heater +5 V, 3 A	23 to 25 VDC, 24 VDC nominal	Low ripple, high stability electron beam power system with extractor, suppressor and heater floating on accelerator potential	RS232 digital fiber optic interface	EG353: 10.347 cm ³ (0.631 in ³) EG353R: 20.117 cm ³ (1.228 in ³)	Accelerator < 2 ppm (50 mV) Extractor < 2 ppm (20 mV) Suppressor < 30 ppm (30 mV) Heater 5 mV/1 mA (1 R load)	Accelerator 25 ppm Extractor 25 ppm Suppressor 20 ppm Heater 100 ppm	35 kV filament, suppressor, extractor
EG603	Accelerator 6 W Extractor 4 W Suppressor 0.02 W Focus 0.75 W Heater 15 W	Accelerator -60 kV, 100 uA Extractor +10 kV, 400 uA Suppressor -1 kV, 20 uA Focus +25 kV, 30 uA Heater +5 V, 3 A	24 VDC	Low ripple, high stability electron beam power system with extractor, suppressor, heater and focus floating on accelerator potential	29 bit fiber optic CAN digital interface	43.911 cm ³ (2.68 in ³)	Accelerator < 3 ppm (150 mV) Extractor < 4 ppm (35 mV) Suppressor < 25 ppm (25 mV) Focus < 4 ppm (100 mV) Heater 5 mV/1 mA (1 R load)	Accelerator 5 ppm Extractor 25 ppm Suppressor 50 ppm Focus 25 ppm Heater 200 ppm	60 kV filament, suppressor, extractor, focus
MMS-eB	3-, 4- or 5-output bias electron gun	0 to 15 kV anode (A and E), 6 kV (E and FIL)	24 VDC	Regulated, programmable, precision	0 to +5 VDC (digital ready)	9488 cm ³ (5.79 in ³)	Various modules	< 50 ppm	15 kV filament, suppressor, grid, lens
HV TEST FIXTURES									
TF	HV test fixture	3 models from 0 to 40 kV	N/A	Measure voltage, ripple and noise, measure voltage and mV on kV with dif scope, or measure voltage with precision	N/A	6.83 m ³ (241.13 ft ³)	N/A	< 100 ppm or < 25 ppm	
CUSTOM BUILT									
G	Custom	200 V to 60 kV	DC or AC	Unipolar and bipolar, fixed, controllable, grounded, floating or multiple stacking floating outputs	0 to +10 VDC (digital ready), RS232 digital Fiber Optic Interface	Various	700 μV or 1 ppm of max output voltage	2 ppm	

PRODUCT	≤ 125 V	≤ 150 V	≤ 300 V	≤ 500 V	≤ 1KV	≤ 1.5 KV	≤ 2 KV	≤ 3 KV	≤ 4 KV	≤ 5 KV	≤ 6 KV	≤ 8 KV	≤ 10 KV	≤ 12 KV	≤ 15 KV	≤ 20 KV	≤ 30 KV	≤ 40 KV	≤ 50 KV	≤ 60 KV	≤ 70 KV	≤ 80 KV	≤ 90 KV	≤ 100 KV	≤ 200 KV	≤ 300 KV	≤ 400 KV	≤ 500 KV
XR150																					●							
XR																					●			●				
ION PUMP																												
IP100										●		●																
CAPACITOR CHARGING																												
CC1000				●	●	●	●																					
DETECTOR HV PSU																												
PMT						●																						
PRECISION ELECTRON BEAM																												
EG353																												
EG603																												
MMS-eB										●	●		●		●	●												
HV TEST FIXTURES																												
TF																						●						
CUSTOM BUILT																												
G			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							