



SOLUTIONS PROVIDED BY ZEONICS SYSTECH

DEFENCE & AEROSPACE ENGINEERS PVT LTD



WHO ARE WE?

We stand out by delivering innovative solutions and excelling in High Voltage, Pulse Power, and Futuristic Weapons.

Our diverse range of equipment finds applications across various fields, encompassing RADARs, Plasma Generation, Scientific Research, Futuristic Weapon Systems, Medical equipment, Fission and Fusion Research, Large energy storage, discharge systems, X-ray Systems, Shock Wave Generators, NEMP Generation, Protection, and more.

Furthermore, with certifications from ISO, DSIR, CE, NSIC, and IAEA, we ensure the manufacturing of professional and intuitive equipment. Since 2018, Zeonics Systech has been focusing on innovating systems for the general public.

Zeonics Systech offers expert consultancy services in critical areas like High Voltage, Pulse Power, Transformers, Material Science, Pulse Forming Networks, High Frequency, and High Power Systems.

Our well-equipped R&D laboratory and Testing Lab performs testing and certification of various components and equipment ensuring 100% accuracy and peace of mind.

CONTACT US



Catalog



www.zeonicssystech.com



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Email

OUR STORY

We have been involved in several projects of national importance and in the past have designed, developed, manufactured and supplied projects/systems/components to several such projects. Missiles, Radars, Weapons all being successful and used today to protect and guard our mother land "INDIA"

We have also diversified into Futuristic Electromagnetic Weapon systems, Fast Rise Time Impulse Generators, Food Processing and Pulse Power Equipment.

OUR MISSION

Continuously Strive To Achieve The Highest Research, Manufacturing & Testing Standards In Reliability, Safety, Performance & Efficiency Of Weapon Electricals, Electronics & Nuclear Equipment for Futuristic Weapons Missiles & Radars Manufactured Indigenously In Our Country.

Take The country ahead In the Most Advanced Armament Technologies available today. In the future, make Mother India Self Reliant in these deprived Grey Technologies, which were always kept away from India By Manufacturers all over the World.

**ZEONICS SYSTECH
DEFENCE & AEROSPACE ENGINEERS PVT LTD**

PRODUCTS RANGE

- **Capacitors**
- **Cables & Connectors**
- **Diodes**
- **Diagnostics**
- **EMP/NEMP/ HEMP Products**
- **Load Banks**
- **Weapon System**
- **Pulse Generators**
- **Plasma Generators**
- **Power Supplies**
- **Resistors**
- **High Voltage Switches**
- **Transformers**
- **HV Specialized Products**
- **Futuristic Systems**

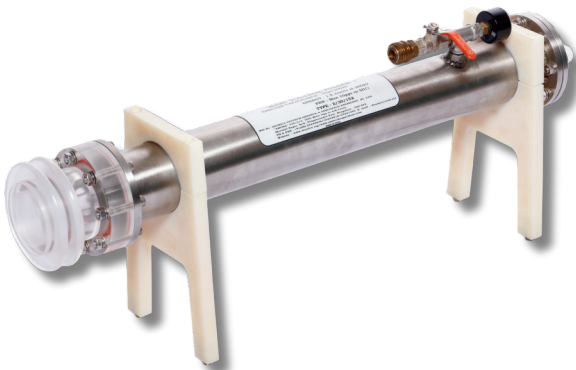
FEED THRU CAPACITOR



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/ln
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 Ω
RISE TIME	$\geq 5\text{kV/nsec}$
PULSE WIDTH	Depends on Load
PRR	Max 3ppm
TYPE NO	S/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	Battery Operated
OUTPUT	0 to 60kV DC Pulse
MAX CURRENT	At 60kV DC 1kA into a load
STANDARD	MIL STD 188-125-1/2
TYPE	Z/50/48

PLASMA TORCHES FOR FOCUSED PLASMA

Plasma torches for focused beams of Plasma

Input Voltage	Typically 10kV to 20kV Maximum
Input Frequency	Typically 10 kHz to 20kHz
Required Gas	Argon @ 2 ltrs to 5 Ltrs /minute
Plasma Torch diameter	25mm or 40mm
Plasma Flame	12mm diameter to 15mm diameter
Plasma flame length	up to 50mm

