



# SOLUTIONS PROVIDED BY ZEONICS SYSTECH

DEFENCE & AEROSPACE ENGINEERS PVT LTD

LOCAL REPRESENTATIVE IN THE USA:  
L-Egant Solutions, LLC, Irvine, CA 92623  
+1-657-210-2997, [info@legantsolutions.com](mailto:info@legantsolutions.com)  
<https://www.legantsolutions.com>

# FEED THRU CAPACITOR



## Capacitor for removing noise in-line

CAPACITANCE	150nF/100nF/75nF±10%
WORKING VOLTAGE	300V AC
IMPULSE LEVEL	1.2/50μs at 10kV
CURRENT	100A rms/ 200A/ 300A
TYPE NO	S/19/99/A/B/C

# COAXIAL PULSER



## High Frequency Pulse Generators

INPUT	Max 40kV DC
OUTPUT	Max 20kV Pulse (Square)
LOAD	50 ohm
PRR	Max 100 PPS
TYPE	Z/43/45



# NON- INDUCTIVE RESISTOR

## High Power Density, High temperature Resistor

RESISTANCE RANGE	1Ω to 20MΩ
TOLERANCE	±1%, 5%, 10%, 20%
TEMPERATURE Coefficient	200ppm / °C
MAX OPERATING TEMP.	350°C
LOAD LIFE	Max. 5%
SHORT TIME OVERLOAD	2% Change (5 times rated Power 5 seconds)
VOLTAGE COEFFICIENT	Max. 1% kV/in
ATMOSPHERE	Gas or Oil

# NEMP PULSE PROTECTION FILTER



Protection against E2 Pulses entering Clean areas

NOMINAL VOLTAGE UN	3 x 400/230 V AC
NOMINAL CURRENT IN	200A
MAX SURGE CURRENT IMAX	100kA
ATTENUATION	> 80dB
50HZ AC - LEAKAGE CURRENT	<0.7A
COMBINATION SPD	SPD Type 1+2
DIMENSIONS	1360 x 570 x 129mm
WEIGHT	Approx. 83kg
TYPE NO.	Z/46/136 (Y- 1339)

40A, 60A, 100A, 200A, 400A, 800A, 1000A Versions available



## FAST RISE TIME TRIGGER GENERATOR

Trigger with  $\geq 5\text{kV/ns}$  rise time

ENERGY	5 Joules / Shot
OUTPUT	50kV Pulse
CONSTRUCTION	Coaxial
MIN ZO	100 $\Omega$
RISE TIME	$\geq 5\text{kV/nsec}$
PULSE WIDTH	Depends on Load
PRR	Max 3ppm
TYPE NO	Z/20/220, Z/51/146



## MINI MARX IMPULSE SYSTEM

Mini (Marx) System Model No : Z/34/139

HV PULSE MAXIMUM OUTPUT	200kV
OPEN CIRCUIT	200kV output, 20J
PRR	Maximum 5ppm
T1	$1.2\mu\text{s} \pm 20\%$
T2	$50\mu\text{s} \pm 20\%$
OPERATING PRESSURE	20 PSI Air maximum
WEIGHT	$\approx 45\text{kgs}$
TYPE NO	Z/34/139

# PULSE CURRENT INJECTION (PCI)



## High Voltage Pulse Current Injection

**INPUT**  
**OUTPUT**  
**MAX CURRENT**  
**STANDARD**  
**TYPE**

Battery Operated  
0 to 60kV DC Pulse  
At 60kV DC 1kA into a load  
MIL STD 188-125-1/2  
Z/50/48



