

**BROCHURE
EP-X**



ABOUT US

Energia Europa develops and produces **innovative systems for energy efficiency** and power quality of manufacturing, commercial and office sites. The core of our production is represented by the **patented EP-X system**, which allows you to achieve real energy efficiency in an electrical system, i.e. effective energy saving for the same work performed.

Energia Europa has a business unit specialized in the design and production of excellent LED lighting.



ENVIRONMENTAL SUSTAINABILITY

As a consequence of the energy savings obtained, the EP-X device allows the reduction of CO₂ emissions at the sites where it is installed, thus contributing to the environmental sustainability of production sites. Each kWh saved corresponds to a lower CO₂ emission of about 0.350 kg.

R&D

Energia Europa has a high-level laboratory, managed in collaboration with the University of Florence with which we have created the “Smart Energy Lab”.

The laboratory has 3 locations, in Zané, Florence and Calenzano, where a team of researchers are equipped with the most sophisticated instruments available for the analysis of all the parameters that influence power quality. Thanks to this state-of-the-art equipment, our engineers and the research team are able to analyze the effects generated by the EP-X device on electrical loads with extreme precision.



Through these analysis, we are able to measure and document the impact of our systems on the load and to pursue continuous experimentation on increasingly effective technological solutions both for the diagnosis of Power Quality phenomena and for the evolution of our devices.

Energia Europa's collaboration with universities and research institutions does not stop at the Italian borders. **We have set up joint research and analysis activities with prestigious international universities**, such as the Polytechnic University of Madrid in Spain and two renowned research institutes in Germany and Poland.



THE TECHNOLOGY

The patented EP-X system is an innovative filter designed to reduce losses and disturbances through the modification of the current waveform.

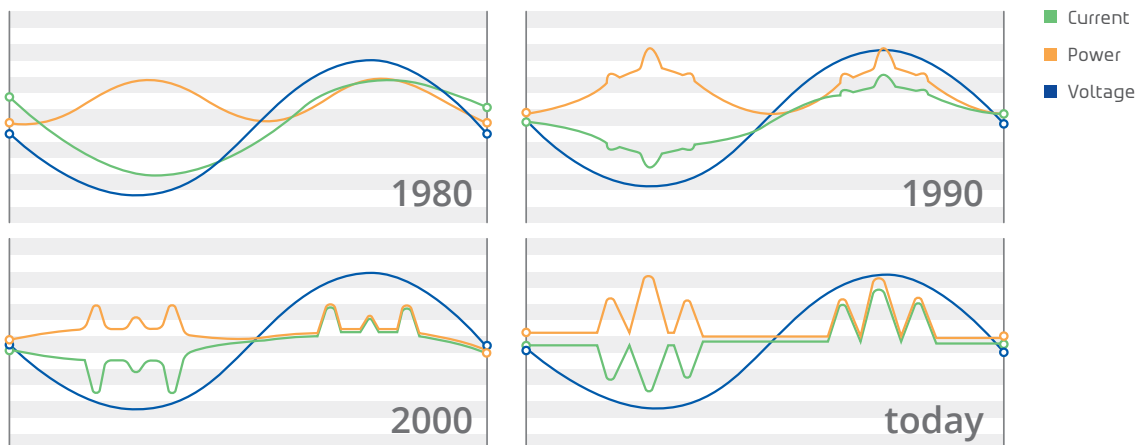
Technically, it is a series inductive passive filter, with particular characteristics given by its ability to introduce a series of electromagnetic vectors in phase opposition into the power flow.

The inductance is therefore not constant, but dynamically changes its value, adapting to the power absorption present in the system and thus maximizing its effectiveness.

Thanks to its careful design, the losses introduced by the system are negligible and self-consumption is almost zero.



WHY USE IT



Until the 80s, linear loads, i.e. electrical loads that are not regulated or managed by electronic devices, prevailed in all industrial and commercial sites. In the late 80s, electronic components became smaller and more efficient and more convenient technologies related to electronic frequency control began to be used in all electrical systems, which generated a positive impact on consumption but a negative one on power quality.

