

The image features the Zutronic logo at the top, with a stylized red 'Z' and the word 'utronic' in white. The background is a dark, industrial scene at night, showing large cranes and brightly lit industrial structures, possibly a refinery or power plant, under a blue-tinted sky.

zutronic[®]

NEVER *WITHOUT* POWER

DC POWER SUPPLY SYSTEMS - AC POWER SUPPLY SYSTEMS

COMPANY PROFILE

ZUTRONIC is a brand of the Company **ENERGY SERVICE** specialized in the design and production of custom power conversion systems for Oil & Gas, Energy, Transportation, Utilities, Industrial, Service and IT applications. Energy Service, with an experience of more than 30 years in the energy conversion sector, has been involved in hundreds of supplies to major EPCs for custom designed systems for international projects and solutions and has enabled us to acquire an important know-how that is constantly recognized.

Since the very first years, the company stood out for its technical competence and reliability to support its Customers in all phases of the project.

The products are designed and manufactured in the dedicated plant located in Mantova, while the headquarter and sales office are located in Brembate di Sopra (BG), about 40 km from Milan, near the electrical engineering sector Italian most important pole.

VISION

Provide the maximum protection to Customer critical applications, even in harsh environmental conditions. Contribute to the reduction of energy consumption by offering efficient and competitive solutions

MISSION

Engage with passion and tenacity in providing appropriate solutions in order to reach the highest level of reliability for **energy continuity** using technologically advanced equipment.

Guarantee a **full support to our Customers**, from technical support when choosing the product up to the scheduled maintenance. In summary, change our Company from simple providers to a **competent and reliable partner** with a 360° support in all phases of the project.

CORPORATE VALUES

The company is committed to obtaining the main values on which it is founded for customers, employees and partners, in particular Customer Satisfaction, Competency, Reliability of both products and delivery and response time, constant and continuous improvement. In line with our vision, we set ourselves the goal of ethical management of environmental and human resources.

Our strengths are:

- Experience of more than 30 years in the power conversion industry
- Maximum flexibility in Custom solutions
- Strong technical skills
- Certified design and production made in Italy
- Innovative technologies

In 2017, the company is already certified according to the latest and most recent version of ISO9001: 2015 for the Quality Management System of its products, processes and services and its products comply with major international standards (IEC, EN, CEI)

ABB

SIEMENS

SCHNEIDER ELECTRIC

GENERAL ELECTRIC

ALSTOM GRID

EDISON

BREMBO

ARIATTA INGEGNERIA DEI SISTEMI

VOITH HYDRO

REPOWER

ALPIQ ENERTRANS

DEUTSCHE BANK

CNR

SAME DEUTZ FAHR

SHERATON HOTEL

ANDRIZ HYDRO

MARCEGAGLIA

TENARIS

ASTALDI

ENEL

ACEA

STE ENERGY

IVECO

HYDROENERGIA

TISCALI

BANCA D'ITALIA

RIVA ACCIAIO

TERMIGAS

HUMANITAS

ITALGEN

FRANCHINI ACCIAI

SABO FOAM

CONSORCIO RIO MANTARO

TEKSER

DC POWER SUPPLY SYSTEMS

- RECTIFIERS-BATTERY CHARGERS
- DC/DC CONVERTERS
- DISTRIBUTION PANELS

We design and manufacture a wide range of DC Power Supply Systems. Single branch and double branch rectifiers are available, but also systems with AC and DC current output integrated into a single solution.

All our products are customized according to Customer needs and designed for industrial and harsh environment applications.

RECTIFIERS – BATTERY CHARGERS TITANIUM SERIES



FEATURES

- Input transformer for AC/DC galvanic insulation
- IGBT (Titanium CH) or SCR (Titanium SRC) rectifiers
- Overvoltage and Undervoltage protection
- Suitable for vented/sealed Lead Acid and Ni/Cd batteries
- High customization level
- 16 bit microprocessor control
- Digital control panel for metering, signals, alarms and history events
- Parallel operation for redundant requirements

APPLICATIONS

- Oil & Gas
- Petrochemical
- Energy
- Utilities
- Industry
- Transportation
- Health care
- Hydroelectric and Geothermal plant
- Building

