

ORTEA NEXT

Innovative solutions for sustainable
power quality since 1969

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RL Europe

Your partner in
Power Quality

ENERSOLVE
BY ORTEA NEXT

ENERGY EFFICIENCY SMART DEVICES





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OUR BRANDS:



VOLTAGE STABILIZERS
SAG COMPENSATORS
LV TRANSFORMERS AND REACTORS



POWER FACTOR CORRECTION SYSTEMS
ACTIVE HARMONIC FILTERS



ENERGY EFFICIENCY SMART DEVICES



ENERGY SAVING VOLTAGE OPTIMIZERS



ABOUT US

Innovative solutions for sustainable power quality since 1969

Founded in 1969, Ortea is a leader in the design and manufacture of innovative products and customised solutions for power quality and energy efficiency.

Thanks to a network of offices and dealers on all continents, Ortea products are now installed, maintained and operating in more than 100 countries worldwide.

In line with the strategy of creating a global pole of excellence, the new brand Ortea Next is created in 2019, bringing together the 3 historical product brands - Ortea, Icar and Enersolve - in a single concept of integrated technological offer.

Alongside the standard production, Ortea Next develops and produces equipment that can be customised according to the client's specific requirements with extreme flexibility.

The process of renewal and continuous improvement strengthens Ortea Next's leadership as your ideal partner to meet the challenge of the global energy transition.

GLOBAL PRESENCE

Ortea Next solutions are already present in a large number of countries with positive, long-lasting results

Thanks to a network of offices and distributors that are strategically distributed, local, fast, and competent assistance is guaranteed.



ORTEA NEXT

 **RL Europe**
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Power Quality

MADE IN ITALY

Production quality, attention to details, design, and reliability represent the added value of Made in Italy. All the Ortea Next solutions are devised, designed, produced, and assembled in Italy.

EXPERIENCE

Founded in 1969, Ortea Next has accumulated experience and expertise that have contributed to continuous growth over time, until becoming an authoritative and innovative company in designing and producing power quality solutions on an international scale.

RELIABILITY

The certified Company Quality System of Ortea Next guarantees the reliability and longevity of the whole range of products, each of which is strictly controlled and tested.

CUSTOMIZED SOLUTIONS

In addition to standard production, Ortea Next is able to develop and produce complete and integrated solutions based on the specific needs of each client with extreme flexibility.

Ortea Next is always at your service to evaluate projects and study customised solutions, assisting and supporting the client at each stage of development.

QUALITY

Ortea Next's certified Company Quality System guarantees that all the production stages are controlled, from the verification of components to the choice of the most suitable packaging depending on the kind of transport.

RESEARCH & DEVELOPMENT

To ensure innovative solutions, Ortea Next continuously collaborates with universities, institutions, and technological partners in researching and developing new products and reliable technologies.

EXPERTISE

The experience and expertise of the Ortea Next technicians assist the customer both in the design and service stage, ensuring solidity and reliability in researching the best solution.

CUSTOMER CENTRIC

Listening to the customer and their requirements allows Ortea Next to continuously improve the service level offered.



CERTIFIED QUALITY

The conviction that product quality and customer satisfaction must be the main requirements of a modern company has led to the adoption of a certified Company Quality System

After having obtained the first ISO 9001 certification in 1996, today our Company Quality System is certified by Lloyd's Register in compliance with the main standards:

- ISO9001 Quality management system
- ISO14001 Environmental management system
- ISO45001 Occupational health and safety management system

This means that Ortea Next guarantees optimised performance in terms of the internal management of processes, engagement on environmental issues, and attention to occupational health and safety

POWER QUALITY SOLUTIONS

Paying little attention to the issue of power quality causes problems and damage to equipment and production processes

Ortea Next offers a complete range of integrated products and solutions for power quality and energy efficiency, thanks to the synergy between the Ortea Next brands, Ortea, Icar, Enersolve, and Powersines.

VOLTAGE VARIATION

 **ORTEA**
BY ORTEA NEXT
VOLTAGE STABILIZERS

SAGs/ DIPS

 **ORTEA**
BY ORTEA NEXT
SAG COMPENSATORS

UNPROTECTED LOADS

 **ORTEA**
BY ORTEA NEXT
LV TRANSFORMERS AND REACTORS

EXCESSIVE REACTIVE POWER

 **ICAR**
BY ORTEA NEXT
PEC SYSTEMS

HARMONIC POLLUTION

 **ICAR**
BY ORTEA NEXT
ACTIVE HARMONIC FILTERS

WASTE OF ENERGY

 **ENERSOLVE**
BY ORTEA NEXT
ENERGY EFFICIENCY
SMART DEVICES

WASTE OF ENERGY

 **PowerSines**
BY ORTEA NEXT
ENERGY SAVING
VOLTAGE OPTIMIZERS



ENVIRONMENTAL SUSTAINABILITY

Environmental sustainability became a fundamental value and our ecological conscience is increasingly rooted in modern thought.