# PLASMA TORCHES FOR FOCUSED PLASMA

## Plasma torches for focused beams of Plasma

<b>Input Voltage</b>	Typically 10kV to 20kV Maximum
<b>Input Frequency</b>	Typically 10 kHz to 20kHz
<b>Required Gas</b>	Argon @ 2 ltrs to 5 Ltrs /minute
<b>Plasma Torch diameter</b>	25mm or 40mm
<b>Plasma Flame</b>	12mm diameter to 15mm diameter
<b>Plasma flame length</b>	up to 50mm
<ul style="list-style-type: none"><li>• Application Disinfection</li><li>• Treatment of certain polymers and chemicals</li><li>• Organizing polymerisation into Materials</li><li>• Treatment of different types of steels for surface preparations</li></ul>	
<b>Type No</b>	Z/42/72, Z/42/73

# PULSED ELECTRIC FIELD GENERATOR

## Pulsed Electric Field (PEF) systems of various Frequencies & Voltages



**INPUT**  
**OUTPUT**  
**FREQUENCY**  
**DUTY**  
**CONTROL**  
**TYPE NO**

230V 50Hz 1φ  
0 to 30kV 50Hz  
100Hz to 5kHz / 5kHz to 20kHz  
Continuous  
1) Frequency, 2) Voltage, 3) Pulse Width  
Z/49/42

# HIGH VOLTAGE HF GENERATOR



**High Frequency Generator for various applications**

<b>INPUT VOLTAGE</b>	230V 50Hz 1Ø
<b>OUTPUT</b>	Plasma Flame (Cold Plasma)
<b>POWER</b>	200VA
<b>APPLICATION</b>	Polymerization / Cold Plasma Source
<b>ARGON</b>	Required to be Connected
<b>CONTROLS</b>	Voltage
<b>TYPE NO</b>	Z/47/148

# PULSE FORMING NETWORKS (PFN)



**100us Pulse Width, 20kV Output PFN (1Ω Impedance)**

<b>WORKING VOLTAGE</b>	20kV DC
<b>TEST VOLTAGE</b>	30kV DC
<b>PULSE WIDTH</b>	100µs
<b>ENERGY / SHOT</b>	5kJ
<b>TYPE NO</b>	Z/34/42

**Maximum Ratings : V=100kV & I=50kA**

# ATMOSPHERIC PLASMA TORCH ARGON BASED



**Plasma generation in a focused way**

<b>INPUT</b>	230V 50Hz 1 phase
<b>OUTPUT</b>	0 - 20kV
<b>OUTPUT FREQUENCY</b>	5kHz - 20kHz
<b>GAS</b>	Argon
<b>CONTROL</b>	Voltage, Frequency, Duty, Time
<b>PLASMA TORCH</b>	1 Torch Provided
<b>TYPE NO</b>	Z/52/130

# HIGH VOLTAGE SPARK GAP



## High Voltage Molded Trigatron

<b>SBV</b>	28kV DC ± 2kV
<b>CONTROL VOLTAGE</b>	14kV to 22kV
<b>PEAK CURRENT</b>	6kA
<b>TRIGGERING VOLTAGE</b>	≥15kV at ≥15kV/ μs
<b>PRR</b>	3PPS
<b>COULOMBS</b>	0.02 C / Discharge
<b>CONFIGURATION</b>	Vacuum Gas filled Trigatron
<b>TERMINATION</b>	4 x M6 Terminals for Anode & Cathode
<b>ATMOSPHERE</b>	Oil/ Air/ SF6/ Nitrogen
<b>TYPE NO</b>	Z/34/88

# HIGH VOLTAGE DC POWER SUPPLY



## High Voltage DC Power Supply

<b>INPUT</b>	230V, 50Hz
<b>OUTPUT VOLTAGE</b>	0 to 30kV DC variable (upto 100kV version available)
<b>OUTPUT CURRENT</b>	Maximum 1mA
<b>HV WIRE LENGTH</b>	3m
<b>DUTY</b>	Continuous duty
<b>PROTECTION</b>	<ul style="list-style-type: none"> <li>• Short circuit protection</li> <li>• Overvoltage protection</li> <li>• Overcurrent protection</li> </ul>
<b>DIMENSIONS</b>	W =480; H= 125; D= 500mm
<b>TYPE NO</b>	Z/49/104

