

BROCHURE

Power Factor Correction system *COSYS® PFC*



When **energy** matters

 **socomec**
Innovative Power Solutions

Saving energy, and even more!

The main benefit of power factor correction is, of course, the reduction in your electrical usage costs. But a performant solution, driven by SOCOMEC's expertise, enables you to meet other key objectives and peace of mind.



Making significant savings

Do you want to reduce your energy bill?

Do you want to **avoid the extra costs** associated with your consumption of reactive energy? Power factor correction meets these requirements.

Reducing the consumption of reactive energy means quick and long-lasting reductions on electrical energy bill. It is becoming increasingly urgent to act protecting the environment is everyone's business today! The regulations concerning the power factor could become tougher!

Preserving the service life of your equipment

When accompanied by harmonic filtering, power factor correction contributes to **improving the quality of the energy available** on your network. This is great for your sensitive equipment and for the overall output of your installation.

Maximising installation profitability

With a power factor correction system, your network will consume less energy whilst maintaining the same output power. **Reduced demand** means less maintenance.

Increasing energy performance

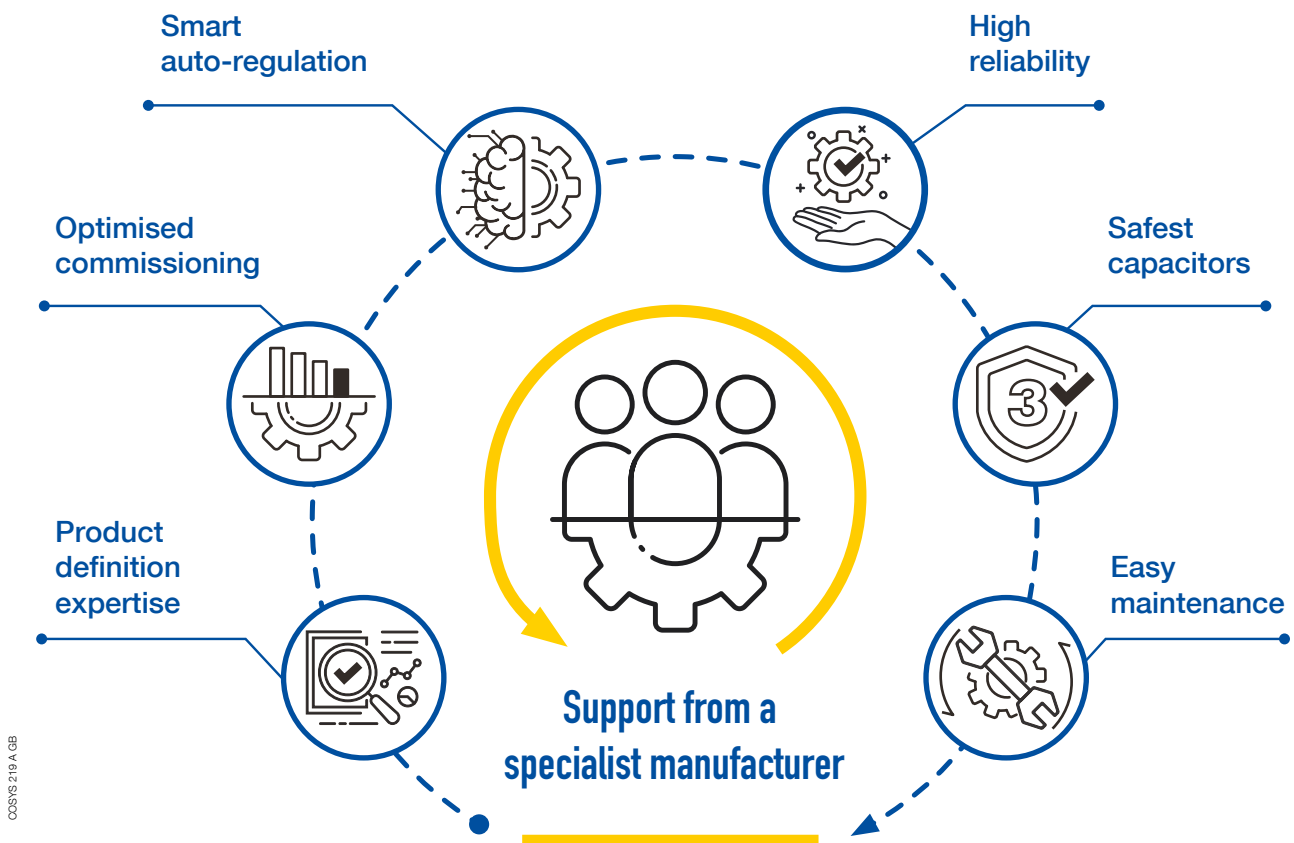
Power factor correction is a **cost-effective solution**: improving the $\cos \phi$ by 3% across Europe is the same as saving 48 TWh each year and therefore equivalent to the production of four nuclear power stations!