Titanium 1R-2R CH and Titanium 1R-2R SCR (Standard and Plus version) TECHNICAL DATA

INPUT

Nominal voltage	230 Vac single phase or 400Vac three phase
Frequency	50/60Hz \pm 5Hz

OUTPUT

Nominal voltage	24/48/110 Vdc - 220Vdc (only Titanium SCR)
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RATING

10+60 A (Titanium CH)
10+500 A (Titanium SCR)

CONFIGURATIONS

Single branch (1R) and Double branch (2R)

RECTIFIER TYPE

With Chopper IGBT technology (Titanium CH) and SCR technology (Titanium SCR)

STATIC VOLTAGE ADJUSTMENT

\pm 1%

RIPPLE

< 1%

OVERLOAD

150% for 1"

CHARGING CHARACTERISTIC

IU (according to DIN 41773)

BATTERY

Suitable for vented/sealed Lead Acid and Ni/Cd batteries

CABINET DEGREE OF PROTECTION

IP 30 (option up to IP41)

COLOUR

RAL 7035

INSULATION LEVEL

Input/output

OPERATING TEMPERATURE

-10°C \div +40°C

ALTITUDE

<2000 m (derating according to EN 62040-3)

AUDIBLE NOISE AT 1 METER (dBA)

<65

OPTIONS

Associated battery cabinet; block diode for parallel configuration; matching cabinets for distribution or dropping cell;

USER INTERFACE

Front Panel

LDC display with led and test button (Titanium standard)

Touch screen display and test button (Titanium Plus)

Connectivity

Up to 2 SPDT contact relay cards, Optional: RS485 ModBus-RTU serial port, ModBus to PROFIBUS DP adapter, Ethernet SNMP/WEB adapter, remote monitoring software

AC POWER SUPPLY SYSTEMS

- UPS (for industrial applications and IT solutions)
- INVERTERS
- VOLTAGE REGULATORS
- FREQUENCY CONVERTERS
- LV DISTRIBUTION PANELS

We design and manufacture a wide range of AC Power Supply Systems. Single and three phase output systems with input/output galvanic insulation are available.

All our products are customized according to Customer needs and designed for industrial and harsh environment applications.

DC/AC INVERTERS - IRON SERIES



FEATURES

- Industrial Layout
- Static Conversion
- Microprocessor control
- Digital control panel
- Reduced output THD with not linear load
- IGBT technology bridge (PWM)
- Natural convection cooling
- Easy maintenance/front access
- Insulation: input/output galvanic insulation

APPLICATIONS

- Oil & Gas
- Petrochemicals
- Energy
- Utilities
- Industry
- Transportation
- Health care
- Hydroelectric and Geothermal plant
- Building

TYPE		IRON-M (Single Phase) and IRON-T (Three Phase)			
INPUT	Voltage	110, 220 Vdc (other options upon request)			
	Voltage range	-20% +40%			
	By-pass emergency line input voltage	1Ph 230Vac $\pm 10\%$ o 3Ph 400Vac $\pm 10\%$ (other options upon request)			
	Inrush Current	<8 In			
	Protections	Over-voltage, Under-voltage			
OUTPUT	Voltage	1Ph 230 Vac - 3Ph 400Vac (other options upon request)			
	Frequency	50 \div 60 Hz			
	Nominal Power (cosphi=0,8)	1Ph max 25KVA (110Vdc) - 1Ph max 50KVA (220Vdc) - 3Ph max 45KVA (110Vdc) - 3Ph max 90KVA (220Vdc)			
	Static adjustment	$\pm 1\%$			
	Dynamic adjustment	<5% with recovery to 2% in 40 ms			
	Total Harmonic distortion (THD)	$\leq 3\%$ with linear load / $\leq 5\%$ with not linear load CF 3:1			
	Overload	110% Pn for 2h - 125% for 10 min - 150% for 10 sec			
	Protections	Over-voltage, Under-voltage			
GENERAL	Cooling method	Natural convection cooling (depending on the powers)	STANDARDS	Marking	CE
	Operative Temperature	-10°C + 50°C		Degree of Protection	IEC 60529
	Relative Humidity	$\leq 95\%$ a 40°C		EMC	EN 61000-6-2 EN 61000-6-4
	Altitude	≤ 1000 m		Safety	IEC EN 50178
	Acoustic noise	≤ 60 dba at 1 meter		Semiconductor Converters	EN 60146
	Full load efficiency	$\geq 88\%$			
	MTBF	140.000 hr at 30 °C			
DEGREE OF PROTECTION		IP20 (other options upon request)	COLOUR		
			RAL 7035 (other options upon request)		



