

ONLY SELECT MODELS AFTER JANUARY 2023 ⁽²⁾



202A Series Data Sheet
High Voltage Power Supply
Capacitor Charging and DC
Output Voltage from 1kV - 40kV
Output Power 2kJ/sec or 2kW
Comprehensive remote control
Compact OEM Design



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202A Series Specification

High Performance, cost effective, reliable, OEM style capacitor charging power supply with average power rating of 2kJ/sec.

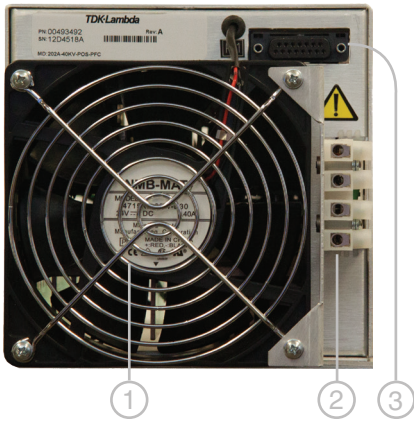
- Power rating of 2kJ/sec, 2.2kJ/sec peak
- Output Voltages up to 40kV
- Compact air cooled OEM style package
- Patented parallel resonant inverter
- Excellent pulse to pulse repeatability
- 230VAC 1Ø input voltage
- Reliable, cost effective design with reduced parts count
- Standard Active PFC (pf = 0.98)
- Full remote control interface
- Simple parallel operation for higher power

Average Capacitor Charging Power	2,000 Joules/sec ($\frac{1}{2}CV^2 \times \text{Rep Rate}$)
Peak Capacitor Charging Power	2,200 Joules/sec ($\frac{1}{2}CV^2 / t_{\text{charge}}$)
Average Continuous DC Power	2,000 Watts
Output Voltages (see note 2 below)	Positive Polarity Models: 1.5kV, 4.5kV, 6kV, 20kV, 40kV Negative Polarity Models: 3kV, 20kV, 40kV, variable from 10-100% of rated
Polarity	Available as fixed Positive or Negative. Please specify at time of ordering
HV Output	1-6kV Models - Air Insulated with RG58/U Coaxial cable and MHV connector
	7-40kV Models - Oil Insulated with DS2024 Silicone lead & proprietary HV connector
AC Input Voltage	230VAC (180-254), 50-60Hz 1Ø
AC Input Current - Active PFC ^(1,2)	13.5A with optional Active Electronic PFC
AC Connector	UL/CSA approved terminal block.
Power Factor	Active PFC - 0.98 at full load and nominal AC line
Efficiency	Better than 85% at full load
Stability	±0.2% per hour after 1 hour warmup
Temperature Coefficient	100ppm per °C typical
Stored Energy	Less than 0.3J all models
Pulse to Pulse Repeatability	±0.2% to 300Hz, consult factory for higher rep rates
Dimensions - inches (mm)	5.75 (146) W x 5.56 (141) H x 14.8 (376) D
Weight - lbs (kg) - 1-6kV Models	12.5 (6)
	10-40kV Models
Ambient Temperature	Storage: -40 to +85°C. Operating: -20 to +45°C
Altitude	Storage: 40,000ft (12,000m), Operating: 9,900ft (3,000m)
Humidity	10-90%, non-condensing
Protection	Open/short circuits, Overloads, Arcs, Overtemp, Overvoltage
Agency Approvals	Pending
Remote Control (all models)	Via 15-pin D-sub connector on rear of unit, Signals include, Vprogram (0-10V), HV Enable/Reset, Inhibit, Summary Fault, Load Fault, Vanalog, Vpeak
Accessories	Mating HV cable, control connector, operating manual, mounting brackets
Ordering Info	Model - XXkV - POS (or NEG) - PFC - YY (options)
Ordering Examples	202A-1.5kV-POS-PFC, 202A-40kV-POS-PFC
(1) Input current figure valid for repetition rates greater than 10Hz. For operation below 10Hz contact factory.	
(2) Available models: 202A-1.5kV-POS-PFC, 202A-3kV-NEG-PFC, 202A-4.5kV-POS-PFC, 202A-6kV-POS-PFC, 202A-20kV-NEG-PFC, 202A-20kV-POS-PFC, 202A-40kV-POS-PFC, 202A-40kV-NEG-PFC	
All specifications subject to change without notice	