Thinking and acting "green", means being on the front line in our commitment to the environment. Improving the company reputation, through concrete actions, generates a competitive advantage that grows over time.

ENERGY EFFICIENCY

The goals of environmental sustainability and cost savings can be realised.

Starting from a precise measurement of the energy parameters and an accurate analysis of consumption data and power quality, it is possible to design and implement customised solutions that are targeted at achieving pre-determined goals.

POWER QUALITY

There are three indispensable elements for best managing a business: raw materials, staff, and power

You do everything possible to motivate and involve the team and work consistently to optimise the quality/price ratio of purchases, but what can you do to improve the power that you purchase?

We depend on an uncontrollable element: the features of the electricity mains at the point of delivery

Some parts of the plant are controlled by inserting sophisticated and costly devices for modulating energy parameters (UPS, Inverters, Soft starters, etc.), leaving it, however, to the mercy of mains supply issues. It's like welcoming staff with no training to the team or purchasing raw materials without knowing their quality beforehand.

This is exactly what happens with energy!

Is the smart grid really smart?

Smart grids are energy distribution networks created with intelligent technologies able to manage the electrical network by integrating all the users and any products connected to it. The purpose and the principle with which they work is that of distributing, in the most efficient way possible, the power that enters the network.

In any case, the power transport and distribution network is an extremely complex system and continues to be subject to:

- intrinsic instability;
- disturbances generated by the same network and/or caused by traumatic events;
- instability caused by numerous points of self-generation;
- other disturbances generated by the same end users.

Both the transport/distribution network and the user network have phenomena that render the use of energy non-optimal:

Transport/distribution network:

- high complexity destined to increase;
- distributed generation that is not programmable;
- high probability of imbalances.

End users:

- high complexity and variability of loads;
- many loads introduce distortions;
- high sensitivity of processes and loads to low power quality.

So... what is the power purchased like?

At the mains connection point, the power bought may not be the best possible for use, even if within the requirements of the reference standards.

Power quality: more and more important!

Energy efficiency is identified as the first "action priority" within National Energy Strategies.

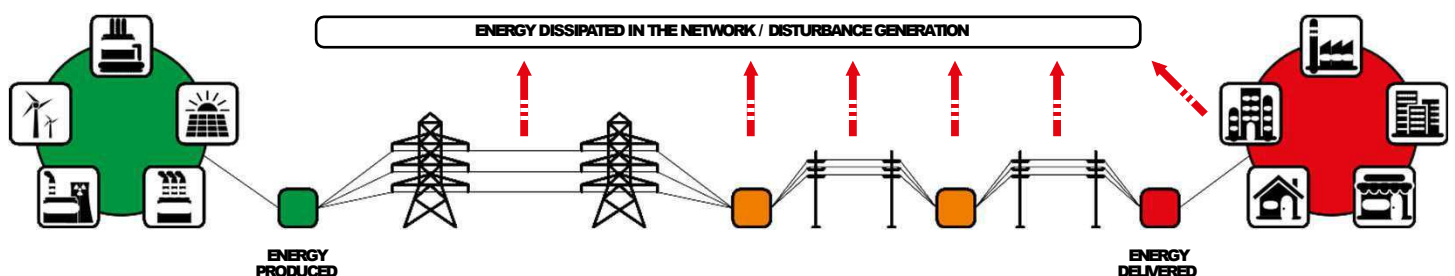
In recent years, in the production sectors, sensitive electrical loads have been disseminated (computers, PLCs, lasers, electronic circuit boards, robots, etc.) that must often exist alongside disturbing loads (drives, welders, presses, extruders, etc.).