- Application Disinfection
- Treatment of certain polymers and chemicals
- Organizing polymerisation into Materials
- Treatment of different types of steels for surface preparations

Type No	Z/42/72, Z/42/73
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PULSED ELECTRIC FIELD GENERATOR

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

INPUT	230V 50Hz 1 ϕ
OUTPUT	0 to 30kV 50Hz
FREQUENCY	100Hz to 5kHz / 5kHz to 20kHz
DUTY	Continuous
CONTROL	1) Frequency, 2) Voltage, 3) Pulse Width
TYPE NO	Z/49/42



HIGH VOLTAGE HF GENERATOR



High Frequency Generator for various applications

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

PULSE FORMING NETWORKS (PFN)



100us 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

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

ATMOSPHERIC PLASMA TORCH ARGON BASED



Plasma generation in a focused way

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

HIGH VOLTAGE SPARK GAP



High Voltage Moulded Trigatron

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

HIGH VOLTAGE DC POWER SUPPLY



High Voltage DC Power Supply

INPUT	230V, 50Hz
OUTPUT VOLTAGE	0 to 30kV DC variable (upto 100kV version available)
OUTPUT CURRENT	Maximum 1mA
HV WIRE LENGTH	3m
DUTY	Continuous duty
PROTECTION	• Short circuit protection • Overvoltage protection • Overcurrent protection
DIMENSIONS	W =480; H= 125; D= 500mm
TYPE NO	Z/49/104



AIR BULK PLASMA REACTOR FOR DRY AIR STERILIZATION

Reactor for Plasma Sterilization of dry air

WORKING VOLTAGE	50kV AC rms 50Hz
AIR FLOW RATE	2000 CFM
PRESSURE	Maximum 20psi
IONISATION POINT	Starts at 28kV AC Maximum
TYPE NO	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

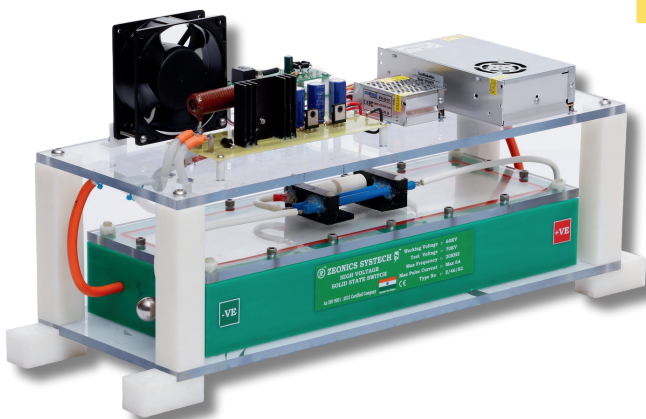
High Voltage Gas Filled Spark Gap Trigatron

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



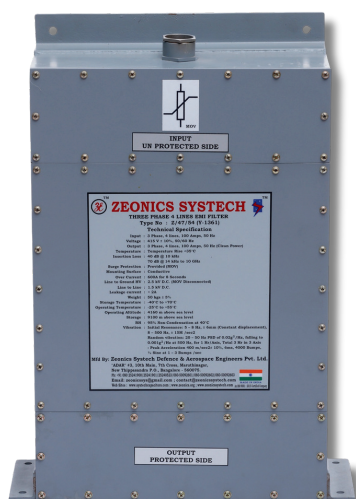


RAIL GAP SWITCH & CONTROL FOR FUSION & FISSION RESEARCH

10kV - 50kV DC Rail Gap

WORKING VOLTAGE	10kV DC to 50kV DC
PEAK CURRENT	500kA Typical Maximum
PRR	1 ppm Max at 500kA 1 ppm Max at 750kA (Flushing)
CHARGE	Max 20C Charge Transfer
TYPE NO	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 VOLTAGE	380 V (1 min)
OPERATING TEMPERATURE	0°C to 80°C
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

