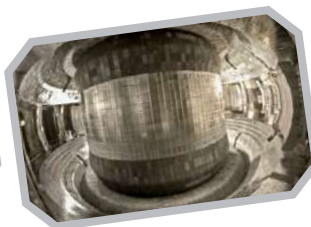


ZEONICS SYSTECH

DEFENCE & AEROSPACE ENGINEERS (P) LTD.

PRODUCT CATALOGUE

Pioneers in Military Approved, Compact, Ultra Reliable
High Voltage Components, Subassemblies and Systems



IN SERVICE OF THE NATION SINCE 1981



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STANDARD CABLES AVAILABLE

| Sl No | Voltage | Current | Diameter | Colour |
|-------|---------|---------|----------|-----------------|
| 1 | 2kV | 6A | 6.5mm | White |
| 2 | 6kV | 2A | 3.5mm | White |
| 3 | 6kV | 2A | 3.5mm | Blue |
| 4 | 6kV | 2A | 3.5mm | Orange |
| 5 | 6kV | 2A | 3.5mm | Grey |
| 6 | 10kV | 5A | 4.0mm | Light grey |
| 7 | 15kV | 2A | 4.0mm | White |
| 8 | 20kV | 5A | 5.5mm | White |
| 9 | 25kV | 10A | 11mm | White |
| 10 | 25kV | 30A | 29mm | Red |
| 11 | 30kV | 3A | 5.0mm | White |
| 12 | 30kV | 6A | 7.5mm | Blue |
| 13 | 30kV | 3A | 6.5mm | White |
| 14 | 35kV | 2A | 5.6mm | White |
| 15 | 40kV | 0.5A | 6.0mm | White |
| 16 | 40kV | 8A | 6.0mm | Light Grey |
| 17 | 40kV | 15A | 6.5mm | White |
| 18 | 40kv | 3A | 7.0mm | White |
| 19 | 40kV | 6A | 7.5mm | White |
| 20 | 40kV | 10A | 8.0mm | Blue |
| 21 | 40kV | 15A | 9.5mm | Red |
| 22 | 40kV | 10A | 9.0mm | Red |
| 23 | 40kV | 10A | 9.0mm | Yellow |
| 24 | 40kV | 10A | 9.0mm | Red |
| 25 | 50kV | 10A | 9.5mm | White |
| 26 | 50kV | 20A | 11.0mm | Black and white |
| 27 | 50kV | 20A | 12.0mm | Black and White |
| 28 | 50kV | 20A | 10.5mm | Black and White |

Cables

| Sl No | Voltage | Current | Diameter | Colour |
|-------|---------|---------|----------|-----------------|
| 29 | 60kV | 10A | 10.8mm | Black and White |
| 30 | 60kV | 3A | 10.0mm | Red |
| 31 | 60kV | 70A | 18.5mm | White |
| 32 | 60kV | 20A | 11.0mm | Black and White |
| 33 | 60kV | 15A | 11.0mm | Black and White |
| 34 | 70kV | 10A | 11.0mm | White and Black |
| 35 | 70kV | 20A | 12.5mm | Black and white |
| 36 | 70kV | 20A | 11.0mm | Black and white |
| 37 | 80kV | 25A | 17.0mm | White and Black |
| 38 | 80kV | 40A | 18.0mm | White |
| 39 | 80kV | 30A | 16.0mm | White |
| 40 | 80kV | 30A | 16.0mm | White and Black |
| 41 | 80kV | 20A | 16.5mm | White |
| 42 | 80kV | 30A | 18.0mm | White |
| 43 | 90kV | 2A | 14.0mm | White |
| 44 | 90kV | 25A | 17.0mm | Black and White |
| 45 | 90kV | 5A | 19.5mm | Red |
| 46 | 100kV | 1A | 16.0mm | White |
| 47 | 100kV | 30A | 16.0mm | Black and white |
| 48 | 100kV | 25A | 22.5mm | Red and white |
| 49 | 100kV | 22A | 16.0mm | Black and White |
| 50 | 100kV | 1A | 16.0mm | White |
| 51 | 120kV | 50A | 19.5mm | Red |
| 52 | 133kV | 0.27A | 17.5mm | White |
| 53 | 200kV | 65A | 34.5mm | White and Black |
| 54 | 200kV | 25A | 24.0mm | White |
| 55 | 200kV | 50A | 24.5mm | Red |

Please Mention Your Actual Requirement and We can design the cable for the same

Capacitors

1. High Voltage General Purpose Capacitors

Operating Voltage : 2kV to 200kV AC or 1kV to 400kV DC

Capacitance : 100pF to 100μF

Application : Filter, THD, Traction, RF, By pass

Please enquire for your actual requirement



2. HV HF 100pF – 500nF Low Loss Capacitors



Item : High Voltage Capacitors

Capacitance : 100pF ± 10% to 500nF ± 10%

Dielectric : Teflon, Polyamides, PP, Mica

Voltage Range : 1kV to 25kVDC

Type No. : S/18/7

3. HV RF 300pF - 10000pF Capacitors

Capacitance : 300pF to 10000pF

rms current : Continuous current typically 100A to 900A

Typical Frequency : 100 MHz

Typical Inductance : 100nH

Temperature : -20°C to +120°C

Application : For high power sources, Magnetron, Thyatron, Gyatron and similar applications where large current radio frequency capacitors are essential.

Type No. : S/15/95 (897)



4. Various PFN Capacitors



Working Voltage : 40kV DC

Capacitance Value : Customisation available

Max peak current : 100 Amperes

Temperature : -30°C to +120°C

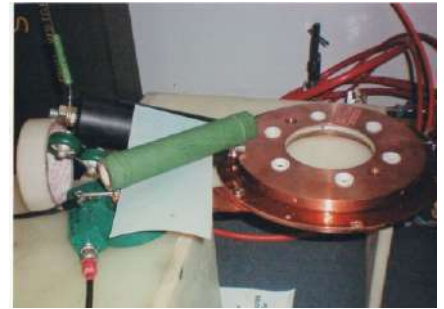
Application : varied PFN based systems

Type No. : S/14/54, S/16/118, S/17/140, S/17/151

Capacitors

5. Flat RF 100pF – 600pF Capacitor

Max Working voltage : 5kV DC
Typical Capacitance : 100pF to 600pF
Typical rms Current : 50A to 130A at 100 MHz
Type No. : Z/RF/100-600/AMJI



6. Rolling Stock Railway Capacitors 0.6μF - 8000μF



Working voltage : 600V to 22kV AC and DC
Capacitance : 0.6μF to 8000μF
Temperature : -20°C to +85°C
Varieties : We provide over 800 custom built capacitors
rms Current : 5A to maximum of 1300A
Type No. : S/15/22

7. HV High Energy Rolling Stock Capacitor 500μF-5000μF

Operating Voltage : 600V/800V/1300V/2200V DC
Capacitance : 500μF/800μF/1200μF/2200μF/5000μF
rms Current : Typically 250A to 1800A typical repetitive
Peak Current : 5kA to 20kA
Applications : Rolling Stock Railways
Type No. : S/13/40



8. UHV Multiplier Capacitors 100nF - 500nF



Voltages : 150kV DC/200kV DC/250kV DC/200kV AC
Capacitance : 100nF /200nF /300nF /400nF /500nF
Tolerance : ±10%
Dielectric : Metal film foil, Metallized foil, Paper oil
Dimension of : Dia = 450-600mm; H = 1000-1500mm
Type No. : S/16/64 (968)

Capacitors

9. HV DC Filter Capacitors 10kV - 50kV DC

Working voltage : 10/18/25/30/50kV DC
Capacitance : different values available
Type : Metal film foil oil-filled type
Container : Metal/Fiberglass/SS/Polypropylene
Type No. : S/16/70



10. HV Energy Storage Capacitors 10-40kV DC



Working voltage : 10kV /20kV /30kV /40kV DC
Test Voltage : 11kV /22kV /33kV /44kV DC
Capacitance : 5 μ F/10 μ F/14.5 μ F
Tolerance : $\pm 10\%$
Peak current : 100kA
Type No : S/14/66

11. HV Capacitor Module 0.5 μ F - 10 μ F for Missiles, Radars and Submarines

Capacitance : 0.5 μ F to 10 μ F
Working voltage : 50kV DC
Test voltage : 70kV DC (1 minute)
Application : Radar TWT, missiles, submarines and
Energization for Power Modulators
Type No. : S/15/104, S/15/105



12. Low Inductance Coaxial HV Capacitor 40nF-250nF



Working voltage : various working voltage options available
Capacitance value : 40nF/100nF/250nF
Peak current : 10kA
Type : Coaxial capacitor
Enclosure : Mild steel / Stainless Steel
Insulation : Ceramic Polymer material
Type No. : S/16/50 (931)

Capacitors

13. HV Cylindrical Capacitor 600pF – 2000pF for Fast Charging and Discharging

Working voltage : 30 kV DC
Capacitance : 600pF – 2000pF \pm 10%
Test Voltage : 36 kV DC
Application : For fast charging and discharging
Type No. : S/16/6 (924)



14. HV Low Inductance Feed through 50nF–50μF



Current : 100A, 200A, 300A, 500A, 800A, 1000A
Capacitance : 50nF, 100nF, 250nF, 500nF, 2μF
Voltage : 1kV/2kV/3kV/4kV DC/5kV/10kV
Type No : S/19/99, S/19/64

15. HV Low Pressure Feed through Vacuum Capacitor

Working Voltage : 50kV to 70kV
Max Current : 10A rms and 60kA Peak
Max Pressure Vacuum : Typically 10-3 Vacuum 1Millibar or 250 psi
Material : Stainless Steel + Ceramic
Temperature : -30°C to 100°C
Type : Polymer Stainless steel
Type No. : ZHS/001/068



