

SISvar 2.0

Calculation and selection of LV power factor correction solutions.



SISvar 2.0 in few words

SISvar 2.0 is a software for calculation and selection of low voltage power factor correction solutions.



Its mission:

- Help you calculate your need in power factor correction
- Propose the optimal Schneider Electric solutions
- Assist you for the quotation and specification steps

SISvar 2.0 in few words

> SISvar 2.0 is **simple**

Calculate, select and quote your solution in 5 steps

> SISvar 2.0 is **flexible**

A simple selection of products, a reactive power calculation or a full study with a quotation? Whatever your need, SISvar will help you find the best solution.

What's available in 2.0 release ?

• Different Solutions are proposed

- LV capacitor banks



or

- Configurations of modules



or

- Configurations of capacitors



What's new in 2.0 release ?

- Relevant **Sales Arguments** are given
Benefits of power factor correction (CO₂ emissions saving, released capacity) and calculation of return on investment
- Useful **Deliverables** are generated
In addition to study results and technical specifications, a bill of material can be generated

How to use SISvar 2.0?



How to use SISvar 2.0?

The screenshot displays the SISvar 2.0 software interface. At the top, there is a navigation bar with tabs: Home, Project, Description (selected), Results, Solution, and Reports. Below the navigation bar, there are two tabs for calculation methods: "Calculation with installation characteristics" (selected) and "Calculation with THD measurement".

The main content area is divided into two sections:

- Network information:** This section contains several input fields:
 - Network frequency: 50 Hz
 - Network voltage (LV): 230 V
 - Active power (kW): [empty]
 - Cosine ϕ before PF correction: [empty]
 - Target Cosine ϕ : [empty]
- Measurements:** This section contains two radio buttons and input fields:
 - Total harmonic current distortion THD(I) [empty] %
 - Total harmonic voltage distortion THD(U) [empty] %

To the right of the Measurements section, there is a schematic diagram showing a three-phase power supply connected to a motor (M) and a diode bridge rectifier. The diagram is labeled "THD(I) THD(U) measurement" and "P (kW)".

At the bottom right of the main content area, there is a "Calculate" button. The Schneider Electric logo is visible at the bottom center of the interface.

Step 1: characteristics of the electrical installation

Fill in data about the installation (2 methods available).

How to use SISvar 2.0?

The screenshot displays the SISvar 2.0 software interface with the 'Results' tab selected. The interface is divided into several sections:

- Navigation Bar:** Home, Project, Description, Results (active), Solution, Reports.
- Calculation results:**
 - Minimum reactive power to be installed: 81 kvar
 - Type of regulation (Automatic / Fixed): AUTO/FIXED
 - Range: CLASSIC
- Benefits due to power factor correction:**
 - Transformer released capacity: 39 kVA
 - Environmental CO2 savings: 667 kg CO2/year
- Selection of the solution:**
 - Type of control: Automatic
 - Tuning order: -
 - Type of configuration: Capacitor bank
 - Circuit breaker: Yes

An 'OK' button is located at the bottom right of the main content area. The Schneider Electric logo and navigation icons are visible at the bottom of the window.

Step 2: calculation results and selection of the type of solution

After the calculation, you can choose among available solutions: capacitor banks, configuration of modules or configuration of capacitors.

How to use SISvar 2.0?

The screenshot shows the SISvar 2.0 software interface with the 'Solution' tab selected. The interface is divided into several sections:

- Navigation Bar:** Home, Project, Description, Results, Solution (selected), Reports.
- Project Information:** Schneider Electric Solution, Quotation, Return On Investment.
- Results:**

Type of configuration	Capacitor
Type of regulation	Automatic
Power	81 kvar
Range	CLASSIC
Tuning Order	-
- Solution proposed:**