UPS FOR INDUSTRIAL APPLICATIONS - WAVE SERIES

WAVE Series UPS are double conversion VFI ON-LINE and are suitable for industrial applications, even the very critical ones. It is possible to customize the product according to the customer design requirements.

- POWER RATING: FROM 5KVA TO 90KVA
- INPUT: 400V 3PH
- OUTPUT: 230V 1PH OR 400V 3PH
- BATTERY VOLTAGE: 110VDC/220VDC



FEATURES

- Industrial Layout
- Static Conversion
- Microprocessor control
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- Reduced output THD with not linear load
- IGBT technology bridge (PWM)
- Natural convection cooling
- Easy maintenance/front access
- Insulation: input/output galvanic insulation

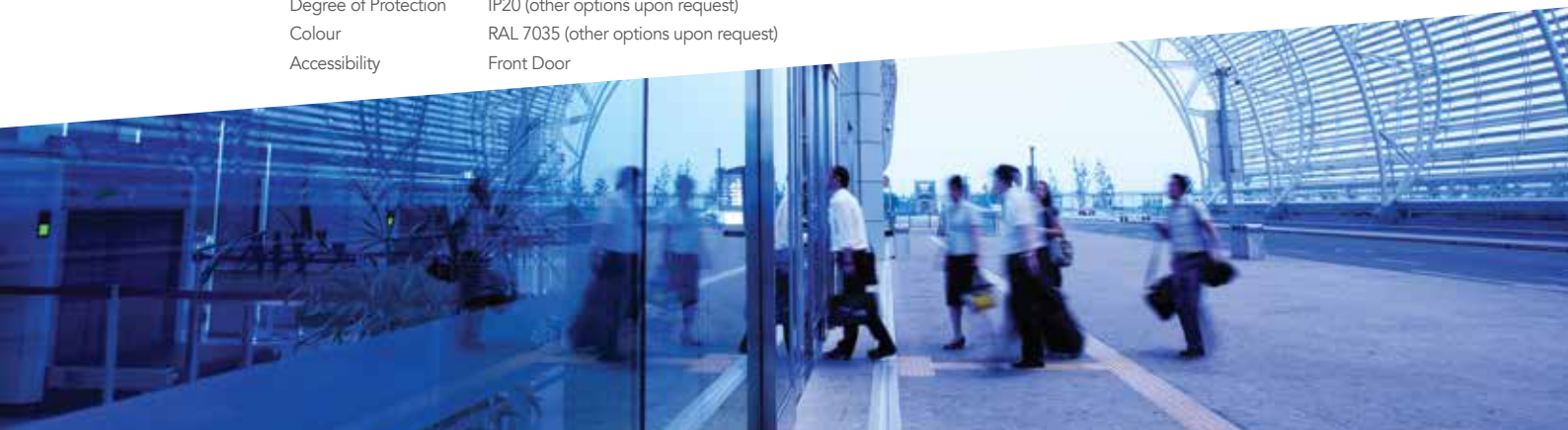
APPLICATIONS

- Oil & Gas
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MAIN OPTIONS

- 12 pulse rectifier
- Ac/Dc distribution panel
- Internal Lighting
- Internal Heater
- By-Pass line isolator
- Transformer
- Ac/Ac voltage regulator
- Redundant ventilation
- Dual parallel Operation
- USB or RS485 communication port or Ethernet TCP/IP with Modbus protocol