16. Capacitor Bridge Wire Module



Input voltage : 3kV DC
Input command : 300 Voltage Trigger Pulse
Application : Detonation of bridge wire, squibs, detonation setc.
Layout : The module consists of a slapper capacitor, slapper flat ordnance, spark gap trigger mechanism
Energy : 50nF/100nF/250nF at 5kV/10kV
Type No. : ZHS/001/101

Capacitors

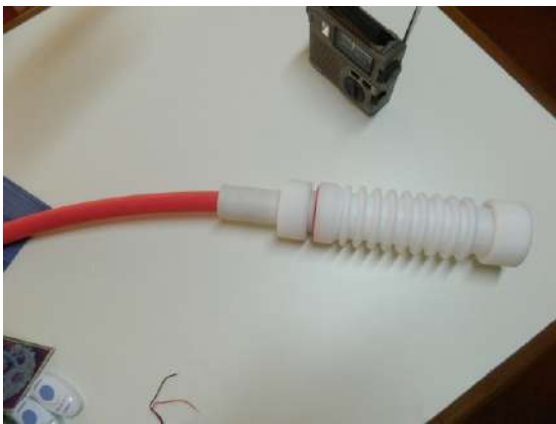
17. High Rep Rate 10nF-500nF Energy Storage Capacitor

Capacitance : 10nF to 500nF
Working Voltage : 50kV, 60kV, 80kV, 100kV
Test Voltage : 60kV, 70kV, 90kV, 110kV
PRR : Max 100pps at 0.8kA, Max 5pps at 5.0kA
Type No : S/19/62 (Compact)



Connectors

1. HV 180kV DC Connector and Cable



Working voltage : 150kV / 180kV / 220kV / 350kV / 500kV DC
Peak current : 10kA
Max current : 50 Amps continuous
Pulse Power : 9GW
Connection : Single pin
Cable : Silicone cable
Type : Metal mountable (Panel type)
Type No. : ZHS/01/50

2. High Voltage Gas Mountable Connector

Max Voltage : 60kV DC
Working Voltage : 50kV DC
Current : 10A continuous
No. of ports : 1/2/3
Pressure : 25psi, 50psi, 100psi
Gas : N₂, SF₆, Argon, Air
Type No. : Z/34/167



3. High Voltage DC + Pulse Connector



Max Voltage : 40kV DC + Pulse voltage 30kV pulse
Max DC Isolation : 60kV DC
Pressure : 25psi, 50psi, 100psi
Gas : N₂, SF₆, Argon, Air
Type No. : Z/34/166

Connectors

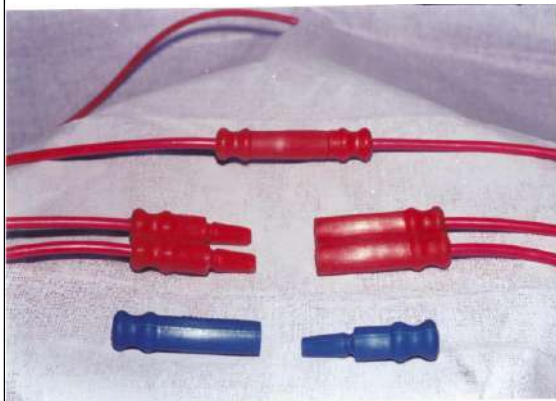
4. High Voltage Connectors

The connector comes with a high voltage cable on the male part of 2m length and a 1m cable on the female part, the female connector is fixed on a Non-metallic panel surface and the male plug has a Solid HV cable vacuum moulded in the connector.

Type : HVC – 100/150/200
Working voltage : 80kV DC
Current : 20 Amps or as per requirement
Test voltage : 100kV DC / 50kV AC
Diameter : 50mm
Length : 250mm
Type No. : ZHS/001/071



5. High Voltage Inline Connectors



The connector comes Soldered and moulded with silicone wires in 25kV DC wire with 2 meters length.
Working voltage : 20kV DC, 25kV DC
Operating current : Typically 10A continuous, 1kA Pulsed current.
Material : Silicone sizes 001, 002, 003, 004
Type : Connector inline to join two HV wires in air
Types Available : Single pin, double pin, Four in one
Type No. : ZHS/001/072

6. High Voltage 150kV Distribution Connector

Max Current : 25A (rms)
Peak Current : 10kA
Connectors used : HVC – 100, HVC – 150
Max cable diameter : 19mm
Temperature : 20°C to +85°C
Type No. : Z/29/37



7. High Voltage Miniature Connector Air Borne



Working Voltage : 3kV/5kV/10kV DC
Test Voltage : 5kV/10kV/20kV DC
Current : 1A/3A/5A
No of ways : 5, 8, 10, 12
Type No. : Z/41/82

Connectors

8. High Voltage Multi-pin Connectors

Voltage : 40kV/60kV/100kV/150kV DC
Current : 20A/40A/60A
Peak Current : 2kA/5kA/10kA
Pins : Brass gold plated
Type No. : Z/29/154



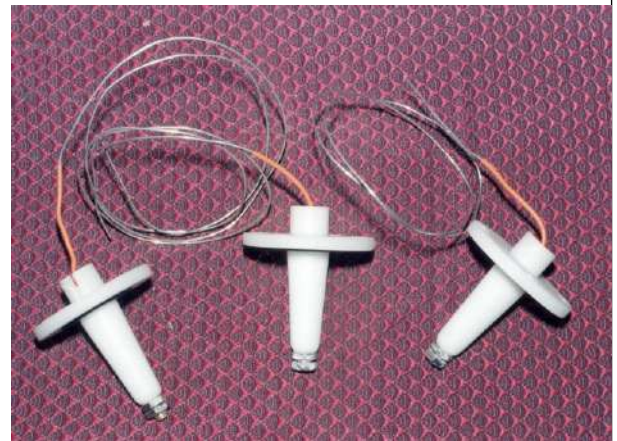
9. Inline HV Distribution Blocks



Working Voltage : 20kV/ 30kV /40kV/ 60kV / 80kV / 100kV DC
Current : 2A/5A/20A
No of Ways : 6, 8, 12, 22
Type No. : Z/36/31

10. HV Feedthrough Terminal Connector

Working Voltage : 5kV to 150kV DC
Max Current : 30A
Temperature : -20°C to +100°C
Type : Polymer Material Type
Termination : All metric threads Available
Application : To Extract High Voltage from Metal Surface
Max pressure : 100psi in oil or SF₆
Type No. : ZHS/001/069



Diode

1. General Purpose High Voltage Diodes



PIV : 10kV – 100kV
Forward current : 250μA to 100A
Type No. : depends on the PIV and I_f
Please mention the PIV and forward current requirement.

Diode

2. HV Oil Immersed Diode Assemblies

Forward current : 1000A / 2000A continuous
Peak Current : 50kA/100kA for 20ms maximum
PIV : 6kV / 10kV/ 30kV/ 50kV DC
Type No. : Z/33/220



3. HV Oil Filled Compact Diode



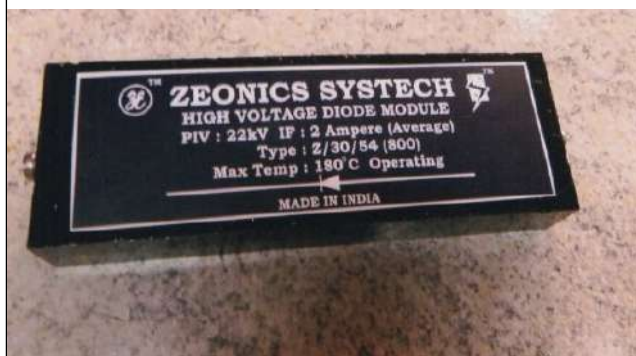
PIV : 100kV
Forward Current : 10mA
Frequency : Good for 50Hz / 60Hz and also HF Versions available
Temperature : -20°C to +85°C
Fast Reverse Recovery Options available

4. 50kV PIV Diode

PIV : 50kV
Forward Current : 500mA / 750mA / 1000mA
Non Repetitive I_f : 3.5A / 7.0A / 15.0A
Dimension : 150mm x 25mm x 25mm
Temperature : -30°C to 100°C
Type No. : Z/19/119



5. 22kV Oil Immersed Diode



PIV : 22kV
Forward Current : 2A
Non Repetitive I_f : 50A
Temperature : -30°C to +180°C
Type : Z/30/54

Diode

6. HV Diode Sticks

PIV : Typically 150kV to 400kV
Forward Current : Typically 10mA to 100mA
Non repetitive I_F : 1A to 5A
Application : Industrial X-Ray Systems, Impulse Generators,
Nuclear Particle Accelerator
Type No. : Z/28/71 (778)



7. 24kV PIV Diode



PIV : 24kV
Typical I_F : 1.8Amps
Non Repetitive I_F : 20Amps
Temperature : -20°C to +100°C
Type No. : Z/Diode/24/1.8

8. 140kV PIV Diode

PIV : 140kV
Forward Current : 10mA
Medium : Oil, Gas or Compressed Air.
Type No. : Z/Diode/140/10



9. Very High Voltage 400kV Ring Diode



PIV : 400kV
Forward Current : 50mA/100mA/250mA/500mA
Type No. : Z/27/151 (768)

Diode

10. HV Oil Immersed Modular Diode

PIV : 15kV / 30kV / 35kV / 80kV
Forward Current : 100mA / 200mA / 500mA / 800mA / 2A
Type No. : Z/40/50, Z/39/22



11. High Voltage High Current Shunts



Resistance : 0.05m Ω / 1m Ω / 5m Ω / 10m Ω
Current : 1kA / 10kA / 100kA
Rise Time : 1 μ s minimum
Type : Coaxial
Type No. : Z/25/115 (672)