Electrical step	15	kvar
Step combination	1.1.2.2	
Power	90.00	kvar

Schneider Electric solution

<input checked="" type="checkbox"/>	31631	NS250N TM200D 3P
<input checked="" type="checkbox"/>	51321	Varplus2 15 kvar 400V-50Hz
<input checked="" type="checkbox"/>	52448	NR6
<input checked="" type="checkbox"/>	LC1DGK11P7	Contacteur LC1-DGK11P7
<input checked="" type="checkbox"/>	LC1DPK12P7	Contacteur LC1-DPK12P7

References of contactors correspond to a control circuit voltage of 230V.
Other voltage : please refer to help file.
- Recommendations:**
 - Ventilation:**

IP ≤ 3X	Type of ventilation	Natural
	Air inlet	200 cm²
	Minimum real air flow (m³/h)	
IP ≤ 3X	Type of ventilation	Forced
	Air inlet	-
	Minimum real air flow (m³/h)	≥ 68
 - Recommendations:**
 - ** The ventilation rules above apply to cubicles with dimensions are : 2000mm high, 600mm (minimum) wide and 400mm (minimum) deep
 - * The air within the cubicle must flow upwards. It is recommended that extractor fans be fitted on top of the cubicle.
 - * The cross section of the top air outlet must be at least 1.1 times the cross section of the bottom air
 - Installation (recommended assembly):**

15kvar:	[51321x1+LC1DGK11P7]	x2
30kvar:	[51321x2+LC1DPK12P7]	x2

Step 3: view the Schneider Electric solution meeting your need

This screen shows a summary of calculation results and characteristics of the solution proposed by Schneider Electric.

How to use SISvar 2.0?

The screenshot displays the Schneider Electric SISvar 2.0 software interface. The top navigation bar includes tabs for Home, Project, Description, Results, Solution (which is currently selected), and Reports. Below the navigation bar, the main window shows a quotation summary for a 'Schneider Electric Solution' under the 'Quotation' tab. The summary is organized into several sections: Equipment, Labour, Services, and Totals. The Equipment section lists items with their reference numbers, designations, quantities, unit prices, net unit prices, and total prices. The Labour section lists 'Workshop labour' and 'Worksite labour' with their respective quantities and prices. The Services section is currently empty. The Totals section shows the total price excluding tax, total VAT, and total price including all taxes, all of which are currently set to 0.00. At the bottom of the interface, there are buttons for 'Margins', 'Services', and 'OK', along with the Schneider Electric logo and standard window control icons.

	Reference	Designation	Quantity	Unit price	Net unit price	Total price
Equipment						
	31631	NS250N TM200D 3P	1	0.00	0.00	0.00
	51321	Varplus2 15 kvar 400V-50Hz	6	0.00	0.00	0.00
	52448	NR6	1	0.00	0.00	0.00
	LC1DGK11P7	Contacteur LC1-DGK11P7	2	0.00	0.00	0.00
	LC1DGK12P7	Contacteur LC1-DGK12P7	2	0.00	0.00	0.00
Equipments total						0.00
Labour						
		Workshop labour	00:00	0	0	0
		Worksite labour	00:00	0	0	0
Labour total						0
Services						
Services total						0
Totals						
Total excl. tax						0.00
Total VAT						0.00
Total all taxes included						0.00

Step 4: quote the solution

This step enables you to make a quotation of the solution by adding labour or services and by defining margin rates.

How to use SISvar 2.0?

Return on investment

PF penalties

No penalty

Low PF penalty for PF lower than

Penalty €

Savings €

PF bonus

No bonus

Bonus for PF superior to

Bonus €

Savings €

KVA availability charge

No KVA availability charge

KVA availability charge € per KVA

Savings €

PFC equipment

PFC equipment price €

Return on investment year(s)

OK

Schneider Electric

Step 5: calculate your return on investment

Define the penalties or bonus applicable to get an evaluation of the ROI.

How to use SISvar 2.0?

> Deliverables

Select and generate the reports you need among the following ones:

- technical specifications
- quotation summary
- synthesis of the study
- bill of material.