COSYS[®] PFC

Power factor correction system

Many advantages and support from a specialist manufacturer throughout the entire life cycle of your equipment...



Dual action

Correction but also neutralisation: the **COSYS PFC** system ensures two essential functions for an efficient electrical network. You can cancel your reactive energy bill, have quality energy available at all times and extend the service life of your equipment.

Advantages

Increased reliability, intelligent control, triple safety, optimised commissioning, simplified maintenance... The **COSYS PFC** system has all you could possibly ask for! And we will provide all necessary technical support throughout the life cycle according to your needs.

Guaranteed success

The effectiveness of a power factor correction solution relies, above all, on appropriate electrical equipment sizing. We will give you the means to “get off on the right foot” and to get a rapid return on investment.

For more information, visit our website:

https://www.socomec.com/cosys-pfc-range_en.html?product=/automatic-cosys-pfc_en.html



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COSYS PFC

Gain **peace of mind** !

COSYS PFC is designed to enable you to carry out your work throughout every step in its life cycle.



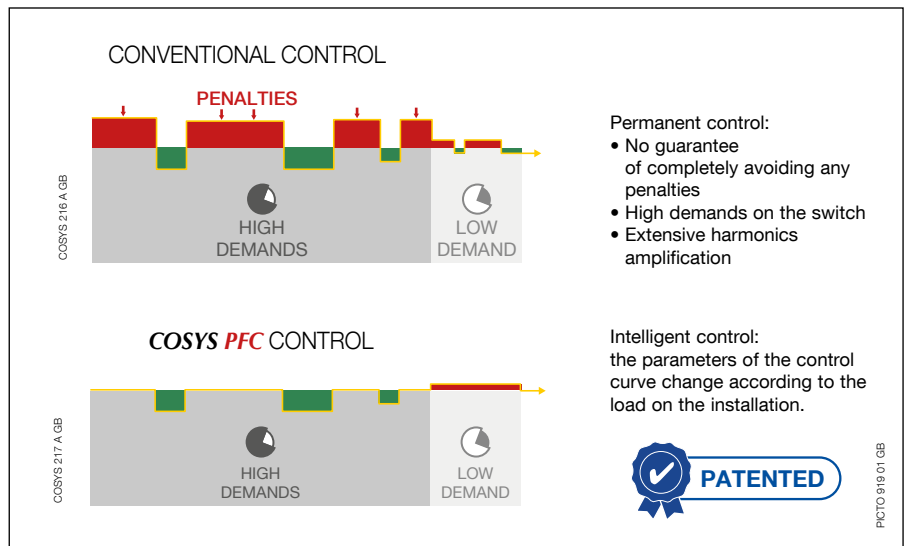
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Intelligent regulation

Where numerous existing solutions call for conventional regulation, the **COSYS PFC** system allows you to benefit from a patented regulation curve.

The advantages:

- You are guaranteed not to pay any penalties.
- The battery lasts for longer, as the system is used less.
- Components are preserved thanks to a reduction in the harmonics exposition.



Improved reliability

- **COSYS PFC** systems integrate the latest **cutting-edge** characteristics:
- They use **reinforced capacitors** which can withstand current overloads (up to 2 In) greater than those stipulated by the standard.
- These capacitors **permanently**

maintain a temperature of **+60 °C** where class C and D models are limited respectively to 45 °C and 55 °C (and over a maximum of 24 hours).

- They are equipped with **spring terminals** which prevent them from becoming loose, and the resultant faults and potential destruction of the capacitor by electric arcing.
- Intelligent control (described on the

next page) which as a consequence **prolongs the system's service life**.

- Detuned **COSYS PFC** with harmonic filtering **mitigate resonance phenomena**, thereby enabling the battery to be preserved for longer.
- The batteries are subjected to **rigorous tests** for each manufactured system.