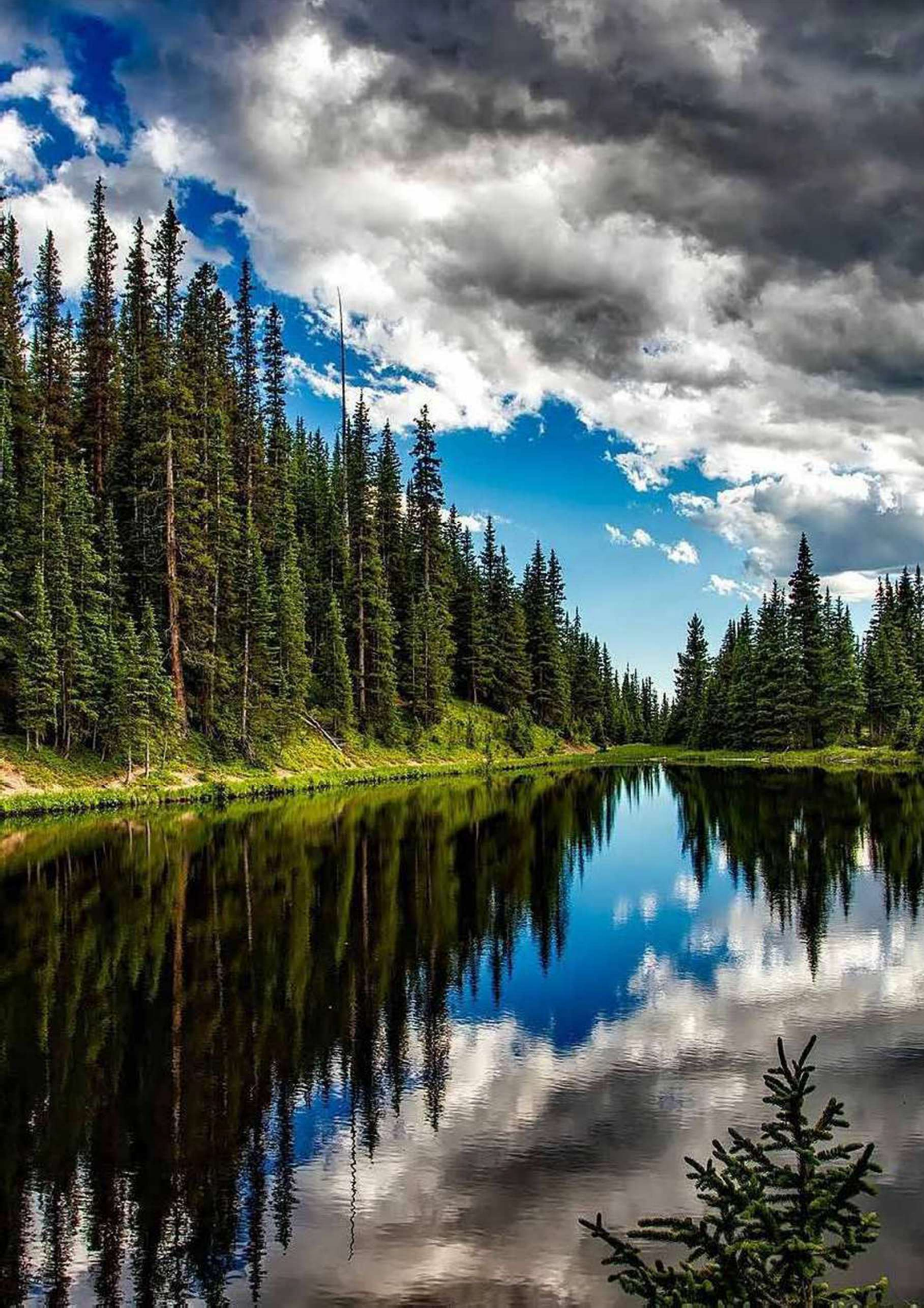
In the service sector too, there are significant problems due to power quality: service interruption, failures, and anomalies in the electrical equipment and electronic devices, data loss, are just some examples.

Businesses are increasingly sensitive to power quality issues because they can cause problems and damage to the equipment, including interrupting the production cycle in the most serious cases.

Low power quality can generate different kinds of costs:

- costs of unproductive staff due to the sudden interruption of the production cycle;
- costs for raw materials that are irremediably lost;
- costs for work not performed or, in any case, lost;
- costs for extra work (for example, overtime hours);
- costs for damage and/or malfunctioning of the machinery;
- fees caused by resulting contractual breaches;
- environmental damage sanctions;
- increase in general insurance costs.





THE ENERSOLVE SOLUTION

Energy saving entails the recovery of the investment and an additional increase in value

Continuous monitoring via the cloud makes it possible to check the performance of the machine and the plant's electrical parameters

Ortea Next, always attentive to innovation, cannot step back from this challenge and, thanks to its solid expertise acquired over the years by engineers in the Research and Development department in designing electrical machines, it has developed the Enersolve system - an energy efficiency smart device. The Enersolve system improves both the energy efficiency and quality of the power, offering guaranteed power savings that translate into a consistent economic benefit on electricity consumption.

But not just that. The improvement in the plant's "performance" entails an additional economic benefit due to the greater duration of the equipment, which is less stressed thanks to the optimal power quality.

The advantages are not just economic; in fact, companies that introduce Enersolve into their own system help, significantly, in protecting ecosystems, contributing to lowering the main atmospheric pollutants. Saving power also means reducing the quantity of CO2 emissions in the atmosphere.

In addition to designing the solution, the real challenge has been to develop a savings measurement system that can reproduce a real measurement.

This challenge was overcome with the development of the ESPRO protocol approved by ENEA (National Agency for New Technologies, Energy and Economic Development).

All parameters, sensitive measurements, energy savings and machine status, are available and can be consulted in the cloud via the Ortea XCloud platform.