Divider

1. High Voltage 60kV Pulse Compensated Divider

Voltage : 60kV Pulse
Capacitance : 12pF approx.
Ratio : 1000:1 or 10,000:1
Type No. : Z/43/136



2. High Voltage 125kV Resistive Divider



Working Voltage : 125kV DC
Continuous Power : 7.8 W
Resistance : 2000 M Ω \pm 5%
Ratio : 1000:1 and 10000:1
Type : Z/34/98

Divider

3. High Voltage 150kV Capacitive Divider

Max Voltage : 150kV
Loading Capacitance : 20pF
Rise time : up to 100 ns
Ratio : 10000:1 or 1000:1
Cable : 50 Ohms matching impedance cable with BNC output
Type No. : Z/32/8



4. High Voltage AC/DC Divider



Working Voltage : 400kV AC
Capacitance : 1000pF $\pm 5\%$
Test Voltage : 600kV
Type No. : Z/41/138

5. High Voltage Divider Column

Capacitive Value : 500pF/1000pF/2000pF
Working Voltage : 250kV/500kV/1000kV
Type No. : S/16/110



6. Highly Compact Air Borne Probe



Working Voltage : 50kV DC $\pm 1\%$
Test Voltage : 60kV DC $\pm 1\%$
Type : Measurement and Interlock
Output : 50V at 50kV DC
Ratio : 1000:1
Type No : Z/22/91

Divider

7. High Voltage Fluke Probe Conversion Kit

Input : 40kV DC or 28kV AC
Display : Meter (Multimeter)
Accuracy : $\pm 2\%$
Test Voltage : 40kV DC T- B
Type No. : Z/42/118



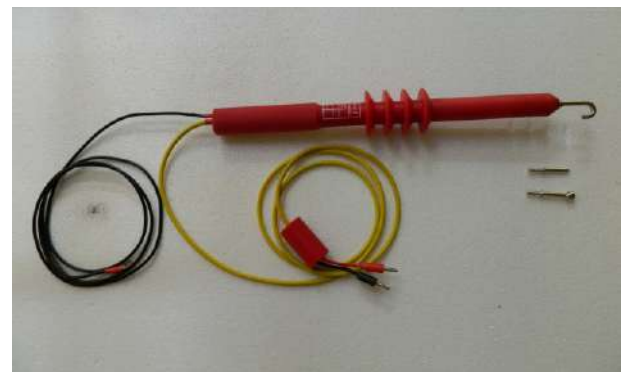
8. High Voltage AC/DC Probe



Input : 50kV AC / 50kV DC
Output : 50V AC / 50V DC
Duty : 100% on duty
Life : 50,000 hours continuous duty
Type No. : Z/29/160

9. High Voltage Metering Probe

DC Measurement : 40kV DC
AC Measurement : 28kV AC max
Ratio : 1000:1
Suitable Meter : 10 M Ω input impedance Meter to be used
Type : ROSHDIN/40/28



10. General AC/DC Probe



Working Voltage : 50kV /60kV /100kV DC
Test Voltage : 60kV /80kV /120kV DC
Ratio : 1000:1
Altitude : 50km
Type No. : Z/29/50, Z/W/B/6-90 (WLR/FLR/TLR)

Divider

11. Lightning High Voltage 800kV Impulse Divider

Max Voltage : 800kV impulse
Typical rise time : 1.2 μ s/50 μ s or 8.0 μ s/20 μ s
Duty : Continuous
Type No. : S/19/76



12. High Voltage 150kV Compensated Divider



Working Voltage : 150kV DC/225kV Pulse
Ratio : 10,000:1
Composition : R and C Type P
max frequency : 10MHz
Height : 750mm
Diameter : 290mm
Capacitance : 27pF
Base Diameter : 30cms approximate
Standard Divider Ratio : 10000:1
Type No : Z/34/01

13. High Voltage 200kV Compensated Divider

Working Voltage : 200kV DC
Ratio : 1000:1 or 10,000:1
HT Resistance : 2000M Ω \pm 2%
Capacitance : 6pF \pm 2%
Type No : Z/43/140



EMP / NEMP / HEMP Products

1. Pulse Current Injection System for NEMP Testing



Voltage : 60kV
Peak Current : 1.2kA
Zo : 60 Ohms
Rise Time : 20ns \pm 10%
Pulse Width : 550ns \pm 10%
Standards : MIL-STD-188-125-1
Type No : Z/43/111

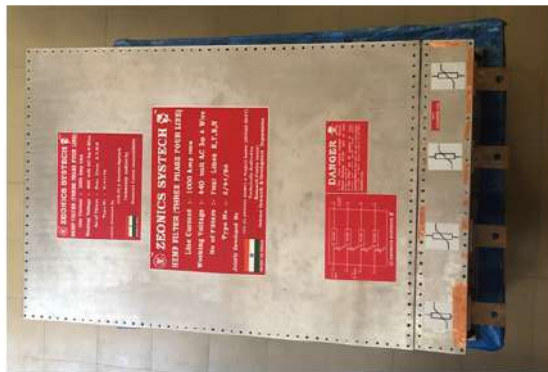
EMP / NEMP / HEMP Products

2. NEMP Filter for HEMP Application Single Line

Input : 1 ϕ and 3 ϕ System
Current : 5A to 800A
Duty : Continuous
Type No. : Z/43/28



3. NEMP Filters for HEMP Applications 4 Line



Rms Current : 400A/600A/800A/1000A/1500A/2000A
Phases : Options for Single phase or 3 phase
Complying with : MIL-STD-188-125-1

4. EMP 180kV Pulse Gun Source

Input : 230V, 50 Hz, 1 Phase
Output : 180kV output pulse
Rise Time : $\leq 3.0\text{ns}$
Construction : 180kV, Marx Generator
Type No. : Z/37/10



5. High Rep Rate EMP Pulser



Input Voltage : 230 V, 50Hz (Mobile version 24V DC)
Output Voltage : 100kV Pulses
Rise Time : ≈ 2.2 to 2.8ns
PRR : 50pps
Configuration : Mobile
Antenna : Flat Transmission Line 100 Ω
Type No. : ZHS/01/53

EMP / NEMP / HEMP Products

6. High Voltage Pulse Gun EMP- 400

Working Voltage : 40kV DC
Peak Current : 30kA
Energy : 400 Joules
Rise time : $\leq 50\text{ns}$
Pulse Energy : 1.2 GW
Configuration : Mobile
Switch : Gas filled Trigatron
Type No. : Z/34/94



7. High Voltage EMP Hand Held System

Input Voltage : ON Board 36V Batteries
Output Voltage : Pulse of 40kV
Pulse Current : $\approx 30\text{kA}$
Rise time : Typically $10\mu\text{s}$
Application : Generation of 40kV pulses on the system
Pulse component : Yes, available with a peaking gap
Type No. : Z/34/94



8. EMP Blaster Gun MK – II



Input Voltage : 230 V, 50Hz (Mobile version 24V DC)
Output Voltage : 100kV Pulses
Rise Time : ≈ 2.2 to 2.8ns
PRR : 50pps
Configuration : Mobile
Antenna : Customer based
Type No. : ZHS/01/53

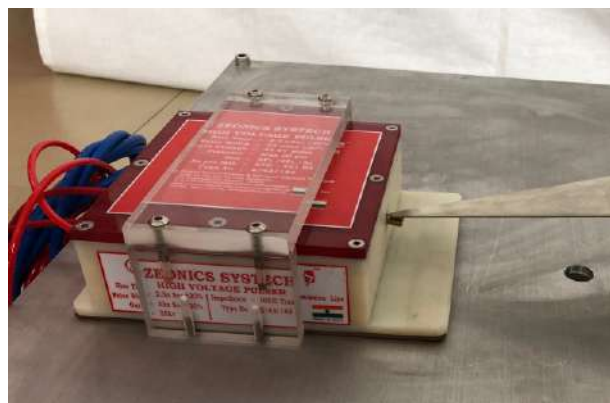
9. EMP Simulator

Voltage : 25kV Pulser
Rise Time : $2.3\text{ns} \pm 20\%$
Power : $23\text{ns} \pm 5\text{ns}$
Complying with : MIL-STD-461-B-RS-107
Repetition rate : Max 5pps
Field strength : $\geq 50\text{kV/meter}$
Dimension of object : 70mm x 70mm x 70mm (or) 70mm x 220mm x 35mm
Type No : Z/31/126, Z/39/142



EMP / NEMP / HEMP Products

10. EMP Launcher Module



Voltage : 25kV/50kV/Output
Rise Time : 2.3ns \pm 20%
Pulse Width : 23ns \pm 20%
Complying with : MIL-STD-461-B-RS-107
Dimension : 250 x 250 x 750mm
Type No. : Z/43/142

Load Bank

1. High Power Crowbar Resistor Bank

Resistance Value : 1k Ω 8 Nos. in parallel
max Energy : 50kJ, 5 Minutes cooling 5pps
Application : As a crowbar Resistor for a 1 MW Klystron facility
Weight : Assembled 190kgs
Type : Non Inductive
Type No. : ZHS/01/50



2. High Voltage Resistive Load Bank



Resistors : Non Inductive / Wire Wound
Section : Cathode and Collector
Auxiliary Power : 230 V, 50Hz, 1 Phase
Voltage : 15kV DC Operation
Minimum Power : 1kW
Maximum Power : 100 kW
Temperature : -20°C to +100°C
Application : Testing of Radar HV Power Supply without RF Load
Type No. : Z/27/60

3. High Voltage Forced Air Cooled Load Bank

Working Voltage : 50kV DC to 120kV DC
Isolation Voltage : 75kV DC to 190kV DC
Power : 10kW to 30kW
Application : Testing of DC Power Supply with variable taps.
Type No. : Z/25/111 (632)



