NEW

FLX-HV Series

Flexible High Voltage AC-DC Power Supply

Voltages from 3kV to 50kV

Output Power - 200W to 1kW

Full local and remote control

Standard LAN & USB interface

Wide range 110-230VAC input

Standard Active PFC

TDK·Lambda

Trusted • Innovative • Reliable

www.us.lambda.tdk.com

FLX-HV Series Specification

Flexible, precise, low ripple, affordable, programmable High Voltage DC power supplies with standard LAN and USB interfaces, for a broad range of scientific and industrial applications.

Features

- **Multi-function control panel with user friendly interface**
- **Very compact and lightweight 2U rackmount package**
- **Wide range single phase AC input with Active PFC (>0.95)**
- **Standard integrated LAN and USB interfaces**
- **Power ratings: 200Watts, 500Watts and 1000Watts**
- **Output Voltages: 0-3kV, 0-10kV, 0-30kV and 0-50kV**
- **CE Mark, EN61010 safety compliant**
- **Low 0.1% peak-peak output ripple**
- **Integrated arc counter via LAN/USB**
- **Protected against short circuits and arcs**
- **Variable speed fan for quiet operation**
- **High efficiency - 85 to 90%**

Applications

- **Photomultipliers**
- **Capacitor Test**
- **Electrostatics**
- **Ion sources**
- **Insulation test**
- **Gas discharge/Plasma**
- **Mass spectrometry**
- **Nuclear fusion research**
- **Particle accelerators**
- **Secondary electron multiplier**
- **Laboratory power**
- **Sputtering**

The FLX-HV series is a highly efficient, compact and robust design at an affordable price point. Combining simple operation and an easy to use multi-function display, these power supplies are well suited for applications in industry, science, and research institutions.

Flexible controls with convenient menu navigation

FLX-HV models feature flexible and easy to operate local controls combined with a multi function digital display that simultaneously shows both the output set points and actual measured values. HV outputs can be adjusted with Voltage and Current encoders with coarse and fine settings that have programmable adjustment steps. The local controls also allow the user to set the IP address, and displays information about the unit, such as serial number, firmware version, operating hours, MAC address and internal status. Other features include: Operating hours counter, device history (fault memory), streaming of measured output voltage/current and states with timestamp, arc counter, overtemperature shutdown, and much more.

The HV output is protected against load arcs and can operate continuously into a short circuit. The FLX-HV supplies are suitable for operation with both inductive and capacitive loads and for unlimited operation at both full and no load.

Protective functions

Multiple protective functions protect external loads from damage due to output overvoltage and overcurrent. As soon as one of the programmable output levels is reached, the DC output is highly regulated and prevented from exceeding the setpoints. Multiple temperature sensors monitor the main power components, and in the event of a fault or overtemperature condition, the power circuits are shut down and a fault message is displayed.

Standard digital interfaces

Standard integrated LAN and USB interfaces are located on the rear panel. This ensures the power supply can be controlled and maintained remotely and also allows multichannel communication with the unit using checksum-protected data transmission.

Model Listing

Model	Power (Watts)	Voltage (kV)	Current (mA)	Ripple (Vp-p)	Max Stored Energy (J)
FLX3P333	1000	3	333	3	1.9
FLX10P20	200	10	20	10	1.1
FLX10P50	500	10	50	10	1.7
FLX10P100	1000	10	100	10	3.1
FLX30P7	200	30	7	30	2.4
FLX30P17	500	30	17	30	2.4
FLX30P33	1000	30	33	30	3.5
FLX50P4	200	50	4	50	3.5
FLX50P10	500	50	10	50	3.4
FLX50P20	1000	50	20	50	4.9
Positive models shown. N replaces P in the model number for negative polarity (e.g. FLX10**N**20).					