A wide range of innovations dedicated to optimal reliability and exceptional operating safety...

Discover all the advantages of the expert's power factor correction solutions!

And with our range of services, you have all the means available to meet your objectives in terms of compensation and energy efficiency.



A complete range as standard: in an enclosure or cabinet, with or without harmonic filtering, with or without a disconnect switch...

And always customised to your specific demands.

SOCOMECC also offers you complementary equipment: current transformers, smoke detection, etc.

 **Triple safety**

Your **COSYS PFC** is equipped with the safest capacitors on the market.

These capacitors use a segmented film; any possible fault on a segment automatically results in this segment being disconnected from the rest of the film.

Manufactured by polypropylene plating, this film has additional self-healing properties: any damage will create a short circuit which will repair the electrical insulation by vaporising the metal layer.

Furthermore, an overpressure mechanism automatically ensures that the capacitor is disconnected in the event of a significant overload; this makes it possible to avoid the risk of explosion related to a rise in internal pressure.

 **Optimised commissioning**

The connection is a 'plug & play' type: **COSYS PFC** automatically detects the direction of rotation of the phases and resolves any wiring errors. Furthermore, it automatically configures itself according to the network parameters it has detected. **COSYS PFC operates as soon as it is switched on.**

Our 'Services and Technical Assistance' team can verify the commissioning or even set specific parameters.

 **Simplified maintenance**

COSYS PFC is equipped with a pre-maintenance diagnostic function: simply check the regulator to find out the status of the capacitors and contactors.

In the event of an installation upgrade, our 'Services and Technical Assistance' teams can arrange a visit with a view to taking preventive measures in order to avoid remedial interventions where possible.

How can **you** get the best out of your **COSYS PFC** system ?

Appropriate sizing is essential in order to meet the required efficiency. SOCOMEC will help you to make the right choices and therefore to benefit from a long-term solution.

You have all the necessary data :



PICTO 920 01

Have you already taken all the necessary measurements in terms of sizing your compensation system and reducing harmonic distortion? Using these data, we can offer you the most adapted **COSYS PFC** solutions.

If you do not have these data or are unsure of their reliability, there are two solutions available:



PICTO 921 01

We will give you measuring equipment then use the data collected to offer you a battery and filters based on your requirements.



PICTO 922 01

For guaranteed data, our 'Services and Technical Assistance' teams will perform the analysis beforehand: on-site visit, implementation of measurements, data analysis and personalised report.

With such elements in hand, we can provide the right **COSYS PFC**

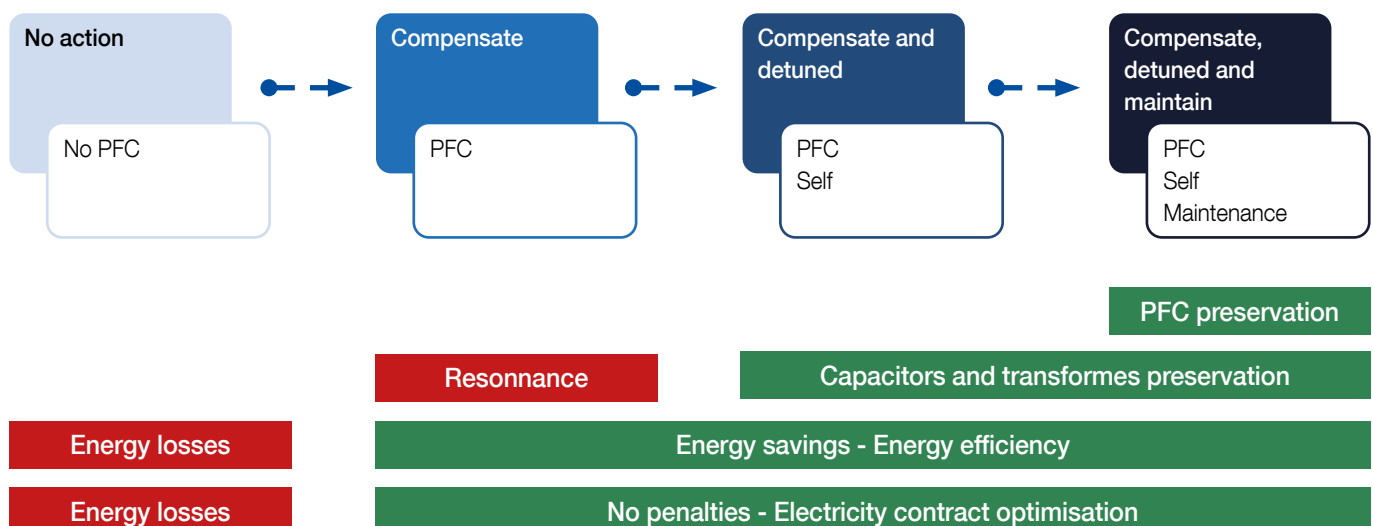


Customised support

At the end of the consultancy stage, the Services & Technical Assistance department can provide personalised support including commissioning checks, maintenance and equipment upgrades.