Since the 2000s, the world's electricity consumption has grown exponentially; production from renewable sources has increased significantly, which have a negative impact on Power Quality. Today non-linear loads, i.e. loads managed by power electronics, largely prevail in all sites.

It becomes essential to save energy by making systems more efficient and optimizing power quality.



BENEFITS



ENERGY EFFICIENCY:

reduces losses and disturbances in the system, bringing real energy efficiency; it improves the power quality on the loads, extending their life cycle.

REDUCED EMISSIONS:

Each kWh saved corresponds to approximately 0.350 kg of lower CO₂ emissions. *

ENERGY SAVING:

reduces electricity consumption for the same work performed, generating economic savings ranging between 3% and 6%, depending on the type of electrical system; the result is scientifically measurable thanks to the patented bypass and the monitoring and data transmission system.

* Average emission factor



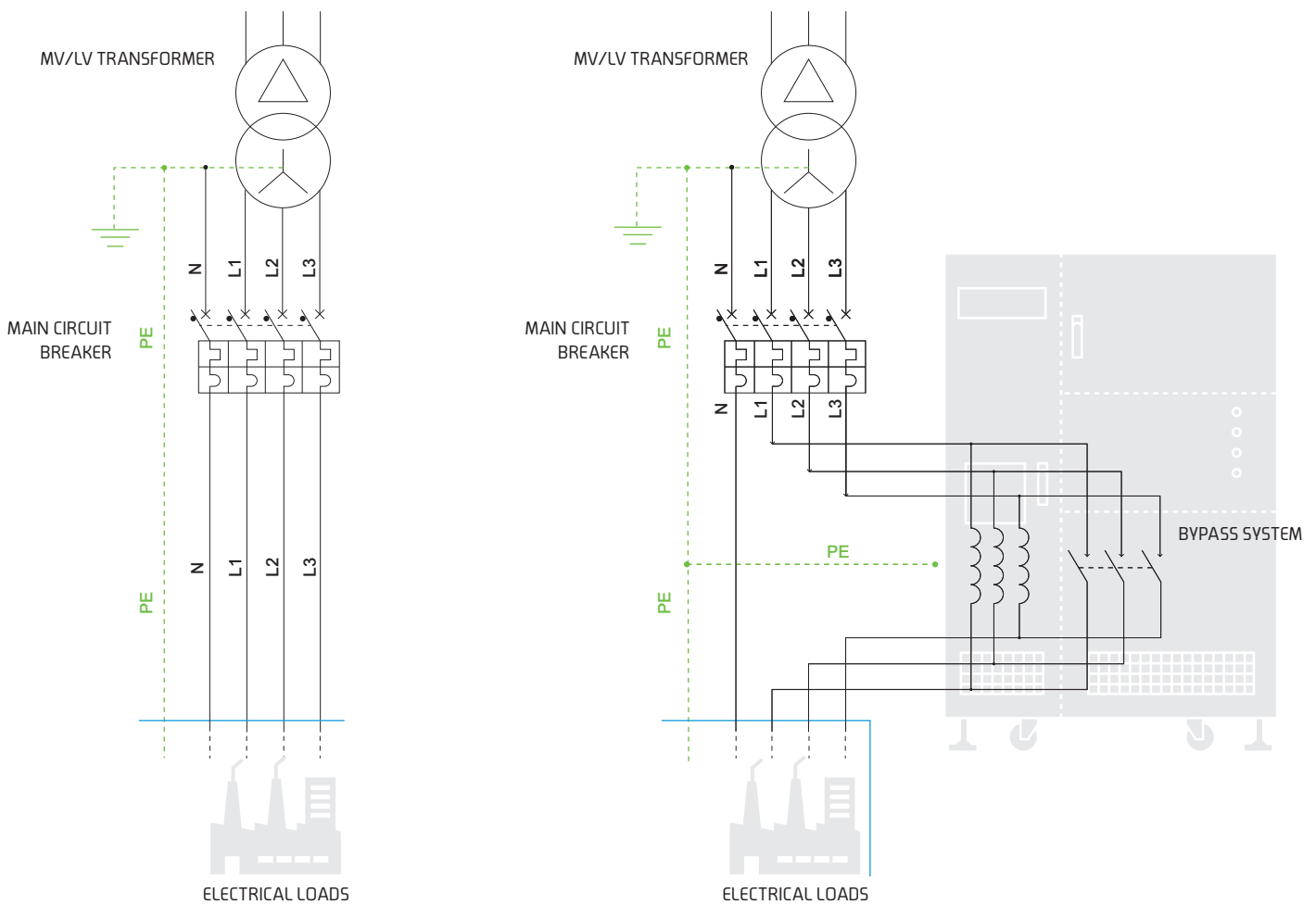
THE PATENTED BYPASS

SAFETY

EP-X is a 100% safe technology thanks to 24-hour remote control and its patented Bypass system that automatically excludes the device from the line in the event of malfunctions, thus ensuring continuity of power supply to the loads and avoiding any disruption.

MEASURABILITY

