ESC Series

High Voltage DC Supply System

XP Power

- Short circuit and open circuit proof design for enhanced reliability
- Built-in RF filtering available
- Output to input isolation: > 500 MΩ
- Output regulation: 1%
- Output voltage range: 1kV – 15kV
- Output current range: 100µA – 10mA
- Auto-polarity reverse
- Auto-discharge
- Analog / RS232 / DeviceNet (option)

Electrical Output Capability

Description	Specifications
Floating bi-polar output	Minimum path to chassis ground from any HV output terminal >50 Meg ohm
Output to input isolation	> 500 Meg ohm (based on standard 5 KV dc hi-pot tests)
Output voltage	Output Voltages available from: 1KVdc pole to pole (+/- 500Vdc pole to ground) to 15KVdc pole to pole (+/- 7.5KVdc pole to ground) Output voltage is programmable and continuously variable on all models
Output current limit	Output currents available from 100uA to 10mA depending on output voltage Output current limit is programmable and continuously variable on all models
Output stability	1% or better of full output
Output ripple	Less than 0.5% at >35k Hz operating frequency
Output voltage linearity	Better than ±1% from 10% to 100% output
Output polarity reversal	On command or programable automatic
Output discharge	On command or programable automatic
Output voltage balance	Better than 1% for matched loads (dual pole units)
Output safety discharge relay	On command or programable automatic via 100Kohm resistor network from HV output to chassis ground.

Interface Connections

Description	Specifications
DC power input connection	3 pin Molex type, non-reversible quick disconnect. 10ft (3m) included. 24V DC input. Molex P/N - Consult Factory
DC output	MHV connectors for HV+ and HV-, BNC connector for HV-CT
Remote interface	25 pin D-type female for analog remote (DB-25s)
Fusing Requirements	External

Mechanical Specification

Description	Specifications
Size	9.5" W x 3.25" H x 6.25" D approx. for models <5Kv 9.5" W x 3.25" H x 12.5" D approx. for models >5Kv 19" W x 3.25" H x 12.5" D approx. for 15Kv version
Weight	2 to 5 lbs. approx. depending on model
Mounting	Standard EIA rack mounting with ½ rack filler panel
Cooling	Convection (do not block vents)

Environmental Specifications

Operating Temperature & Humidity	
Operating ambient temperature	0 to 40° C
Humidity	10-90% non-condensing
Storage and Transportation	
Storage temperature/humidity/air pressure	0 to +70° C

Remote Analog Interface Connections:

Signal Pin	Function
1	Voltage set point, analog return
14	Voltage set point, analog positive (10V full scale, 200K ohm input Z)
2	Current set point, analog return
15	Current set point, analog positive (10V full scale, 200K ohm input Z)
3	Output voltage monitor (10V full scale, 2K ohm minimum load)
16	Center tap terminal voltage monitor (input voltage range +/- 250Vdc max. Other voltage ranges available on request, consult factory)
4	Positive output current monitor (10V full scale, 2K ohm minimum load)
17	Negative output current monitor (10V full scale, 2K ohm minimum load)
5	Monitor circuit analog return
18	HV enable digital input positive (opto-isolated, digital input, 5-24Vdc capable)
6	HV enable digital return
19	Polarity change digital positive (opto-isolated, digital input, 5-24Vdc capable)
7	Polarity change digital return
20	Discharge command digital positive (opto-isolated, digital input, 5-24Vdc capable)
8	Discharge command digital return
21	HV on indicator positive, open collector (40Vdc/50mA max. rating)
9	HV on indicator negative, open emitter
22	Polarity indicator. Hi (15 Vdc) = positive polarity, Lo = reversed output polarity
10	Polarity indicator return/ground
23	No connection
11	Reserved
24	+15Vdc source (25mA max.)
12	+15Vdc source (25mA max.)
25	Circuit common / 15v return
13	Circuit common / 15v return

Certifications

Models up to 4KV output (pole to pole, ±2KV pole to ground) are TUV certified.

Mechanical Details

1-3Kv version