# AIR BULK PLASMA REACTOR FOR DRY AIR STERILIZATION



## Reactor for Plasma Sterilization of dry air

<b>WORKING VOLTAGE</b>	50kV AC rms 50Hz
<b>AIR FLOW RATE</b>	2000 CFM
<b>PRESSURE</b>	Maximum 20psi
<b>IONISATION POINT</b>	Starts at 28kV AC Maximum
<b>TYPE NO</b>	Z/49/75

# GYROTRON TEST BENCH



## 60kV Gyrotron Test bench

WORKING VOLTAGE	60kV
PULSE CURRENT	5A
PROTECTIONS	Mechanical Crowbar & Electronic Crowbar
CAPACITANCE	10uF
STORED ENERGY	20kJ

# HV SWITCHES SUB & SUPER CRITICAL SWITCHES

## 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)

# HIGH POWER MODULATORS

## High Voltage Modulator Switch - Compact Version 40kV 5A



INPUT	12V pulse
WORKING VOLTAGE	Up to 120kV
TEST VOLTAGE	Up to 130kV
OUTPUT FREQUENCY	1Hz to 30kHz
OUTPUT VOLTAGE	Up to 120kV pulse
MAX CURRENT	5A average
POWER	3kW to 10kW
PEAK POWER	~mega watt range
APPLICATION	Pulsing High Voltage at a variety of Frequencies
TYPE NO	Z/45/150, Z/45/129, Z/46/82

# RAIL GAP SWITCH & CONTROL FOR FUSION & FISSION RESEARCH



## 10kV - 50kV DC Rail Gap

**WORKING VOLTAGE**

10kV DC to 50kV DC

**PEAK CURRENT**

500kA Typical Maximum

**PRR**

1 ppm Max at 500kA

**CHARGE**

1 ppm Max at 750kA (Flushing)

**TYPE NO**

Max 20C Charge Transfer

**Z/34/60 (746)**

**750kA, 1000kA Versions also available**



# EMI FILTER

## Electromagnetic Interference (EMI) filters

**WORKING VOLTAGE**

230V/ 415V AC 50Hz

**MAX LINE CURRENT**

100A per line

**DC WITHSTAND**

380 V (1 min)

**VOLTAGE**

**OPERATING**

0°C to 80°C

**TEMPERATURE**

**STORAGE TEMP**

-20°C to 95°C

# PLASMA GENERATORS



## Cold Plasma Discharge System with variety of Reactors

**INPUT**

230V 50Hz 1Ø

**OUTPUT**

50kV AC

**POWER**

2500VA

**REACTOR**

Stainless Steel Customizable

**DIELECTRIC**

Air / Gas / Separation

**TYPE NO**

Z/45/14

**30kV, 50kV, 60kV and 100kV Versions also available**

# HIGH VOLTAGE COMPENSATED PROBE



## DC, Pulse Measurement Probe

<b>INPUT</b>	40kV DC / 60kV Pulse
<b>RATIO</b>	1000:1 or 10000:1
<b>INPUT IMPEDANCE</b>	500MΩ
<b>LOADING CAPACITANCE</b>	12pF
<b>USEABLE RISE TIME</b>	30ns
<b>BANDWIDTH</b>	1MHz
<b>ACCESSORIES</b>	1 Lossy Cable
<b>TYPE NO</b>	Z/43/136



# HYBRID HIGH VOLTAGE CAPACITOR

## Hybrid Pulse Capacitors

<b>CAPACITANCE</b>	40nF ± 10%
<b>WORKING VOLTAGE</b>	40kV DC
<b>PRR</b>	Max 100Hz, in pulse mode Upto 3 seconds
<b>DC VOLTAGE</b>	Floating max 28kV DC
<b>PEAK CURRENT</b>	Typically 8kA in PRR Mode, 15kA in single shots
<b>DIELECTRIC</b>	Mixed dielectric
<b>TYPE NO</b>	S/21/120