FLX-HV Series Specification

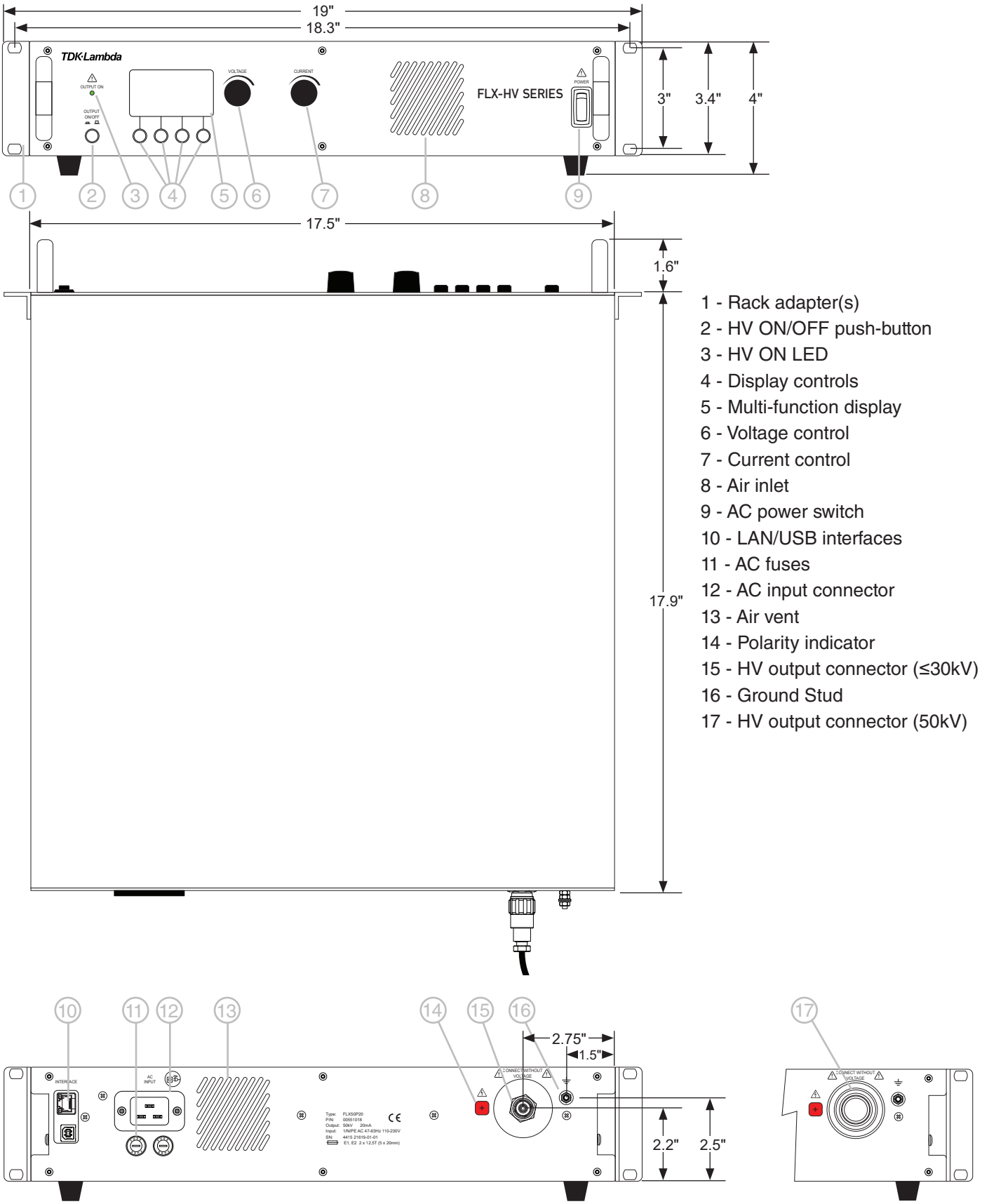
Average Output Power	200, 500, 1000 Watts
Output Voltage Range (kV)	3, 10, 30, 50kV, variable from 0.1 to 100% of rated voltage (see model listing)
Output Current Range (mA)	4, 7, 10, 17, 20, 33, 50, 100, 333mA, variable from 0.1 to 100% of rated current
AC Input	Wide range 110-230VAC (100-253VAC) Single phase, 47-63Hz
AC Input Connector	IEC60320 C20 receptacle, mating cable included
Power Factor	> 0.95 at full load and nominal AC line
Efficiency	85 - 90% at full load
Safety	CE marked, EN61010-1 compliant
EMC	EN61000-6-2 (Immunity) and EN61000-6-3 (Emission)
Output Control	Continuous adjustment from 0 to rated voltage/current by front panel mounted encoders with programmable Coarse and Fine adjustment settings
Response Time	< 500ms for 10-90% or 90-10% of rated output voltage, at rated load
Polarity	Specify Positive (P), or Negative (N) when ordering, Grounded return
Set Point Resolution	±0.1% of rated
Line Regulation (current & voltage)	±0.01% for ±10% AC line voltage variation
Load Regulation (current & voltage)	±0.1% no load to full load
Voltage Ripple (0-10MHz)	0.1% peak to peak
Stability	±0.1% over 8hours under constant conditions after 30minute warm up
Temperature Coefficient	±0.1% per °C
Ambient Temperature	0 to +40°C operating, 0 to +60°C storage
Humidity (non condensing)	0-80% at 0-31°C, linearly decreasing to 50% at 40°C
Cooling	Forced air cooling with variable speed fan
Altitude	Operating: 6,500ft (2,000m)
HV Output Connection	Mating HV connector and 9ft cable supplied
HV Insulating Medium	Outputs ≤ 10kV - air insulated, ≥ 30kV - solid dielectric silicone encapsulation
Front Panel	Voltage and Current encoders, Power switch, HV ON/OFF switch. Multi function display shows actual outputs, set points, set/display IP address, unit status, MAC address, baud rate
LAN Interface (standard)	Full duplex with 5 simultaneous connections possible via Ethernet, IP address configurable via front panel display, transfer speed of 10/100Mbit/s. TCP/IPv4 protocol
USB Interface (standard)	Virtual COM port on PC side, 115kBaud
Mechanical	2U (3.5") rackmount package x 17.9" deep x 17.5" wide
Weight	3kV model - 21lbs, 10kV models - 22lbs / 30-50kV models - 30lbs
Protection	Open/short circuits, Arcs, Overtemp, Flashover
Warranty	3 years
All specifications subject to change without notice.	

Ordering Information

FLX	**30**	**N**	**33**
Series Name	Output Voltage (kV DC)	Output Polarity **P**os, **N**eg	Output Current (mA DC)

Ordering examples - FLX50N20 (0-50kV and 0-20mA with Negative polarity),
FLX30P17 (0-30kV and 0-17mA with Positive polarity), FLX10N20 (0-10kV and 0-20mA with Negative polarity)

FLX-HV Series Mechanical Details



1 - Rack adapter(s)
2 - HV ON/OFF push-button
3 - HV ON LED
4 - Display controls
5 - Multi-function display
6 - Voltage control
7 - Current control
8 - Air inlet
9 - AC power switch
10 - LAN/USB interfaces
11 - AC fuses
12 - AC input connector
13 - Air vent
14 - Polarity indicator
15 - HV output connector (≤30kV)
16 - Ground Stud
17 - HV output connector (50kV)

TDK-Lambda Americas Inc. 405 Essex Road, Neptune, NJ 07753 USA
Tel: +1 732 795 4100
www.us.lambda.tdk.com