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To place an order

COSYS PFC is designed to enable you to carry out your work throughout every step in its life cycle.

Références COSYS PFC42 Automatic compensation system with harmonics distortion reduction

Power (kvar) at 400 VAC	Reference without disconnect switch	Dimensions without disconnect switch (h x l x p) (mm)	Dimensions with disconnect switch option (h x l x p) (mm)
17,5	5978 2018	1211 x 600 x 311	1211 x 600 x 311
30	5978 2030		
50	5978 2050		
75	5978 2075		
100	5978 2100		
125	5978 2125	2000 x 800 x 400	2000 x 800 x 400
150	5978 2150		
175	5978 2175		
200	5978 2200		
250	5978 4250		
300	5978 4300	2000 x 800 x 600	2000 x 800 x 600
350	5978 4350		
400	5978 4400		
450	5978 4450	2000 x 800 x 600	2000 x 800 x 600
500	5978 4500		
550	5978 4550	2000 x 1600 x 600	2000 x 1600 x 600
600	5978 4600		
650	5978 4650		
700	5978 4700		
750	5978 4750		
800	5978 4800		
850	5978 4850		
900	5978 4900		

Factory mounted options, to order in addition of the PFC system

Option	Reference
SIRCO switch-disconnector for COSYS PFC 17-30 kvar	5970 3030
SIRCO switch-disconnector for COSYS PFC 50-100 kvar	5970 3100
SIRCO switch-disconnector for COSYS PFC 125-200 kvar	5970 3200
SIRCO switch-disconnector for COSYS PFC 250-500 kvar	5970 3500
SIRCO switch-disconnector for COSYS PFC 550-800 kvar	5970 3800
Additional temperature relay for upstream protection tripping	5970 3001
Smoke detector with auxiliary contact	5970 3002
Communicant controller MODBUS RTU (RS485)	5970 3005
Communicant controller MODBUS TCP (Ethernet, Webserver)	5970 3006

The COSYS PFC range also includes:

- **COSYS PFC 43** and **44** automatic compensation systems with specific harmonic distortion reduction*;
- **COSYS PFC 2x*** fixed compensation systems: batteries designed to offset a fixed reactive energy value (10 to 60 kvar);
- **COSYS PFC 6x*** dynamic automatic compensation systems for applications which require very short switching times (please contact us);

* Key: x1 = without detuning; x2 = with detuning 7% (189Hz) x3 = with detuning 14% (134Hz) x4 = with detuning 5,67% (210Hz)

Versions

All **COSYS PFC** can be equipped with a disconnect switch.



Accessories

SOCOMEc can offer you a wide range of current transformers or Rogowski sensors, which are essential accessories for connecting your **COSYS PFC** to the network.



Additional devices

DIRIS Q800 the power quality measuring instrument specially designed for accuracy and ease of use with Class A certification.



Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,900 employees
worldwide

8 % of sales revenue
dedicated to R&D

400 experts
dedicated to service provision

Your power management expert



POWER
SWITCHING



POWER
MONITORING



POWER
CONVERSION



ENERGY
STORAGE



EXPERT
SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

12 production sites

- France (x3)
- Italy (x2)
- Tunisia
- India
- China (x2)
- USA (x2)
- Canada

30 subsidiaries and commercial locations

- Algeria • Australia • Austria • Belgium • China
- Canada • Dubai (United Arab Emirates) • France
- Germany • India • Indonesia • Italy • Ivory Coast
- Netherlands • Poland • Portugal • Romania • Serbia
- Singapore • Slovenia • South Africa • Spain • Sweden
- Switzerland • Thailand • Tunisia • Turkey • UK • USA

80 countries

where our brand is distributed

HEAD OFFICE

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100 years
OF SHARED ENERGY

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