# PULSE RESISTOR



## High Voltage Pulse Resistor 500kV

<b>RESISTANCE VALUE</b>	1Ω to 20Ω
<b>WORKING VOLTAGE</b>	500kV Pulse
<b>MAX CURRENT</b>	65kA
<b>WEIGHT</b>	Typically 120kgs
<b>LENGTH</b>	800mm
<b>DIAMETER</b>	350mm
<b>TERMINATION</b>	M16
<b>INSULATION</b>	Oil Filled Containers
<b>PULSE POWER</b>	30 GW for Few Nano Second
<b>TYPE NO</b>	Z/49/84

# PULSE CURRENT MONITOR



**Detect Pulse Currents in Signal and Control circuits**

<b>SENSITIVITY</b>	1.0 Volt/Ampere ± 3%
<b>OUTPUT RESISTANCE</b>	50 Ohms
<b>MAXIMUM PEAK CURRENT</b>	500 Amperes
<b>MAXIMUM RMS CURRENT</b>	7.5 Amperes
<b>DROOP RATE</b>	0.1%/microsecond
<b>USEABLE RISE TIME</b>	300 nanoseconds
<b>CURRENT TIME PRODUCT</b>	0.002 Ampere-second max
<b>LOW FREQUENCY 3DB CUT-OFF</b>	125Hz (approximate)
<b>HIGH FREQUENCY 3DB CUT-OFF</b>	30MHz (approximate)
<b>OUTPUT CONNECTOR</b>	S-SMA, B-BNC
<b>OPERATING TEMPERATURE</b>	-30°C to +70°C
<b>TYPE NO</b>	Z/49/132N

# CURRENT TRANSFORMER



**Detect Pulse Currents in pulse power circuits**

<b>SENSITIVITY</b>	0.001 Volt/Ampere ± 3%
<b>OUTPUT RESISTANCE</b>	50 Ohms
<b>MAXIMUM PEAK CURRENT</b>	200,000 Amperes
<b>MAXIMUM RMS CURRENT</b>	250 Amperes
<b>DROOP RATE</b>	0.1 % / microsecond
<b>USEABLE RISE TIME</b>	500 nanoseconds
<b>CURRENT TIME PRODUCT</b>	3 Ampere-second max
<b>LOW FREQUENCY 3DB CUT-OFF</b>	5 Hz (approximate)
<b>HIGH FREQUENCY 3DB CUT-OFF</b>	10 MHz (approximate)
<b>OUTPUT CONNECTOR</b>	S-SMA, B-BNC
<b>OPERATING TEMPERATURE</b>	-30°C to +70°C
<b>TYPE NO</b>	Z/53/66

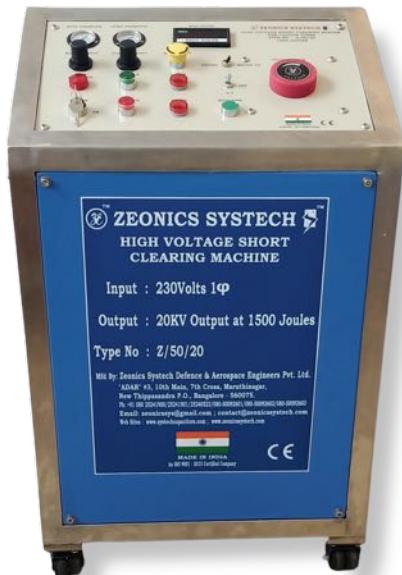
# HIGH VOLTAGE DUMP SWITCH



**Pneumatic switch for High Current and High Voltage**

<b>WORKING VOLTAGE</b>	20kV, 30kV, 50kV, 80kV, 100kV, 150kV
<b>DUTY CURRENT</b>	Max 60kA Current
<b>ON/OFF</b>	≤ 500ms
<b>PRESSURE</b>	40 psi Air
<b>TYPE NO</b>	Z/30/76