Load Bank

4. High Voltage DC Load Bank



Working Voltage : 45kV DC to 65kV DC
Power : 18kW
Resistor Distribution : Odd + Even
Duty : Continuous military duty
Weight : 190kgs
Type No. : Z/32/86

5. High Voltage Compact Load Bank - 1

Working Voltage : 15kV to 25kV DC
Power : 1.0kW to 24.0kW
Resistors : Non Inductive, Glass passivated
Application : Testing of TWT Power Supply
Type No. : Z/36/50



6. High Voltage Compact Load Bank - 2



Voltage : 10kV/25kV DC
Current : 0.2A/0.5A/1.0A
Power : 1kVA to 15kVA
Type : Non-Inductive Resistor
Type No. : Z/35/60

7. Portable Compact Load Bank

Working Voltage : 5kV DC to 60kV DC
Resistance Range : 0 to MΩ ranges possible
Power : Max 5000W
Type No. : Z/35/62



Load Bank

8. High Voltage Tandem Load

Working voltage : 100kV DC / 300kV DC
Current : 1-10mA
Test voltage : 110kV DC / 330kV DC
Power : 100 – 1000 W
Application : Series / Parallel Connection
Type No. : Z/40/64



9. High Voltage Industrial Load Bank



Power : 150kW, 200kW, 300kW
Voltage : 150kV DC / 200kV DC
Duty : Continuous System
Cooling : Duty Continuous
Container : Metal force cooled
Type No. : Z/37/88

Marx Generator

1. High Voltage Cold Plasma Source

Input Voltage : 230V 50Hz 1 Ø
Output Voltage : 40kV/20kV HF System
Plasma Torch : Ø of 15mm, Length of 250mm
Power : 1600W
Type No. : Z/42/28



2. Impulse Generator (Marx) With Wave Shaping System



Output : 200kV pulse
Open circuit : 200kV output, 20 Joules
PRR : max 5ppm
Rise time : $1.2\mu\text{s} \pm 20\%$
Pulse Width : $50\mu\text{s} \pm 20\%$
Operating Pressure : 20psi air max
Weight : $\approx 45\text{kgs}$
Type No. : Z/34/139

Marx Generator

3. High Voltage 700kV Output Marx Insert

Input : 50kV DC \pm 5%
Output : 700kV Pulse
Peak Current : max 14kA
PRR : max 1ppm
No. of Stages : 14
Type : Retrofit
Dimensions : Diameter-580mm; Length-1800mm
Type No. : Z/33/44



4. High Voltage Marx Generator 500kV (2kJ)



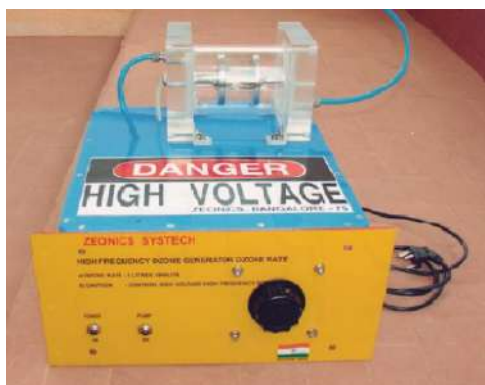
Input : 230 V, 50 Hz, 1 Phase
Output : 500kV Pulse
Energy : 1 kJ / 2 kJ
PRR : max 5 ppm
Rise time : \approx 140ns
Type No. : Z/28/19

5. High Voltage, Low Inductance Marx Generator

Output Voltage : 1000kV
Erected capacitance : 200pF
max rise time : 130ns
Typical diameter : 580mm
Typical length : 2.1 m
Max Pulse Rep Rate : per second
Minimum load : 50 Ohms be connected
Pressure : N₂ around 30-50psi
Type No. : Z/20/123 ; S/14/77



6. High Frequency Ozone Generator



Input voltage : 230V, 50Hz, single phase
Output voltage : 15 to 20kV at 20 kHz
Output Ozone : 6 Litres/Minute (At full power)
Type No. : ZHS/01/22; ZHS/001/099

Miscellaneous Generator

7. High Voltage High Energy Nano Particle Generator

Working voltage : 25kV DC to 40kV DC
Energy : 2.5kJ
Max wire : diameter - 0.36mm; length - 300mm
Application : Generation of metal nano particles in a Confined space
Type No. : ZHS/001/098



8. HV HF Inverter for Plasma Generator



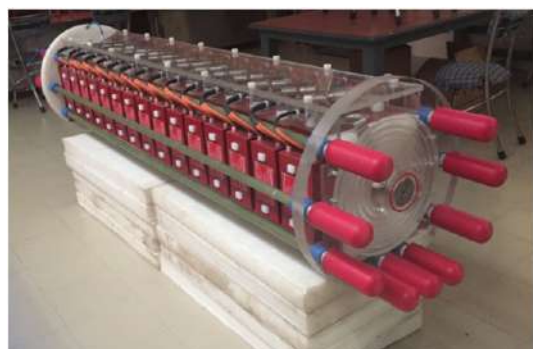
Input : 230V 50Hz 1Ø
Output : 20kV AC rms at 20kHz
Power : 1000W
Type No. : Z/42/28

9. High Voltage HF Plasma Generator

Input Voltage : 230V 50Hz 1Ø
Output : 40kV AC 20kHz Plasma System
Plasma Torches : 5 Plasma Torches can be attached
Type No. : Z/42/28, Z/42/64



10. High Energy High Voltage Marx Inserts



Output Voltage : 500kV/800kV/1000kV/1500kV
Current : 10kA to 40kA
Impedance : $\approx 10\Omega$ to 30Ω Range
Type No. : Z/35/82 (Y-1208)

Power Supply

1. Low Cost Trigger Generator

Input Voltage : 230V 50Hz 1Ø
Output Voltage : 500V pulse
Command : Manual + 10V Pulse
Type : Z/33/146



2. High Voltage 500kV Portable Power Supply



Input : 440V, 50Hz 3Ø
Output : 0 to 500kV DC at 1mA, 5mA, 10mA
Duty : Continuous Duty
Power : 500W, 1000W, 2500W, 5000W
Type No. : Z/40/52, Z/40/65

3. High Voltage 100kV Power Supply

Output : 0 to 100kV DC at 1mA
Power : 100W
Duty : Continuous
Applications : Poling, Electrospinning, Lasers,
Weapon Systems, Marx Generators
Type No. : Z/33/200



4. High Voltage 150kV DC Power Supply



Input : 230 V, 50Hz, 1 Phase
Output : 0 to 150 kV DC at 700µA
Polarity : Optional + ve or -ve Output
Duty : Continuous Operation
Applications : Electrophoresis, Poling, Electrospinning,
Ion acceleration, Nuclear Science, X - Ray
Type No. : Z/33/200, Z/33/204

Power Supply

5. High Voltage Electrosinning Power Supply

Input Voltage : 230V 50Hz AC/ 110V 50Hz AC
Output Voltage : 0 to 40kV DC at 50 μ A
Controls : Speed and Voltage control
Indication : Analog meter/ Digital meter for voltage
Temperature : -20°C to +85°C
Type No. : ZHS/001/080



6. High Voltage 0 to 60kV DC/30mA Power Supply



Input Voltage : 230 V 50Hz 1 ϕ
Output Voltage : 0 to 60kV DC
Current : 30mA or 60mA
Ripple : 2% maximum
Regulation : \pm 5%
Duty : Continuous
Type No. : Z/34/32

7. Variable High Voltage DC Power Supply

Input Voltage : 230 V, 50Hz, Single Phase
Output Voltage : 25kV to 60kV DC
Power : 500VA to 5000VA
Type : 50Hz Transformer + Resistor + Capacitor
Type No. : ZHS/01/33



8. High Voltage Insulated Rack for 150kV DC Power Supply



The entire rack is isolated to take a floating HV power supply of 150kV DC
Type No. : ZHS/001/078

Power Supply

9. High Voltage 50kV DC 2mA Power Supply

Input Voltage : 230 V, 50Hz, 1 Phase
Output Voltage : 0 to 50kV DC
Output Current : 2mA max
Type : Pneumatic switch variant HV ON/OFF in ON Condition
Type No. : Z/34/194



10. High Voltage 10-30kW Power Supply



Input Voltage : 230 V, 50Hz or 400V single phase
Output Voltage : 10kV DC / 20kV DC / 30kV DC
Output Current : 1.0 Ampere
Power : 10kW, 20kW, 30kW
Protection : Over voltage, Over load, Over current, Zero start Protection
Ripple : $\pm 7\%$ on full load
Type No. : ZHS/01/27

11. High Voltage 250kV DC Power Supply

Input : 230 V, 50Hz, 1 Phase
Output : 0 to 250kV DC at 1mA maximum
Configuration : HV / HF + Multiplier
Duty : Continuous at 70% of output voltage
Type No. : Z/32/174 (881); S/17/76



12. High Voltage 60-100kV DC Power Supply



Input : 230 V, 50Hz, Single phase
Output : 0 – 60kV DC, maximum 3mA / 1mA
 0 – 100kV DC, maximum 3mA / 10mA
Display : Digital Voltage display or Current Analog display
Protection : a. Short circuit b. Over voltage c. Over current trip
Type No. : Z/25/6

Power Supply

13. High Voltage Slim Power Supply

Input : ON Board Batteries
Output : 30kV DC at 5mA
Power : 150 W
Type No. : Z/35/44



14. High Voltage Vac Ion Power Supply



Input : 230V, 50Hz, Single Phase
Output : 3.0kV DC/5.0kV DC
Current : Max 2mA output
Power : 3 W / 5 W
Type No. : ZHS/01/21

15. High Voltage 20/40kV DC Power Supply

Input : 230V, 50Hz, Single phase
Output : 0 to 20kV DC or 0 to 40kV DC
Current : 10mA and 250mA; 0.5mA to 5A Version
Type No. : Z/29/04 (822)