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

HYBRID HIGH VOLTAGE CAPACITOR

Hybrid Pulse Capacitors



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

PULSE RESISTOR

High Voltage Pulse Resistor 500kV

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



PULSE CURRENT MONITOR



Detect Pulse Currents in Signal and Control circuits

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



CURRENT TRANSFORMER

Detect Pulse Currents in pulse power circuits

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



HIGH VOLTAGE DUMP SWITCH

Pneumatic switch for High Current and High Voltage

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



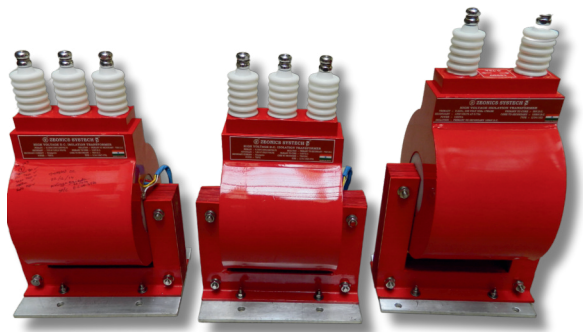
TRANSMITTER RADAR PARTS



HV HF Transformer 10kV

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

ISOLATION TRANSFORMERS



High Voltage DC Isolation Transformer 100kV DC

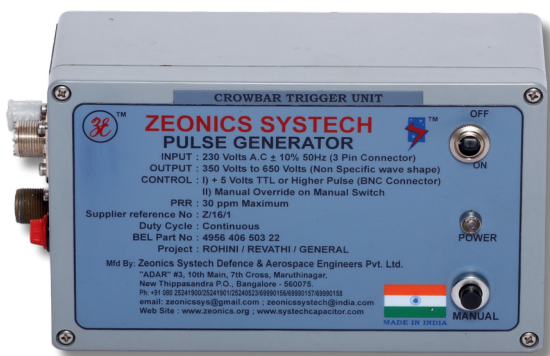
PRIMARY	0-230V, 240V, 50Hz, 1 Phase
SECONDARY	230V (or others)
PRIMARY TO CORE	5kV DC
ISOLATION	Primary to Secondary 100kV DC Core to Secondary 100kV DC
Leakage Current	≤10μA at 100kV DC
Power	1050 VA to 11000 VA
Type	Z/34/102

Available upto 300kV DC isolation

PULSE GENERATOR

Pulse Generator for Trigger units

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

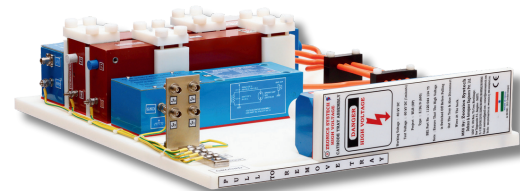
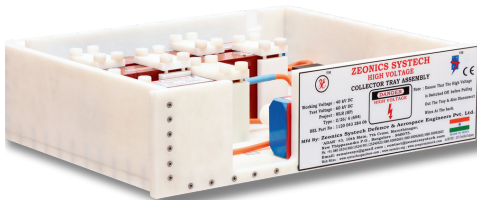


HIGH POWER HIGH CURRENT DIODES



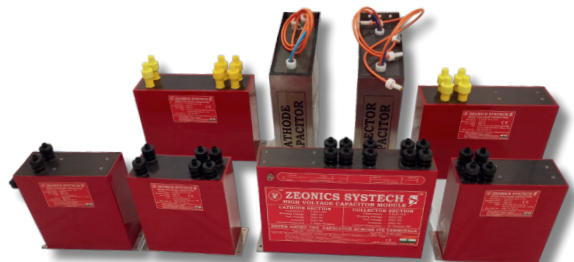
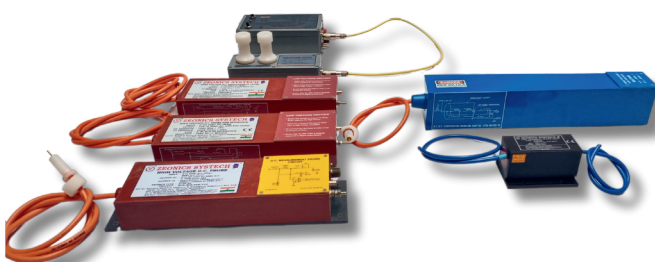
Upto 200kV PIV and 2kA I_F available