# PULSE POWER SOURCES



## High Voltage Short Clearing System

INPUT	230V 50Hz
OUTPUT	200V to 20kV DC
ENERGY	1500 Joules max
PULSE DURATION	Microseconds
PEAK CURRENT	≥ 25kA
TYPE NO	Z/50/20

We make a variety of pulse power systems, like above

# PULSE POWER SOURCES



## Pulse Power Shock Wave Generator with Shock Wave Tube

INPUT	230V 50Hz 1Phase
OUTPUT	Variable 5kV to 30kV at max 100kA
POWER	2500 Joules up to 150kJ
FREQUENCY	Maximum 30 Pulse /Hour
DIMENSIONS	1.2m x 1.2m x 1.2m
WEIGHT	240kg
TYPE NO	Z/46/12

# HV PULSE CURRENT INJECTION

Models available from 5kV to 60kV. Positive & negative polarity can be selected.

INPUT ENERGY	220V AC
OUTPUT VOLTAGE	Settable 3000V to 10000V
OUTPUT CURRENT	>1500A peak current into low resistance load
OUTPUT ENERGY	9J to 25J Modules (Versions ~100J available)



# TRANSMITTER RADAR PARTS



## HV HF Transformer 10kV

<b>INPUT</b>	120V rms 20kHz
<b>OUTPUT</b>	10kV rms 20kHz
<b>POWER</b>	2250VA continuous
<b>ISOLATION</b>	35kV DC Pri-Sec
<b>VERSION</b>	Oil-filled sealed
<b>OP. TEMP</b>	-20°C to +85°C
<b>TYPE NO</b>	Z/23/35-38 (628)

# ISOLATION TRANSFORMERS

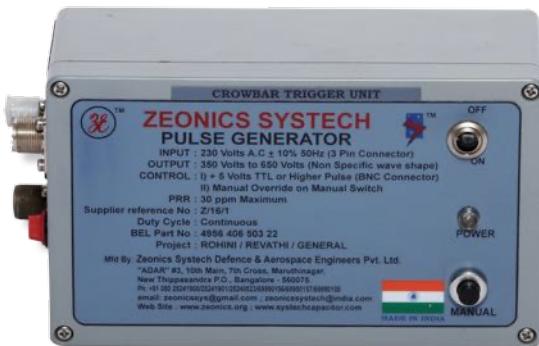


## High Voltage DC Isolation Transformer 100kV DC

<b>PRIMARY</b>	0-230V, 240V, 50Hz, 1 Phase
<b>SECONDARY</b>	230V (or others)
<b>PRIMARY TO CORE</b>	5kV DC
<b>ISOLATION</b>	Primary to Secondary 100kV DC Core to Secondary 100kV DC
<b>Leakage Current</b>	≤10µA at 100kV DC
<b>Power</b>	1050 VA to 11000 VA
<b>Type</b>	Z/34/102

Available upto 300kV DC isolation

# PULSE GENERATOR



## Pulse Generator for Trigger units

<b>INPUT</b>	230V AC ± 10% 50Hz
<b>OUTPUT</b>	350V to 650V (Non Specific wave shape)
<b>CONTROL</b>	1) +5V TTL or Higher Pulse (BNC Connector) 2) Manual Override on Manual Switch
<b>PRR</b>	30 ppm Maximum
<b>DUTY CYCLE</b>	Continuous
<b>TYPE NO</b>	Z/16/1

# HIGH POWER HIGH CURRENT DIODES



Up to 200kV PIV and 2kA I<sub>F</sub> available

## RADAR & MISSILE MEASUREMENT & DIAGNOSTICS



-37KV  
-47KV  
-180KV  
SYSTEMS

## TRANSMITTER RADAR - PARTS, MODULES & SUB SYSTEM (RADAR)