16. Multi Output High Voltage and Low Voltage Power Supply



Input : 230V 50Hz 1Ø
Output : Multiple output 2/3/6 output for special applications
Output typically : 5V, 15V, 20V, 25V, 100V, 200V DC
Type No. : ZHS/01/24

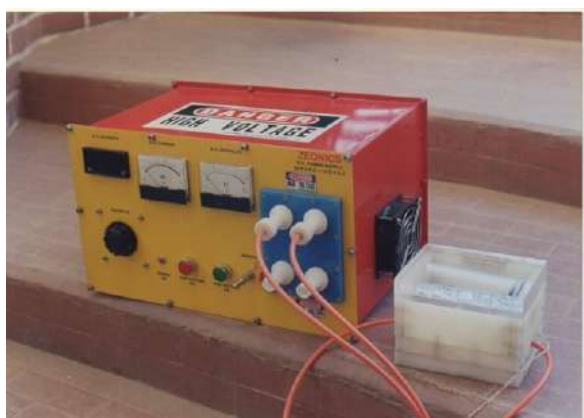
Power Supply

17. High Voltage Magnetron Filament Power Supply

Input Voltage : 230V 50Hz Single phase
Output Voltage : 0 to 30V
Output Current : 10 to 20A
Isolation : Typically 30kV DC
Application : Supply for Magnetron filament
Type No. : ZHS/01/38



18. High Voltage AC + DC Combined Power Supply 20kV AC



Input Voltage : 230V 50Hz 1Ø
Output Voltage : 0 to 20kV AC at 20mA
0 to 30kV DC at 20mA
Type : Linear HV Power Supply suitable for regular AC + DC work
Type No. : ZHS/01/39

19. High Voltage AC + DC Power Supply 50kV AC

Input Voltage : 230V 50Hz / 110V 50Hz
Output Voltage : 0 to 50kV AC, 0 to 70kV DC
Output Current : Typically 100mA
Type : Oil-immersed
Application : Harsh environment applications
Type No. : ZHS/01/40



20. High Voltage Modular Power Supply 15-25kV DC



Input Voltage : 230V 50Hz 1Ø / 415V 50Hz 3Ø
Output Voltage : 15kV DC / 20kV DC / 25kV DC
Output Current : 1A
Power : 15kW, 20kW, 25kW
Type : Auto transformer, HV Transformer and capacitor
Application : Charging of capacitor banks, Industrial Application
Type No. : Z/27/116

Power Supply

21. High Voltage 26kV DC Power Supply

Input Voltage : 200V 3 ϕ 400Hz Delta Connected
Output : 26kV DC at 230mA
Power : 6000 W
Duty : Continuous
Application : Radar DC Power Supply
Weight : 106kg
Type No. : Z/42/138



22. High Voltage DC Isolated Power Supply



Primary : 230V 50Hz 1 ϕ
Secondary : 3000V DC 100mA DC supply
Power : 300W
Isolation : 150kV DC
Range : 1000W to 2000W
Type No. : Z/38/98

23. High Voltage High Frequency 33kV Transformer

Input : 450V Input AC 20kHz
Output Current : 606mA
Output Voltage : 33kV DC
Power : 20 kW
Duty : Continuous
Type No : Z/43/24/60 (Y-1261)



24. High Voltage High Frequency 47kV Transformer

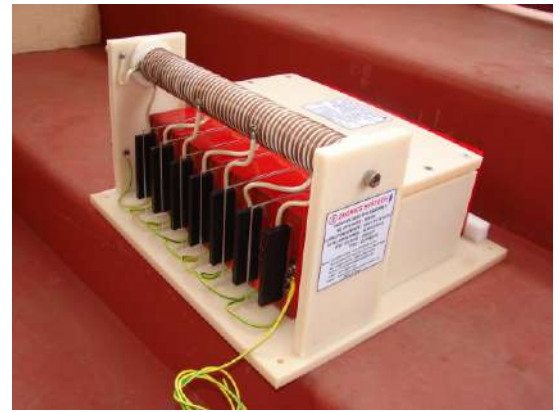


Input : 450V Input AC 20kHz
Output Current : 139mA
Output Voltage : 47kV DC
Power : 6.4 kW
Duty : Continuous
Type No : Z/43/24/48 (Y-1259)

Pulser

1. High Voltage PFN Modulators (PFN Based Pulser)

Voltage : 10kV to 100kV values
Capacitance : 1nF to 100 μ F
Time duration : 10ns to 100 μ s (Adjustable)
Type : 10 Stage / 20 Stage systems
Type No. : Z/27/26 (112)



2. High Voltage 25kV Pulser



Pulse : 1.2/50 μ s at 25kV output
Application : Continuous Lightning Pulse Generation System
Load : Resistive and Capacitive
Type No. : Z/41/56

3. High Repetition Rate Pulser 1000kV DC

Erected Capacitance : 250pF \pm 10%
Output Voltage : max 1MV in Open circuit
Voltage/Stage : 100kV DC
PRR : 50pps
Rise Time : \leq 50ns
Pulse Width : 110 to 200ns
No. of Stages : 10
Type : Marx Insert
Type No. : S/14/48, Z/21/5



4. Ultra-Low Inductance 100-140kV Pulser



Input voltage : 100 - 140kV
Output pulse : max 140kV
Coaxial capacitor : 125pF \pm 10%
Rise time : 2.3 ns

These assemblies are essentially used for electromagnetic research where one needs to generate high voltage fast rise time pulses. The system comes tightly coupled with a coaxial capacitor and its peaking gap. Additional features like power supply, connectors and resistors can be supplied on special request.

It can also be used as a source for 100 ohms EMP simulators.

Type No. : ZHS/01/59

Resistor

1. High Voltage Serpentine Low Inductance Resistor



Working voltage : 200kV AC; maximum 300kV AC
Resistor range : 200k Ω
Current : 1.2mA to 2.0Amps
Type : oil immersed type/ gas cooled type
Power : 50 W to 3000 W assorted
Type No. : Z/20/69

2. High Voltage Inline Coaxially Fed Resistors (Pressure sealed)

Resistance Range : 10 Meg ohms to maximum of 1 Giga ohms
Max energy/resistor : Typically 100 W
Max voltage in assembly : Typically maximum 200kV
These are used as bleeder resistors for the coaxial generator as and when required with a special high voltage connector and press fit system.
Type No. : ZHS/01/60



3. Rail Gap Biasing Resistors (1/2 or 2/3)



Working Voltage : 70kV DC
Test Voltage : 100kV DC
Resistance : 500M Ω + 500M Ω
Type No. : Z/34/68

4. High Voltage Non-Inductive Resistive Assembly

Max Voltage : 60 kV DC Isolation
Resistance Value : 1k Ω to 25k Ω
Power : 250 W
Cable : Pig tail connection of HV Cable
Type : Ceramic substrate, Ruthenium Deposited Resistor
Type No. : Z/18/4/15



Resistor

5. Low Inductance Coaxial Load Resistor

Resistor value : As per order suitable to the customer
Typical value : 1Ω to 500Ω
Type : Solid bulk resistor; wire wound resistors
Container : Coaxial metal container with resistive ground
Type No. : ZHS/001/082



6. High Voltage Pulse Resistor



Resistance Range : 50Ω to 1000Ω
Max peak current : 50kA
Max energy : 10kJ
Application : As a load for high power pulses like Blumlein, Marx, Capacitor bank
Type : Non Inductive
Type No. : Z/21/117

7. High Voltage Modular Crowbar Resistor

Typical Voltage : $15\text{kV}/25\text{kV}/50\text{kV}/100\text{kV}/150\text{kV}$
Typical Values : 1Ω to 10Ω / 20Ω to 100Ω
Resistor : Bulk Ceramic Resistor or Wire wound
Temperature : -20°C to $+85^\circ\text{C}$
Type No. : ZHS/001/084



8. High Voltage Low Inductance Resistors

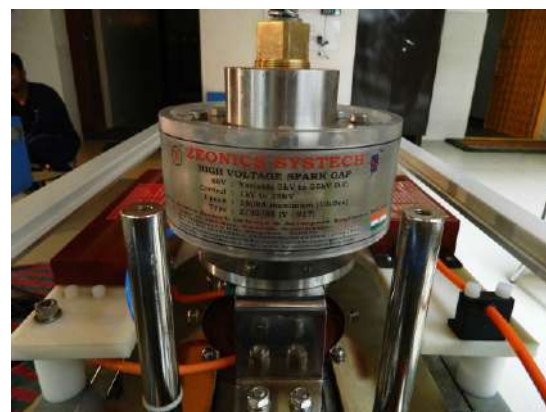


Working Voltage : 50kV / 100kV / 400kV
Peak Current : max 100kA
Resistance Value : 10 Ohms / 25 Ohms / 50 Ohms
Connector : Coaxial Metal
Type No. : Z/34/112

Spark Gap and Rail Gap

1. High Voltage Spark Gap SBV 3-35kV

Control : 1kV to 25kV
Self-Breakdown Voltage : Variable from 3kV to 35kV DC
Peak Current : 150kA maximum (16 μ s P.W.)
Energy : max 20kJ
PRR : 5ppm
Pressure : Nitrogen / SF₆ Gas
Type No. : Z/32/85



2. High Voltage Spark Gap SBV 60kV-120kV



SBV : 60kV at 50psi, > 90kV at 100 psi, \approx 120kV
Peak Current : 10kA maximum, single shot / 1kA max at 10pps
Gas : Nitrogen / SF₆
Type No. : Z/30/58 (852)