Having all these parameters available is determined for obtaining incentives and tax benefits related to energy efficiency solutions.

Enersolve: what it does...

- It produces consumption reduction accurately measured through the ESPRO protocol and consultable from the Ortea XCloud platform.
- It improves the quality of power available by isolating the plant in relation to the external mains, thus reducing failures, maintenance, and significantly improving service continuity.
- It also reduces the peak of power used by the individual user and enables service continuity including in the case of strong mains instability.

An essential element of the Enersolve equipment is the cloud monitoring system. This element, in addition to providing fundamental information on savings, the trend in power parameters, and the efficiency of our plant, is decisive for obtaining tax incentives and benefits linked to the energy efficiency solutions.

The Enersolve solution is:

- Effective.
- Easy to install.
- Autonomous in its operations.
- The first step towards making consumption more efficient.



Energy Saving

- **Energy saving:** lower energy consumption (savings in the bill).
- **Reduction in "power quota":** reduction in peak of power used (recorded in the bill).
- Depending on the type and mix of loads, it generates savings of up to 12%.



Power quality

- **Improvement in energy quality:** reduction in plant management issues.
- **Elimination of voltage fluctuation:** greater load efficiency.
- **Elimination of voltage asymmetry:** reduction in plant losses.
- **Elimination of "voltage recovery":** elimination of failures and increase in equipment's average service life.
- **Reduction of electrical stress and abnormal stresses on loads:** increase in the average service life of equipment.
- **Reduction in maintenance:** reduction in indirect costs.

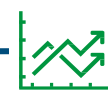


Cloud monitoring

- **Continuous monitoring of energy parameters:** cloud monitoring system Ortea XCloud with availability of all energy parameters.
- **Certified monitoring of the energy saving:** certified ESPRO solution with real savings measurement.
- **Identification and storage of abnormal events:** data extraction from Ortea XCloud platform.
- **Sending of alarms via text message or email:** receiving information on events and status (programmable thresholds for specific alarms).



ENERSOLVE





ESPRO PROTOCOL

“Measure what can be measured, and make measurable what cannot be measured” (quote: Galileo Galilei).

The method used to process the energy-saving data is based on the principles of the ESPRO protocol approved by ENEA (National Agency for New Technologies, Energy and Economic Development) after 3 years of joint studies

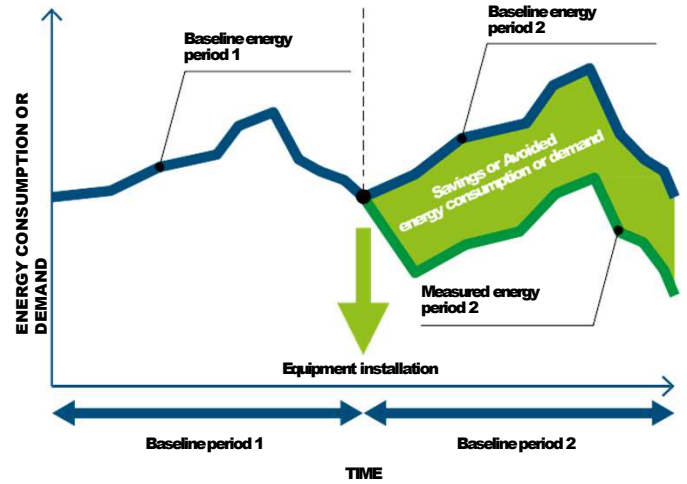


The ESPRO protocol enables dynamic savings measurement: it is not based on measurements before and after the energy efficiency implementation but rather enables continuous savings measurement.

Developing the ESPRO protocol involved identifying a method that took account of the continuous variations in the two principal elements that contribute to the final result: the supply source and the combination of load mix moment by moment. Only continuous, not one-off, measurements of these quantities, which constantly and significantly vary, make it possible to determine, with certainty, the efficacy of the measures.

We began with the IPMVP (International Performance Measurement and Verification Protocol), the protocol for checking the results of energy efficiency, water efficiency and renewable energy projects in any field, from civil engineering to industrial sites.

This method involves comparing energy consumption before and after the installation of an energy efficiency system. The limitation is that it is very well suited to systems in which the trend of the two parameters mentioned above is almost constant, but in a real system the situation is different because the trend of supply voltage, power and the mix of loads used varies according to the time it is measured.