The Bypass and the measuring instruments present within the EP-X system allow the device to be activated and deactivated, thus ensuring the measurement of the difference in energy absorption in the two modes.





PERFORMANCE MEASUREMENT

The verification of the energy savings obtained with the patented EP-X system involves a measurement protocol implemented after installation and formalized with the consequent sending of an “Energy Efficiency Report”.

The protocol for the verification of percentage savings was developed with the collaboration of leading Italian universities, and validated by the prestigious international certification body **IMQ**.

The protocol involves the combination of a double analysis of the data collected during the test which is performed on 3 different days of the week with scheduled switching between the 2 states, *Saving and Bypass* – every 5 minutes for 24H:

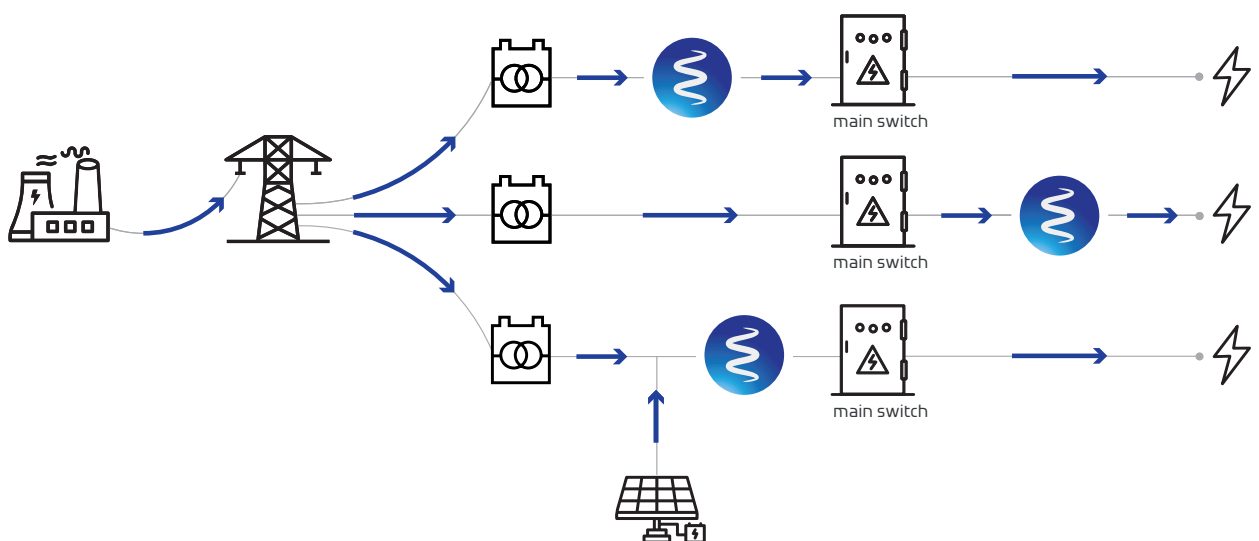
- Quantitative analysis (measurement in energy)
- qualitative analysis (power measurement).

The qualitative analysis is used by analysts to qualify the raw data defined by the measurement into energy.

INSTALLATION

The EP-X device is placed in series between the medium-voltage transformer and the load.






It can be installed both downstream and upstream of the main switch; in the case of installation upstream of the main breaker, a protection switch must be provided, which can be external or integrated into the EP-X system.