3. Coaxial 50 Ω Spark Gap for Metal Tube Insertion

SBV : 90kV DC, Control 25kV to 72kV DC
Peak Current : 10kA
Typical Rise Time : <30ns
Pressure : 35psi, 43kV SBV
Gap : 4mm
Type No. : Z/33/138



4. High Voltage High Current Spark Gaps \sim 400kA



Working Voltage : 20kV, 30kV, 40kV
Peak Current : 150kA to 400kA
Pulse Width : 100 μ s to 420 μ s
Energy : 10kJ, 20kJ, 50kJ
Dimensions : Diameter = 250 to 350mm
Height = 150 to 200mm
Type No. : Z/32/85 (917)

Spark Gap and Rail Gap

5. 10kV – 50kV DC Rail Gap

Working Voltage : 10kV DC to 50kV DC
Peak Current : 500kA typical maximum
PRR : 1 ppm maximum at 500kA
1 ppm maximum at 750kA (Flushing)
Charge : max 20C charge transfer
Type No. : Z/34/60 (746)



6. High Voltage Triggered Spark Gap SBV 10kV



Current : 6 kA to 9 kA
Peak Current : 16 kA (Non-Repeatable)
SBV : 10 kV \pm 7%
Transformer Input : 300V Pulse
Transformer Output : 10kV Pulse
PRR : 1ppm
Max Pulse Width : 600 μ s per shot
Coulombs : 0.02C/Discharge
Type : Vacuum Gas filled Trigratron
Dimensions : Diameter : 65 mm; Length: 100mm
Atmosphere : Oil / Air / SF₆ / Nitrogen
Type No. : Z/33/196 (10 kV)

7. Variable Electrode, Variable Pressure Spark Gap



Working Voltage : 300kV pulse maximum
Peak Current : 5kA / 25kA / 50kA
Pressure : 20 Bar, maximum 290 psi
Pulse width : < 50 ns
Gap : 0 to 10mm adjustable
Type No. : Z/31/72 (870) electrode

8. Variable Voltage 2 Terminal Spark Gaps

Operating Voltage : 6kV DC to 11kV DC
Peak current : Typically 5kA /10kA
Gas : Nitrogen filled atmosphere
Type No. : Z/29/65(823)



Spark Gap and Rail Gap

9. High Voltage Gas Filled Spark Gap Trigatron

SBV : 60kV to 130kV (Pressure Controlled)
Control : 50kV to 95kV
Peak current : 10kA
Max Pressure : Nitrogen at 50psi or SF₆ at 30psi
Trigger Voltage : 20kV pulse maximum
Type No. : Z/28/92 (731)



10. High Voltage Nuclear Hardened Spark Gap Switches



Working Voltage : SBV 40kV DC
Test Voltage : 50% to 80% of SBV (20kV to 32kV)
Peak Current : 20kA max
Temperature : -20°C to +85°C
RH at 40°C : 95%
Neutron Capability : max 1x10⁹ flux Neutrons
Peak Current : 25kA
Type No. : ZE/3T/40

11. High Voltage Isotope Treated Low Jitter Spark Gaps

Self-breakdown voltage : 5, 10, 15, 20, 25, 30, 40kV
Control required : 40% of SBV to 80% of SBV
Peak Current : 5kA / 10kA
Trigger required : 10kV Trigger required
Type No. : ZHS/001/093



12. Low Inductance High Voltage Spark Gap



SBV : 180kV at 100psi
Typical Rise Time : < 5ns at 100psi
Gas : Nitrogen
Type No. : Z/30/58

Spark Gap and Rail Gap

13. High Voltage 3 Terminal Spark Gap for Coaxial Fixing

Working Voltage : SBV 120kV DC \pm 7%
Control Voltage : 60kV to 96kV DC
Peak Current : 30kA maximum
Trigger Pulse : 30kV to 40kV at 1 Joule
Medium (Insulating) : Oil / Air/ Compressed gas
Type No. : Z/15/4



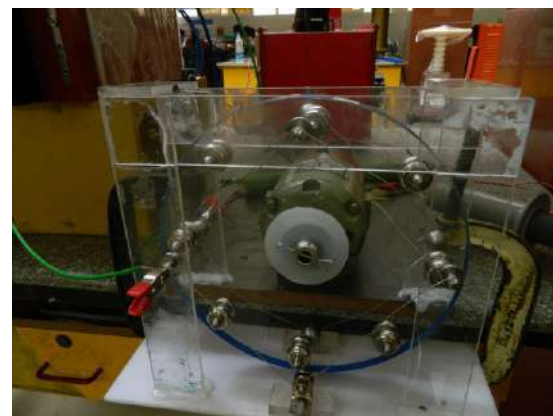
14. High Voltage Demonstration 100kV 3 -T Spark Gap Assembly



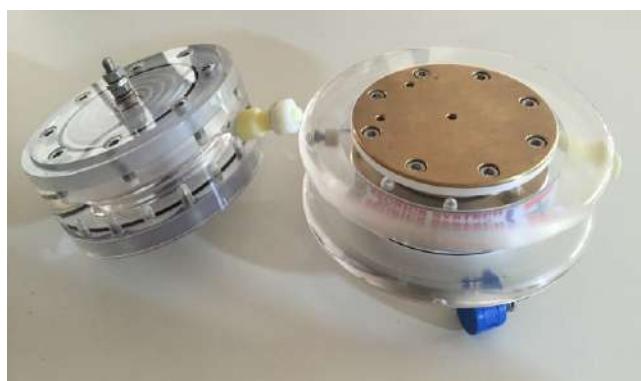
Working Voltage : 10kV to 100kV
Trigger Generator : Input 230V, 50Hz, 1 Phase, Output 1kV
Trigger Transformer : Input 1kV; output 40kV pulse
Decoupling Capacitor : 500pF /100kV
Type : Open execution spark gap
Type No. : Z/14/147

15. Rotational Spark Gap

Voltage : max 100kV
max Current : 20A / Pulse
max PRR : 30 pps to 200 pps
Electrodes : Tungsten, Alkonite
Motor Speed : 1500 rpm (variable)
Type No. : ZHS/01/61



16. Field Distortion Spark Gaps



SBV : 25kV to 100kV
Control : 30% to 80% of SBV
Peak Current : 30kA to 100kA
PRR : 10kA \rightarrow 50pps; 100kA \rightarrow 1ppm
Gas Flow : N₂ /SF₆ at 25Lps to 50Lps
Electrodes : Copper Tungsten
Gas purging : Every Few Shots when at 30kV
Type No. : Z/37/58, Z/40/88

Spark Gap and Rail Gap

17. Variable Voltage High Voltage Trigatron Switch

Variable SBV : 10kV to 25kV DC
Control Voltage : 5kV to 20kV DC
Gas : Nitrogen, SF₆, Argon
Type No. : Z/30/73 (832)



18. High Voltage Trigatron Switch



Working Voltage : 20kV DC to 100kV DC
PRR : max 100pps
Peak Current : max 1kA at 100pps, max 5kA at 5pps, max 10kA at 1ppm
Gas : Hydrogen, Nitrogen, SF₆
Type No. : Z/27/4

19. Hydrogen Gas Based Trigatron Switches

SBV : 100kV DC
Control : 40kV to 80kV pulse
Peak Current : 35kA
Max PRR : 100Hz at 1kA/Pulse
Pressure : 100psi
Gas : Hydrogen/Nitrogen/SF₆
Type No. : ZHS/001/092



20. High Voltage Floating Spark Gap



Input : ON Board Batteries 24V DC
Output : Pulser Trigger source for Triggering Spark Gap
Spark Gap : 200kV Spark Gap suitable for 200kA
Application : Air Borne Application and Testing of 200kV/200kA Pulses on wind Mills
Type No. : Z/36/18

Spark Gap and Rail Gap

21. High Voltage 3 Triggered Spark Gap



| | |
|-----------------|----------------------|
| SBV | : 100kV to 120kV DC |
| Control Voltage | : 60kV to 90kV DC |
| Peak Current | : 20kA |
| Trigger Voltage | : 15kV max |
| PRR | : 1pps max |
| Type No. | : Z/3T/100, Z/40/102 |

22. High Voltage Firing Set Spark Gap

| | |
|--------------|---|
| SBV | : 8kV DC |
| Control | : 3.5kV to 6.4kV |
| Peak Current | : 10kA |
| Life | : 1000 Shots at 10kA; 10,000 Shots at 1.8kA |
| Application | : Detonation Sets |
| Type No. | : Z/42/114 |



23. Multi-Channel (6) Rail Gap Gas Management System



| | |
|----------|--------------------|
| Pressure | : max 50 psi |
| Display | : Analog + Digital |
| Ports | : 6 Nos. |
| Type No. | : Z/34/79 |

24. Adjustable High Voltage Spark Gap

| | |
|--------------|--------------------------------------|
| SBV in air | : Module 15kV to 45kV DC |
| Peak Current | : 20kA maximum |
| Pressure | : 50psi N ₂ for 150kV SBV |
| Type No. | : Z/31/111 |



Switches

1. Pulse Power Pneumatic Crowbar Module

Working Voltage : 50kV DC
Test Voltage : 60kV DC
Peak Current : max 40kA (No Resistor)
Pressure : max 30 psi dry air
Crowbar Resistor : 5k Ω /10k Ω /20k Ω
Type No. : Z/34/65



2. Pneumatic High Voltage Safety Switch 50kV DC



Working voltage : 50kV DC
Test Voltage : 65kV DC
Operational Pressure : max 30 psi Air
Type : NO / NC or 2NO / 2 NC
Type No. : Z/34/65

3. Pneumatic High Voltage Switch 50-150kV DC



Input Voltage : 230V 50Hz or 12 V Battery
Output Voltage : 50kV, 100kV, 150kV
Isolation : Level 60kV, 120kV, 200kV
Air Pressure : 40psi
Contacts : Alkonite/Tungsten
Type No. : Z/33/28

Please note the switches can be custom built. In case you require different input, output or configuration, please feel free to contact us.