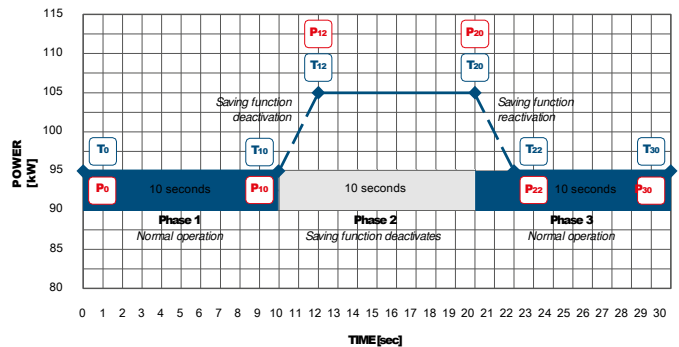


To the IPMVP method we added the analysis of the VDE-AR-E 2055-1 method, a standard created by VDE that introduces the concept of variable energy saving depending on the type of load and classification into three categories according to their sensitivity to voltage variation.

The limitation is in identifying the load mix installed in the plant, a piece of data that must be accurately known and must not, subsequently, vary.

The ESPRO protocol, approved by ENEA (National Agency for New Technologies, Energy, and Economic Development) after 3 years of joint studies, has made it possible to supplement and overcome the limitations of the IPMVP and VDE-AR-E 2055-1 protocols.

The protocol involves measurements taken every 15 minutes and, during a 30-second measuring window, the saving are frozen for 10 seconds, thus obtaining a real difference between the instantaneous power and what the system would have used without the Enersolve installation. The measurement is repeated for the machine's entire service life.



The total energy saved during the day is the sum of the individual measurements that repeat the method involved in the IPMVP protocol 96 times per day and exceed the VDE standard requirements, intercepting, sample by sample, the change in load mix.

ALL THE INFORMATION IN YOUR HANDS... WHEREVER YOU ARE

Savings always monitored with Ortea XCloud

The latest-generation electronics installed in the Enersolve equipment make it possible to measure, send, and store all the sensitive measurements, the energy savings, and the state of the machine in the cloud. Thanks to the intuitive, web-based software, all the necessary information can be obtained in real time, in any part of the world and with any device.



APPLICATIONS

From small to medium businesses to the large, energy-intensive firms: the Enersolve solutions were designed to be applied to every firm in the industrial, commercial, or service sector, with the purpose of significantly lowering the impact of energy costs in a way that can be measured

Industrial

- Manufacturing businesses in every sector
- Metalworking companies
- Foundries
- Paper mills
- Food businesses
- Chemical businesses
- Pharmaceutical businesses

Commercial

- Large-scale distribution
- Shopping malls
- Administrative centres/offices
- Sports centres
- Retail chains

Service sector

- Airports, ports, railway and subway stations
- Hospitals, Clinics, and Rest homes
- Hotels and Restaurants
- Tourist resorts
- Education institutes
- Fairgrounds





RANGE OF PRODUCTS

The ENERSOLVE range is available in three models:

ESL-5	Model for the retail/small business market	45-630kVA
ESL10	Model for environments where energy parameters fluctuate within the requirements of the $\pm 10\%$ reference standard	100-3200kVA
ESL-20	Model for the most severe cases where fluctuations exceed the requirements of the reference standard	100-3200kVA

ESL- 5

45-630kVA

Model for the retail/small business market



Standard features

Adjusting energy parameters	Independent phase control
Selectable target voltage*	from 210V to 240V (L-N) / from 364V to 416V (L-L)
Output voltage accuracy	±0,5%
Frequency	50Hz ±5% or 60Hz ±5%
Admitted load variation	Up to 100%
Cooling	Natural ventilation (from 35°C aided with fans from 100kVA)
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max related humidity	<95% (non condensing)
Admitted overload	200% 2min.
Harmonic distortion	Not introduced
Colour	RAL 7035
Protection degree	IP 21
Instrumentation	EnerCloud Platform
Installation	Indoor
By-pass systems	Electronic automatic by-pass system Integral exclusion by-pass system

* Output voltage can be adjusted by choosing one of the indicated values.
Such choice sets the new nominal value as a reference for all the ESL parameters.

The equipment is not protected against short-circuit or overload: in compliance with current safety regulations, installation must be in a system equipped with an upstream circuit-breaking device with rating referred to the maximum input current and a downstream circuit-breaking device with rating referred to the output current. The above circuit breakers are not included in the standard unit, but can be supplied as accessories upon request.

Available versions

ESL-5	Standard
ESL-5N	With integral exclusion by-pass system



All Ortea Next equipments are designed and built in compliance with the Low Voltage and Electromagnetic Compatibility European Directives with regard to the CE marking requirements.

Ortea Next products are built with suitable quality components and that the manufacturing process is constantly verified in accordance with the Quality Control Plans with which the Company is equipped.

In order to obtain better performance, ORTEA SpA reserves the right to change the product described in this document at any time and without notice. Therefore, technical data and descriptions have no contractual value.