TYPE		WAVE-TM (Single Phase) and WAVE-TT (Three Phase)			
INPUT	Rated Voltage	3Ph 400Vac 50/60Hz (other options upon request)			
	Power Factor	0,8 @ full load			
	THD	≤ 30% typ.			
OUTPUT	Output Voltage	1Ph 230 Vac / 3Ph 400Vac 50/60 Hz (other options upon request)			
	By-pass emergency line input voltage	1Ph 230Vac ±10% or 3Ph 400Vac ±10% (other options upon request)			
	Nominal Power (cosphi=0,8)	1Ph max 25KVA (Battery=110Vdc) - 1Ph max 50KVA (Battery=220Vdc) 3Ph max 45KVA (Battery=110Vdc) - 3Ph max 90KVA (Battery=220Vdc)			
	Static stability	±1%			
	Dynamic stability	± 5% (load step) with recovery to 2% in 40 ms			
	Total Harmonic distortion (THD)	≤ 2% with linear load / ≤ 5% with not linear load CF 3:1			
	Overload	105% permanent - 125% for 10 min - 150% for 1 min. 200% for 100 ms			
	Protections	Over-voltage, Under-voltage			
DC LINK	DC Voltage	110Vdc (90-150Vdc) /220Vdc (180-300Vdc)			
	Microprocessor	High Performance 8-Bit Microcontroller			
	LCD Panel	Backlit graphic LCD for meters, alarm and status messages			
	Mimic Panel	Principle block diagram of the UPS with 9 integrated LED			
	Signalling LED	Inverter normal, Inverter Fault, Rectifier normal, Rectifier Fault			
CONTROLS & SIGNALLING	Volt Free signalling contacts	AC input supply failure, Rectifier Failure, DC voltage LOW/HIGH, Battery discharging, Battery disconnected, Inverter failure, Inverter overload, Inverter over temperature, Ac output voltage LOW/HIGH, Ventilation failure, DC earth fault (optional)			
GENERAL	Cooling method	Cabinet: Natural - Semiconductor heat sink: Fan assisted		STANDARDS	Marking
	Operative Temperature	0°C + 40°C not condensing			CE
	Relative Humidity	≤ 95% at 40°C			Degree of Protection
	Altitude	≤ 1000 m without derating			IEC 60529
	Acoustic noise	≤ 65-70dbA at 1 meter			EMC
	Full load Efficiency	≥ 88%			EN 61000-6-2,
	MTBF	140.000 hr at 30 °C			EN 61000-6-4
	Degree of Protection	IP20 (other options upon request)			Safety
	Colour	RAL 7035 (other options upon request)			IEC EN 50178
	Accessibility	Front Door			Semiconductor Converters
					EN 60146



UPS FOR IT SOLUTIONS

We have a complete range of ON-LINE double conversion UPS for IT solutions, telecommunication and critical loads sectors



GDC SERIES

- GDC 1÷10KVA 1/1

IRIDIUM SERIES

- IRIDIUM-TM 10÷20KVA 3/1

- IRIDIUM-TT 10÷30KVA 3/3

RODIUM SERIES

- RODIUM - TM - 10 ÷ 20KVA 1-3/1

- RODIUM - TT - 10 ÷ 200KVA 3/3



PLATINUM SERIES

- PLATINUM - TM - 10 ÷ 100KVA 3/1

- PLATINUM - TT - 10 ÷ 200KVA 3/3



ACCESSORIES

BATTERIES:

We have a strong cooperation with leading manufacturers of batteries worldwide.

We provide technical support for the choice and the correct battery size, the various available technologies, Sealed (VRLA) or Vented lead acid - Ni / Cd.



DC LOAD FOR DISCHARGE BATTERY TEST:

There are various devices dedicated to the discharge test of accumulator batteries



BATTERY MONITORING SYSTEMS:

Different solutions for the battery continuous monitoring are available



SERVICE

SERVICE ACTIVITIES HELP TO ENSURE THE CRITICAL LOAD SUPPLY CONTINUITY.

Our testing facility is equipped with workstations having advanced measuring systems for the execution of the Factory Acceptance Test witnessed by the customer.

After delivery, all activities in order to maintain efficient systems in the plant are provided, such as:

- COMMISSIONING
- PREVENTIVE MAINTENANCE
- CORRECTIVE MAINTENANCE
- SPARE PARTS
- CUSTOMER TRAINING





zutronic®
A BRAND OF ENERGY SERVICE

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ISO9001:2015

BUREAU VERITAS
Certification