Transformers (Pulse + Trigger)

1. Air Based Multi Primary Transformer for 60kV Pulse

Input Voltage : max 600V input
Output Voltage : max 60kV pulse
Isolation : 90kV DC
PRR : max 1 pps
Energy : max 100 Joules
Temperature : -20°C to $+85^{\circ}\text{C}$
Type : Air core primary vacuum moulded epoxy case
Type No. : ZE/TT/60/AC
Please note the values are customisable. In case you require different input, output or configuration, please feel free to contact us.



2. Air Core Pulse Transformer 60kV



Input Voltage : variable 200V to 800V
Output Voltage : 60kV Pulse
Isolation : 90kV Primary to secondary
Energy : max 50 Joules
Temperature : -20°C to $+85^{\circ}\text{C}$
Type : Air core, Oil filled, Vacuum Moulded Epoxy casted
Type No. : ZHS/001/063

3. High Voltage Pulse Transformer 15kV

Input Voltage : max 400V pulse
Output Voltage : 15kV pulse
Max Pulse width : $2\mu\text{s}$
PRR : 5pps
Temperature : -20°C to $+85^{\circ}\text{C}$
Application : Laser / Spark Gap / Flash Lamp triggering
Type : Ferrite Core vacuum moulded
Type No. : ZPT - 400



4. High Voltage Pulse Transformer 40kV



Input Voltage : 800V to 900V; pulse $1\mu\text{s}$ to $5\mu\text{s}$
Output Voltage : 40kV Pulse, typically 38kV
Isolation : 50kV DC primary to Secondary
PRR : 10 ppm
Energy : max 10 Joules
Temperature : -20°C to $+90^{\circ}\text{C}$
Application : Laser / Flash Lamp / Spark Gap
Type No. : Z/20/34

Transformers

5. Nuclear Hardened High Voltage Pulse Transformer 100kV



| | |
|------------------|--------------------------------|
| Input Voltage | : Can be used for 200V to 800V |
| Output Voltage | : 100kV Pulse |
| Isolation | : 120kV DC |
| Energy | : 100 Joules |
| Temperature | : -20°C to +90°C |
| Max Neutron Flux | : 1×10^{11} Neutrons |
| Type No. | : Z/30/112 (809) |

6. High Voltage DC Isolation Transformer 100kV DC

| | |
|-----------------|---|
| Primary | : 0-230V, 240V, 50Hz, 1 Phase |
| Secondary | : 1390 V at 0.75A |
| Primary to Core | : 5kV DC |
| Isolation | : Primary to Secondary 100kV DC Core to Secondary 100kV DC |
| Leakage current | : $\leq 10\mu\text{A}$ at 100kV DC |
| Power | : 1050 VA to 11000VA |
| Type | : Z/34/102 |



7. High Voltage DC Isolation Transformer 30-80kV DC



| | |
|------------------|-------------------------------------|
| Primary Input | : 230V – 50Hz 1 phase 10kVA maximum |
| Secondary Output | : 750V AC (Tap-1) 1160V (Tap-2) |
| Power | : 500VA to 10,000VA Range |
| Isolation | : 30kV /40kV /50kV /60kV /80kV DC |
| Type No. | : Z/27/144 |

Please note the values are customisable. In case you require different input, output or configuration, please feel free to contact us.

8. High Voltage Isolation Transformer 10kV-200kV DC

| | |
|------------|---------------------|
| Input | : 230 V |
| Output | : 230 V |
| Power | : max 8kVA |
| Isolation | : 10kV to 200 kV DC |
| Regulation | : Typically 7% |
| Type No. | : Z/27/110 (731) |



Transformers

9. High Voltage Transformer-less HV Unit 35kV DC

Primary Voltage : 25kV AC
Output Voltage : 35kV DC
Output current : 0.5A
Type : Oil immersed type
Type No. : ZHS/001/095



10. High Voltage Isolation Transformer 60kV DC



Primary Voltage : (230V, 50Hz, 1 Phase) 0, 100V, 200V, 230V
Secondary Voltage : 100V, 3A
Isolation : 60kV DC (1 Minute) 72kV DC (Continuous)
Power : 300VA
Application : Floating Modulators, Radar, Ion Beam Platforms.
Type No. : Z/11/124

11. High Voltage Isolation Transformer 200kV DC

Input Voltage : 230 V, 50Hz, Single Phase
Output Voltage : 230 V, 50Hz, Single Phase
Isolation : Primary to Secondary – 200kV DC
Secondary to Core – 200kV DC
Primary to Core – 5kV DC
Power : 1kVA to 10kVA available
Type No. : Z/36/96



12. Large HV Isolation Transformer 50kV DC



Input Voltage : 230 V, 50Hz, Single Phase
Output Voltage : 30 V at 75A
Power : 2250VA
Isolation : Primary to Secondary- 50kV DC
Primary to Core - 5kV DC
Secondary to Core - 50kV DC
Application : Magnetron, Klystron Filament Isolation Transformer
Type No. : Z/30/148 (864)

Transformers

13. Isolation Transformer Primary to Secondary Both Floating 70-250kV DC

Primary Voltage : Floating 230 V, 50Hz, Single Phase
Secondary Voltage : Floating 230 V, 50Hz, Single Phase
Power : 1kVA to 10kVA
Isolation : 70kV DC / 100kV DC / 250 kV DC
Type No. : ZHS/01/47



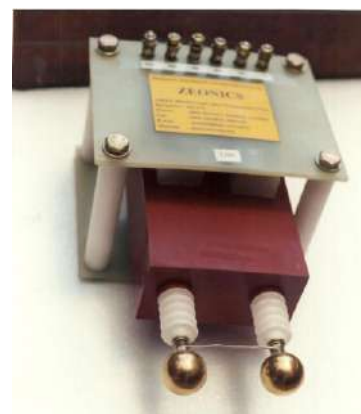
14. High Voltage Isolation Transformer for Magnetron Filaments 60kV DC



Input Voltage : 230V, 50Hz, 1 Phase
Output Voltage : 6.3V / 25A; 6.0V / 75A
Regulation : $\approx 9\%$
Isolation : Pri to Sec – 60kV DC
 Sec to Core – 60kV DC
 Pri to Core – 5.0kV DC
Temperature : -20°C to $+85^{\circ}\text{C}$
Type No. : Z/18/127

15. HV HF Transformer 200V

Input Voltage : 200V at 20kHz
Power : Typically 4.0kVA
Winding : All litz wire work
Core : All ferrite core
Type No. : ZHS/01/16



16. High Voltage High Frequency Transformer 10kV

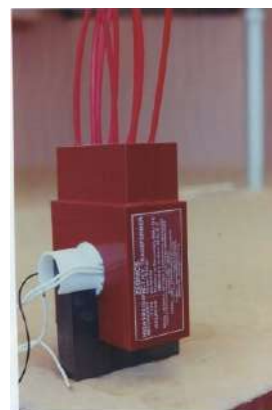


Input : 120V rms 20kHz with taps at 0, 120V, 140V
Output : 10kV rms at 20kHz
Power : 2250VA Continuous
Isolation : Primary to Secondary 35kV DC
Type : Oil filled sealed transformer for military use
Temperature : -20°C to $+85^{\circ}\text{C}$
Type No. : Z/23/35-38 (628)

Transformers

17. HV HF Transformer for Multi Turn Application 5kV

Primary : 100V rms 20 KHz
Secondary : 5000V rms at 20 kHz (Mul Sec on)
Power : 1kVA Continuous
Isolation : Primary to Secondary 80kV DC
Duty : Continuous Radar Duty
Type No. : Z/18/100



18. HV 100kHz Transformer



Typical Input : 100V rms
Typical Output : 20kV AC rms
Frequency : 100kHz
Ratio : 200:1
Power : 600VA
Core Type : U100
Type No. : Z/27/95

19. High Voltage Air Core Transformer 500kV

Input : 1kV Pulse at 140kA
Output : 500kV pulse $1\mu\text{s}$ to $10\mu\text{s}$
Power : 10kJ
Type No. : Z/27/143



20. 3 Phase HV Transformer 11kV AC



Input : 3 phase, 440 V Delta connected
Output : 3 phase, 440 V Delta connected
Power : 5kVA, 10kVA, 15kVA
Output Voltage : 11kV AC rms
Protection : Fuse protected secondary used with Glass cartridge fuses
Type No. : ZHS/01/45

Transformers

21. High Voltage High Frequency Transformer 26kV

Input : 247 V/20kHz
Output : 26kV rms
Frequency : 20kHz Square Wave
Power : 5kVA Max
Ratio : 105:1
Type No. : Z/41/98



22. High Current High Reliable Current Transformer



Current : Max 300A
Burden : 5VA
Frequency : 50Hz/60Hz
Accuracy : $\pm 2\%$ to 3%
Type No. : Z/43/01

23. Multi Output Isolation Transformer 20kV DC

Primary : 230 V 50Hz 1 ϕ
Secondary : Multi output 100V, 200V, 600V
Isolation : 20kV DC Isolation
Leakage Current : 100 μ A at 20kV DC
Frequency : 50Hz/200Hz
Type No. : Z/39/72



24. 200kV DC Isolation Transformer



Isolation Voltage : Pri to Sec - 200kV DC
Input : 0, 210V, 220V, 230V AC (Pri)
Output : 230V 50Hz 1 ϕ (Sec)
Power : 5000VA, 8000VA, 10,000VA
Duty : Continuous Duty
Type No. : Z/44/01, Z/44/16