Type	Allowed energy parameters variation	Power	Input voltage range	Max input current	Relaetd voltage	Max output current	Eff.	Adj. speed	Size code	Dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

ESL-5 +10%/-0%

45-5	+10-0	45	Vout +10%	72	400	65	>99	24-64	23	410x690x1140	160
63-5	+10-0	63	Vout +10%	101	400	91	>99	24-64	23	410x690x1140	210
100-5	+10-0	100	Vout +10%	160	400	144	>99	24-64	31	600x600x1600	305
125-5	+10-0	125	Vout +10%	200	400	180	>99	24-64	31	600x600x1600	310
160-5	+10-0	160	Vout +10%	257	400	231	>99	24-64	40	600x800x1600	415
200-5	+10-0	200	Vout +10%	321	400	289	>99	24-64	51	600x800x1800	460
250-5	+10-0	250	Vout +10%	401	400	361	>99	24-64	51	600x800x1800	500
315-5	+10-0	315	Vout +10%	505	400	455	>99	24-64	51	600x800x1800	600
400-5	+10-0	400	Vout +10%	642	400	577	>99	24-64	53	1200x800x2000	770
500-5	+10-0	500	Vout +10%	802	400	722	>99	24-64	53	1200x800x2000	810
630-5	+10-0	630	Vout +10%	1010	400	909	>99	24-64	53	1200x800x2000	830

ESL-5N +10%/-0%

45-5N	+10-0	45	Vout +10%	72	400	65	>99	24-64	23	410x690x1140	160
63-5N	+10-0	63	Vout +10%	101	400	91	>99	24-64	23	410x690x1140	210
100-5N	+10-0	100	Vout +10%	160	400	144	>99	24-64	38	1000x600x1600	375
125-5N	+10-0	125	Vout +10%	200	400	180	>99	24-64	38	1000x600x1600	380
160-5N	+10-0	160	Vout +10%	257	400	231	>99	24-64	39	1000x800x1600	485
200-5N	+10-0	200	Vout +10%	321	400	289	>99	24-64	28	1000x800x1800	530
250-5N	+10-0	250	Vout +10%	401	400	361	>99	24-64	28	1000x800x1800	570
315-5N	+10-0	315	Vout +10%	505	400	455	>99	24-64	55	1200x800x1800	690
400-5N	+10-0	400	Vout +10%	642	400	577	>99	24-64	52	1800x800x2000	860
500-5N	+10-0	500	Vout +10%	802	400	722	>99	24-64	52	1800x800x2000	900
630-5N	+10-0	630	Vout +10%	1010	400	909	>99	24-64	52	1800x800x2000	920

ESL- 10

100-3200kVA

Model for environments where energy parameters fluctuate within the requirements of the $\pm 10\%$ reference standard



Standard features

Adjusting energy parameters	Independent phase control
Selectable target voltage*	from 210V to 240V (L-N) / from 364V to 416V (L-L)
Output voltage accuracy	$\pm 0,5\%$
Frequency	50Hz $\pm 5\%$ or 60Hz $\pm 5\%$
Admitted load variation	Up to 100%
Cooling	Natural ventilation (from 35°C aided with fans from 100kVA)
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max related humidity	<95% (non condensing)
Admitted overload	200% 2min.
Harmonic distortion	Not introduced
Colour	RAL 7035
Protection degree	IP 21
Instrumentation	EnerCloud Platform
Installation	Indoor
Oversvoltage protection	Input & output surge arrestors Optimal voltage return through supercapacitors in case of black-out
By-pass systems	Electronic automatic by-pass system Emergency manual by-pass system Integral exclusion by-pass system

* Output voltage can be adjusted by choosing one of the indicated values.
Such choice sets the new nominal value as a reference for all the ESL parameters.

The equipment is not protected against short-circuit or overload: in compliance with current safety regulations, installation must be in a system equipped with an upstream circuit-breaking device with rating referred to the maximum input current and a downstream circuit-breaking device with rating referred to the output current. The above circuit breakers are not included in the standard unit, but can be supplied as accessories upon request.

Available versions

ESL-10	Standard
ESL-10I	With Input circuit breaker
ESL-10E	With integral exclusion by-pass system
ESL-10EI	With Input circuit breaker and integral exclusion by-pass system



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Type	Allowed energy parameters variation	Power	Input voltage range	Max input current	Related voltage	Max output current	Eff.	Adj. speed	Size code	Dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