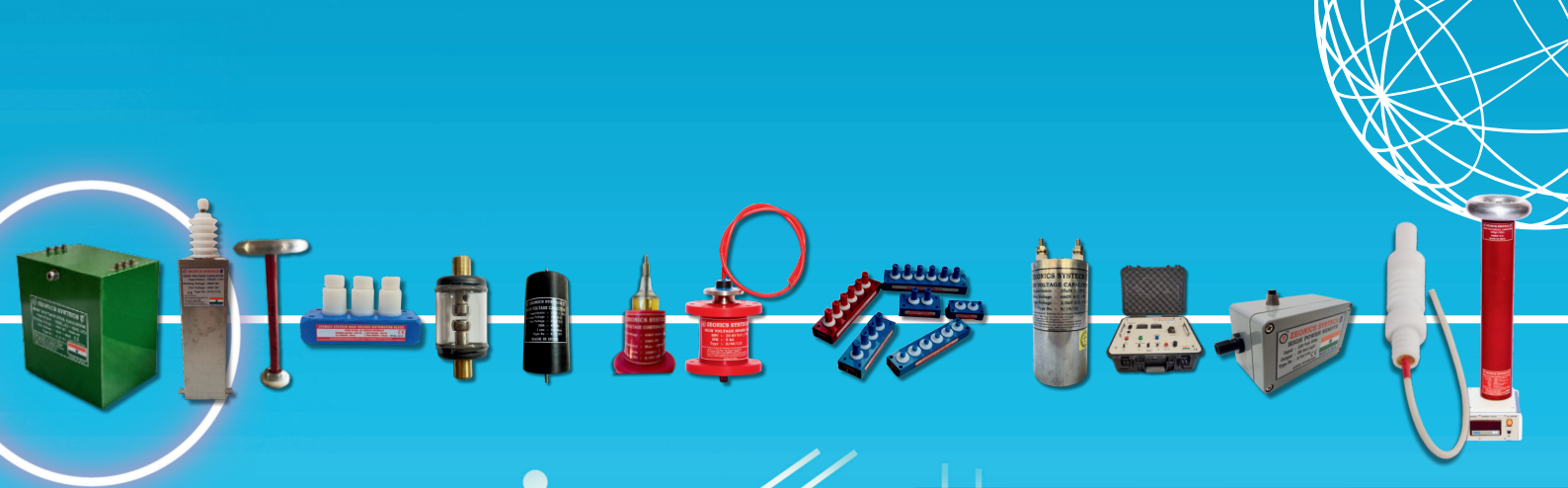
RADAR & MISSILE MEASUREMENT & DIAGNOSTICS



-37KV
-47KV
-180KV
SYSTEMS

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





We have developed a vast portfolio of 3000+ products over the last 42 years

We regularly design new products and innovate new technology

We are certified by ISO, DSIR, CE, NSIC and IAEA - International Atomic Energy Agency and Sandia Labs, Lawrence Livermore and Los Alamos National Laboratories

WE HAVE EXPERIENCE FOR MORE THAN 42 YEARS IN THE FIELDS OF HIGH VOLTAGE & PULSE POWER. WE DO CUSTOM DESIGNS, SO DON'T HESITATE TO CONNECT WITH US!



Full Catalog

CATALOG ID: Z/GEN/24/G1



Email Us

"...The expertise available with **M/s Zeonics** in designing the indigenous capacitor bank has provided us valuable insight & confidence to replace the imported capacitor bank for the 1M Watt S-Band Polarimetric Doppler weather Radar Transmitter..."

-Dr V K Anandan,
Deputy Director, Radar Development Area,
ISTRAC - Bangalore



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