Transformers

25. Ferrite Core Based Pulse Transformer 8.5kV



Input : max 800 V pulse
Output : 8.5kV Pulse
Isolation : 15kV DC Primary to Secondary
Temperature : -30°C to +85°C
Type : Ferrite core, Oil Impregnated, Vacuum moulded, epoxy casted Transformer
Type No. : Z/20/36

26. Ferrite Based Pulse Transformer 80kV

Input : max 900 V Pulse
Output : 80kV Pulsed output
Isolation : Primary to Secondary 110kV DC
Material : Polymer Body
Application : Triggering Rail Gaps
Reliability : Highly reliable Transformer
Type No. : Z/25/54 (686)



27. High Voltage Plasma Torch



Working Voltage : 40kV AC at 20kHz
Gas : Nitrogen/Argon /Air
Type No. : Z/42/63

28. Weapon Based Pulse Generator Modules

Input : 24kV DC Batteries
Output : Pulse 30kV
Isolation : 40kV Primary to secondary
Rise time : 1μs
Dimensions : 110mm - 350mm length
Battery : 300 Shots Suitability Single Charge
Type No. : Z/28/128



Other High Voltage Assemblies & Systems

1. X- RAY Shield



Protection : for 60 keV X-Rays
Adaptation : Flexible type
Suitable : For so X-Rays
Material : Metal loaded silicone Rubber
Type No. : Z/35/108

2. High Energy 40kJ/100kJ System

Output : 15kV to 25kV Range
Energy : 15kJ to 120kJ System
Current : 100kA to 600kA Range
Type No. : Z/41/01



3. 11kV/33kV Surge Arrester



Rated Voltage : 11kV/33kV
Surge Current : 5kA or 10kA
8/20 μ s Lightning Impulse : 99kV

4. High Voltage Detonation Sets

Input : 24 V battery or 230 V, 50Hz, Single Phase
Output : Pulse of 50J/100J/250J/500J at 10kV DC/20kV DC
Energy : 1kJ at 30kV DC max
Type No. : ZHS/01/20



Other High Voltage and Assemblies

5. High Voltage Detonation Sets 50 Joules to 100 Joules

Input Voltage : 230V, Single phase, 50Hz or 12V/24V DC Operation

Output Voltage : High energy pulse of 10kV to 15kV at

Energy : 50 Joules to 100 Joules

Trigger : Manual or a +5 V command.

Suitable : Dynamite, RDX and other Pyrotechnic/ Explosives

Type No. : ZE/FS/10/25-SMPS



6. High Voltage Pulse Power Disinfection System



Operating Voltage : 20kV to 40kV stress at 50kV /cm

Cell measurement : Typically 1Litre/25Litres of volume

Application : Sterilization of medical equipment

Type No. : ZHS/01/28

7. High Voltage 10kJ/ 20kJ Magna Forming Equipment



Max Voltage : 18kV DC

Energy : 20kJ/30kJ available

Type : Magnetic Welder

Welding : Plastic to Metal

Type No. : ZHS/01/26

8. High Voltage High Energy Explosion Detonation Module

Working Voltage : 25kV DC

Test Voltage : 40kV DC

Energy : 1.5kJ

Fluids : Oil, Gas, Colloids (Explosives)

Application : For testing of Bridge wire explosives in a controlled atmosphere

Type No. : Z/21/7



Other High Voltage and Assemblies

9. High Voltage Bridge Wire Exploding Chamber



Input : DC of 20kV to 50kV DC stored energy of 1kJ to 5kJ
Output : Pulse of 20kV to 50kV at 2kJ to 5kJ
Pressure : max 200psi of gas or vacuum of 730mBar
Type No. : Z/27/1 (710)

10. High Value Asset Protector

Voltage : 440V/1100A or 11kV/132A
Protection : 4 Way, 3 phase + Neutral
Protection Level : 200kV Impulse / $\leq 50\text{ns}$
Application : Protection from conducted EMP pulse upto 200kV
Type No. : Z/33/28



11. E-Field Detector (Quantitative) Detection



A pre-ionized gas-based E-field system which can detect electric fields which can occur in the atmosphere.
This can work up to very strong fields also of $>50\text{kV/Meter}$.
Type No. : Z/30/59

12. Hand Held Electrospinning System

Output Voltage : 20kV DC
Material : PVA Based Dispensing Materials
Rate of dispersion : Adjustable by changing voltage
Coverage : Approx. 100mm x 100mm in 2 minutes
Type No. : Z/28/18



Other High Voltage and Assemblies

13.High Voltage Multiplier Cast Module



Capacitance : 2300pF / 20kV x 6 Nos.
Operating Frequency : max 100 kHz
Type No. : S/11/1

14. 500kV to 700kV HV Multiplier Assembly

Input Voltage : 25kV AC rms at 60kHz
Output Voltage : 500kV DC / 700kV DC at 1mA
Type No. : ZHS/001/099



15. Modulator based PFN for Pulsed Electric Field Systems



Voltage : 30kV to 150kV Output
Energy : 100 Joules to 2000 Joules
PRR : Max 200 Hz
Impedance : 5Ω to 2000Ω
Pulse : Rectangular Shape
Duration : 500ns to 500 μ s
No of Stages : 10 or 20
Application : Agriculture, Food Industry, Dairy, Modulator, Radar
Type No. : ZHS/001/058

16. PFN 5 μ s Pulse width, 40kV Output Into 50Ω

Working Voltage : Max 40kV/ 80kV DC
Capacitance : 10nF / 40kV x 10 limbs
Inductance : 8.25 μ H x 10 limbs
PRR : Max 1pps to 100pps
Type No. : Z/34/130



Other High Voltage and Assemblies

17. 100ms Pulse width, 20kV Output PFN (1Ω Impedance)



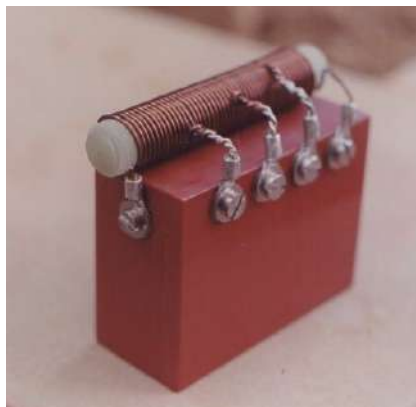
Working Voltage : 20kV DC
Test Voltage : 30kV DC
Pulse width : 100μs
Energy/Shot : 5kJ
Type No. : Z/34/42

18. 50Ω Impedance Pulse Forming Network

Input Voltage : 50kV DC
Output Voltage : 25kV across 50 Ohms
Pulse Width : 5μs to 100μs
Energy : 50 Joules to 200 Joules
Duty : Continuous duty
Type No. : S/17/140



19. High Voltage Compact PFN Oil and Moulded Version



Voltage : 5kV to 100kV DC
Current : 2 to 30A rms; 1 to 10kA Peak current
Pulse Width : 10ns to 100μs
No. of stages : 10 to 20 Stages
Impedance : 2Ω to 100Ω
The entire PFN are designed in open or moulded version as per current required.
Type No. : Z/01/35

20. Pulse Power Plasma Washer Gun

Input : 230V, 50Hz, 1 Phase
Output : PFN based pulses of 100μs duration and 15kV output
Peak Current : 2kA to 10kA maximum
Switch control : Spark gap based
Type No. : Z/27/28



Other High Voltage and Assemblies

21. High Voltage High Power Rotary Switches

kV / Stage : 25kV
Energy : max 3kJ
No of Stage : 10
Type : Sequential Switching System
PRR : max 200 rpm
Type No. : ZHS/001/067



22. High Voltage Test Setup for HV Laboratory



Input voltage : 230 V, Single phase
Output voltage : 0 to 200kV DC at 10mA
0 to 100kV AC at 10mA
Metering : Analog kV meter/Digital kV meter HV Grid and safety lights
Type No. : ZHS/01/41

23. Compact HV Firing Module

Input : 28V DC Battery Minimum 10Ah
Output : Pulse of 5kV DC at 5 to 6kA
Command : + 5V DC and Manual
Application : Detonation
Type No. : Z/43/36 dimension



24. High Voltage Gas Management System for Marx, Rail Gaps and Spark Gaps



Type of gas : N₂, SF₆, AIR, Argon
Max Pressure : 100 psi/200psi
Control : 1psi to Full Pressure
Application : Marx Generators/Rail Gaps/Spark Gaps
Type No. : Z/30/78, Z/34/78

Other High Voltage Protection Systems

25. High Voltage Crowbar Module



| | |
|-----------------|---|
| Working voltage | : 20kV DC |
| Peak Current | : 20kA Max |
| Command | : +5 V / Manual |
| Duty | : continuous duty 24 hours |
| Application | : For Magnetron/Klystron/TWT/ Gyratron systems |
| Type | : Z/18/146 |

26. E-field Probe or Sensor

Max Field : 100kV/Meter
Rise Time : ≈ 1 n sec
Frequency : 1GHz
Ratio : 1kV : 22mV
 : 20kV : 440mV
Type No : Z/26/110 (E-field)
We also make B-field sensors and other designs
of E-field sensors (Z/36/154).



27. High Voltage Dielectric Breakdown Plasma Generator



| | |
|----------------|--|
| Input | : 230V, 50Hz, 1 ϕ |
| Output | : 30kV at 40mA; 50kV at 25mA; 50kV at 40mA |
| Power | : 1200 watts |
| Application | : Generation of continuous plasma between a glass plate to extract the same |
| Plasma surface | : 300mm x 300mm & 600mm x 600mm Plasma systems |
| Type No. | : ZHS/001/088 |

28. Dielectric Plasma Generator

| | |
|----------------|------------------------|
| Voltage | : 50kV, 70kV Models |
| Power | : 5kW or 7kW |
| Operation | : Continuous |
| Voltage Plasma | : 1m x 1m x 25mm (Gap) |
| Type No. | : ZHS/001/059 |