ESL-10 ±10%

100-10	±10	100	Vout ±10%	160	400	144	>99	24-64	45	600x800x2200	560
160-10	±10	160	Vout ±10%	257	400	231	>99	24-64	45	600x800x2200	600
250-10	±10	250	Vout ±10%	401	400	361	>99	24-64	45	600x800x2200	660
315-10	±10	315	Vout ±10%	505	400	455	>99	24-64	53	1200x800x2000	800
400-10	±10	400	Vout ±10%	642	400	577	>99	24-64	53	1200x800x2000	850
500-10	±10	500	Vout ±10%	802	400	722	>99	24-64	25	1200x800x2200	970
630-10	±10	630	Vout ±10%	1010	400	909	>99	24-64	69	1200x1000x2200	1350
800-10	±10	800	Vout ±10%	1283	400	1155	>99	24-64	69	1200x1000x2200	1600
1000-10	±10	1000	Vout ±10%	1604	400	1443	>99	24-64	78	2400x1000x2200	2500
1250-10	±10	1250	Vout ±10%	2005	400	1804	>99	24-64	78	2400x1000x2200	2700
1600-10	±10	1600	Vout ±10%	2566	400	2309	>99	24-64	70	3600x1000x2100	3000
2000-10	±10	2000	Vout ±10%	3208	400	2887	>99	24-64	70	3600x1000x2100	3600
2500-10	±10	2500	Vout ±10%	4009	400	3609	>99	24-64	71	4200x1000x2100	4500
3200-10	±10	3200	Vout ±10%	5132	400	4619	>99	24-64	81	4200x1400x2200	6000

ESL-10I ±10%

100-10I	±10	100	Vout ±10%	160	400	144	>99	24-64	45	600x800x2200	570
160-10I	±10	160	Vout ±10%	257	400	231	>99	24-64	26	1000x800x2200	630
250-10I	±10	250	Vout ±10%	401	400	361	>99	24-64	26	1000x800x2200	730
315-10I	±10	315	Vout ±10%	505	400	455	>99	24-64	53	1200x800x2000	820
400-10I	±10	400	Vout ±10%	642	400	577	>99	24-64	53	1200x800x2000	870
500-10I	±10	500	Vout ±10%	802	400	722	>99	24-64	27	1800x800x2200	1050
630-10I	±10	630	Vout ±10%	1010	400	909	>99	24-64	77	1800x1000x2200	1430
800-10I	±10	800	Vout ±10%	1283	400	1155	>99	24-64	77	1800x1000x2200	1680
1000-10I	±10	1000	Vout ±10%	1604	400	1443	>99	24-64	78	2400x1000x2200	2550
1250-10I	±10	1250	Vout ±10%	2005	400	1804	>99	24-64	78	2400x1000x2200	2750
1600-10I	±10	1600	Vout ±10%	2566	400	2309	>99	24-64	A5	4400x1000x2100	3100
2000-10I	±10	2000	Vout ±10%	3208	400	2887	>99	24-64	A5	4400x1000x2100	3700
2500-10I	±10	2500	Vout ±10%	4009	400	3609	>99	24-64	73	5400x1000x2100	4660
3200-10I	±10	3200	Vout ±10%	5132	400	4619	>99	24-64	83	5400x1400x2200	6160



Type	Allowed energy parameters variation	Power	Input voltage range	Max input current	Related voltage	Max output current	Eff.	Adj. speed	Size code	Dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

ESL-10E ±10%

100-10E	±10	100	Vout ±10%	160	400	144	>99	24-64	45	600x800x2200	570
160-10E	±10	160	Vout ±10%	257	400	231	>99	24-64	26	1000x800x2200	630
250-10E	±10	250	Vout ±10%	401	400	361	>99	24-64	26	1000x800x2200	730
315-10E	±10	315	Vout ±10%	505	400	455	>99	24-64	53	1200x800x2000	815
400-10E	±10	400	Vout ±10%	642	400	577	>99	24-64	53	1200x800x2000	870
500-10E	±10	500	Vout ±10%	802	400	722	>99	24-64	27	1800x800x2200	1050
630-10E	±10	630	Vout ±10%	1010	400	909	>99	24-64	77	1800x1000x2200	1430
800-10E	±10	800	Vout ±10%	1283	400	1155	>99	24-64	77	1800x1000x2200	1680
1000-10E	±10	1000	Vout ±10%	1604	400	1443	>99	24-64	78	2400x1000x2200	2550
1250-10E	±10	1250	Vout ±10%	2005	400	1804	>99	24-64	78	2400x1000x2200	2750
1600-10E	±10	1600	Vout ±10%	2566	400	2309	>99	24-64	A5	4400x1000x2100	3100
2000-10E	±10	2000	Vout ±10%	3208	400	2887	>99	24-64	A5	4400x1000x2100	3700
2500-10E	±10	2500	Vout ±10%	4009	400	3609	>99	24-64	73	5400x1000x2100	4660
3200-10E	±10	3200	Vout ±10%	5132	400	4619	>99	24-64	83	5400x1400x2200	6160