OUR RESULTS

1,600 EP-X INSTALLED		
553,603,000 kWh <i>Energy saved</i>	193,761,000 kg* <i>CO₂ saved</i>	4.45% <i>Average saving</i>

Aggregate efficiency data for major application sectors

	RETAIL	119,591,000 kWh <i>Energy saved</i>	41,857,000 kg* <i>CO₂ saved</i>	4.80% <i>Average saving</i>
	MECHANICAL INDUSTRY	40,705,000 kWh <i>Energy saved</i>	14,247,000 kg* <i>CO₂ saved</i>	4.20% <i>Average saving</i>
	PLASTIC AND RUBBER INDUSTRY	36,887,000 kWh <i>Energy saved</i>	12,910,000 kg* <i>CO₂ saved</i>	4.00% <i>Average saving</i>
	AUTOMATION AND AUTOMOTIVE	11,085,000 kWh <i>Energy saved</i>	3,880,000 kg* <i>CO₂ saved</i>	3.90% <i>Average saving</i>
	FOOD & BEVERAGE INDUSTRY	27,917,000 kWh <i>Energy saved</i>	9,771,000 kg* <i>CO₂ saved</i>	3.70% <i>Average saving</i>
	HOTELS & RESTAURANTS	10,255,000 kWh <i>Energy saved</i>	3,589,000 kg* <i>CO₂ saved</i>	5.00% <i>Average saving</i>
	LOGISTICS & OFFICES	5,532,000 kWh <i>Energy saved</i>	1,936,000 kg* <i>CO₂ saved</i>	4.30% <i>Average saving</i>

Updated to January 2026

** Emission factor 0.350 kg/kWh

EP-X MONITORING

Through the monitoring platform, the performance of the EP-X system can be immediately verified, both in terms of energy and environmental efficiency and in absolute values and graphs. It also allows control of all the main electrical parameters on the line managed by EP-X.

CONTROL

The user can monitor all the main electrical parameters on the line managed by EP-X detected with high-frequency sampling and download the data of interest in the selected time intervals.

UPDATE

The user can receive automatic periodic updates on all data and establish an effective interactive channel with Energia Europa.

ENERGY MANAGEMENT AND REPORTING

It provides the ability to select and aggregate data from multiple EP-Xs installed in different cabins or sites and to view all the data in the desired time intervals.

It provides the possibility of downloading immediate reports for the selected devices or, optionally, scheduling the sending of the report to multiple recipients at the desired time.



CERTIFICATIONS



01.

01. ISO9001:2008, ISO 14001:2004, UNI CEI11352:2010, BSOHSAS18001:2007, ISO 45001:2018.



02.

02. Short circuit tests according to the international standard CEIEN61439-1-2.



03.

03. Patent N 2 740 132



04.

04. The EP-X system is in compliance with the Low Voltage Directive, 2014/35/EU.



05.

05. CE Mark in accordance with IECEN61439-1-2.



06.

06. UL Mark for compliance with US and Canadian safety requirements. The UL mark guarantees approval and recognition worldwide.



07.

07. RCM Mark for compliance with Australia and New Zealand safety requirements.



08.

08. Electromagnetic compatibility according to IEC/EN 61000-6-2 and IEC/EN 61000-6-4.



09.

09. Compliance of IEC/EN 50449 regarding the evaluation of workers exposure to electromagnetic fields produced by EP-X systems, tests of the Fault Loop Impedance.

ESCo Credited Company

THEY TRUSTED US

In the last years we had the fortune to win the trust in our solutions of many international clients; some of them are among the best known brands.

- ABB
- Amcor
- Amisco
- Autogrill
- Bennet
- Beretta Salumi
- Birra Peroni
- Cameo

- Carrefour
- Cetus Graf
- Conad
- Coop
- Cornaglia
- DB Schenker
- Esselunga
- Findus

- Forgital Group
- Gapi
- Grand Hotel Union
- Helsinki Municipality
- INFN
- Italgas
- Mikron
- Odelo

- Paccor
- Pedeo NV
- Sanha
- Siemens
- Stefanplast
- Taste Point
- Technogym
- Valsir