202A Mechanical Details

Front View

All Models



- 1 - Cooling Fan (Air exits this end)
- 2 - AC Input Connector
- 3 - 15pin D-sub Female Control Connector

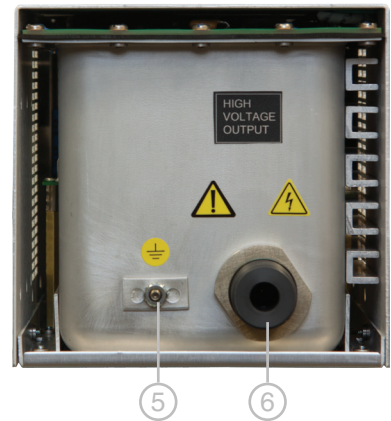
Rear Views

Outputs Voltages from 1-6kV



- 4 - MHV Output Connector (1-6kV Models)

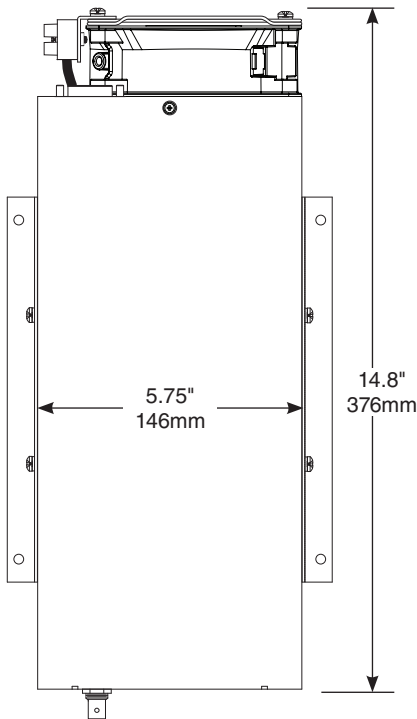
Output Voltages from 7-40kV



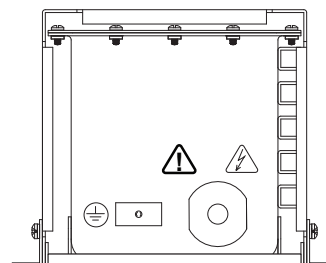
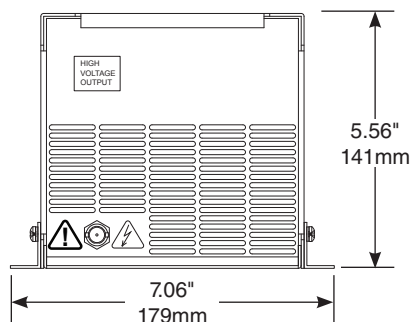
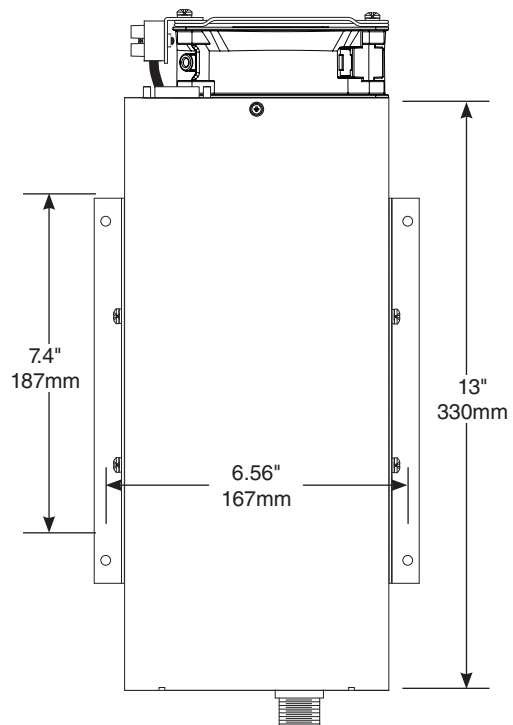
- 5 - Ground Stud (7-40kV Models)
- 6 - HV Output Connector (7-40kV Models)

Dimensional Outline Drawings

Outputs From 1kV to 6kV



Outputs From 7kV to 40kV



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