ESL-10EI ±10%

100-10EI	±10	100	Vout ±10%	160	400	144	>99	24-64	26	1000x800x2200	580
160-10EI	±10	160	Vout ±10%	257	400	231	>99	24-64	26	1000x800x2200	635
250-10EI	±10	250	Vout ±10%	401	400	361	>99	24-64	26	1000x800x2200	735
315-10EI	±10	315	Vout ±10%	505	400	455	>99	24-64	53	1200x800x2000	840
400-10EI	±10	400	Vout ±10%	642	400	577	>99	24-64	53	1200x800x2000	890
500-10EI	±10	500	Vout ±10%	802	400	722	>99	24-64	27	1800x800x2200	1070
630-10EI	±10	630	Vout ±10%	1010	400	909	>99	24-64	77	1800x1000x2200	1460
800-10EI	±10	800	Vout ±10%	1283	400	1155	>99	24-64	77	1800x1000x2200	1700
1000-10EI	±10	1000	Vout ±10%	1604	400	1443	>99	24-64	79	3000x1000x2200	2650
1250-10EI	±10	1250	Vout ±10%	2005	400	1804	>99	24-64	A4	3600x1000x2200	2850
1600-10EI	±10	1600	Vout ±10%	2566	400	2309	>99	24-64	A5	4400x1000x2100	3200
2000-10EI	±10	2000	Vout ±10%	3208	400	2887	>99	24-64	A5	4400x1000x2100	3800
2500-10EI	±10	2500	Vout ±10%	4009	400	3609	>99	24-64	73	5400x1000x2100	4900
3200-10EI	±10	3200	Vout ±10%	5132	400	4619	>99	24-64	83	5400x1400x2200	6400

ESL- 20

100-3200kVA

Model for the most severe cases where fluctuations exceed the requirements of the reference standard



Standard features

Adjusting energy parameters	Independent phase control
Selectable target voltage*	from 210V to 240V (L-N) / from 364V to 416V (L-L)
Output voltage accuracy	±0,5%
Frequency	50Hz ±5% or 60Hz ±5%
Admitted load variation	Up to 100%
Cooling	Natural ventilation (from 35°C aided with fans from 100kVA)
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max related humidity	<95% (non condensing)
Admitted overload	200% 2min.
Harmonic distortion	Not introduced
Colour	RAL 7035
Protection degree	IP 21
Instrumentation	EnerCloud Platform
Installation	Indoor
Oversvoltage protection	Input & output surge arrestors Optimal voltage return through supercapacitors in case of black-out
By-pass systems	Electronic automatic by-pass system Emergency manual by-pass system

* Output voltage can be adjusted by choosing one of the indicated values.
Such choice sets the new nominal value as a reference for all the ESL parameters.

The equipment is not protected against short-circuit or overload: in compliance with current safety regulations, installation must be in a system equipped with an upstream circuit-breaking device with rating referred to the maximum input current and a downstream circuit-breaking device with rating referred to the output current. The above circuit breakers are not included in the standard unit, but can be supplied as accessories upon request.

Available versions

ESL-20	Standard
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All Ortea Next equipments are designed and built in compliance with the Low Voltage and Electromagnetic Compatibility European Directives with regard to the CE marking requirements.

Ortea Next products are built with suitable quality components and that the manufacturing process is constantly verified in accordance with the Quality Control Plans with which the Company is equipped.

In order to obtain better performance, ORIEA SpA reserves the right to change the product described in this document at any time and without notice. Therefore, technical data and descriptions have no contractual value.

Type	Allowed energy parameters variation	Power	Input voltage range	Max input current	Related voltage	Max output current	Eff.	Adj. speed	Size code	Dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

ESL-20 ±20%

100-20	±20	100	Vout ±20%	180	400	144	>99	24-64	45	600x800x2200	620
160-20	±20	160	Vout ±20%	289	400	231	>99	24-64	53	1200x800x2000	800
250-20	±20	250	Vout ±20%	451	400	361	>99	24-64	25	1200x800x2200	970
315-20	±20	315	Vout ±20%	568	400	455	>99	24-64	69	1200x1000x2200	1350
400-20	±20	400	Vout ±20%	722	400	577	>99	24-64	69	1200x1000x2200	1600
500-20	±20	500	Vout ±20%	902	400	722	>99	24-64	78	2400x1000x2200	2500
630-20	±20	630	Vout ±20%	1137	400	909	>99	24-64	78	2400x1000x2200	2700
800-20	±20	800	Vout ±20%	1443	400	1155	>99	24-64	70	3600x1000x2100	3000
1000-20	±20	1000	Vout ±20%	1804	400	1443	>99	24-64	70	3600x1000x2100	3600
1250-20	±20	1250	Vout ±20%	2255	400	1804	>99	24-64	71	4200x1000x2100	4500
1600-20	±20	1600	Vout ±20%	2887	400	2309	>99	24-64	81	4200x1400x2200	6000
2000-20	±20	2000	Vout ±20%	3609	400	2887	>99	24-64	81	4200x1400x2200	6300
2500-20	±20	2500	Vout ±20%	4511	400	3609	>99	24-64	90	4200x2000x2400	10200
3200-20	±20	3200	Vout ±20%	5774	400	4619	>99	24-64	96	4800x2000x2400	10400

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