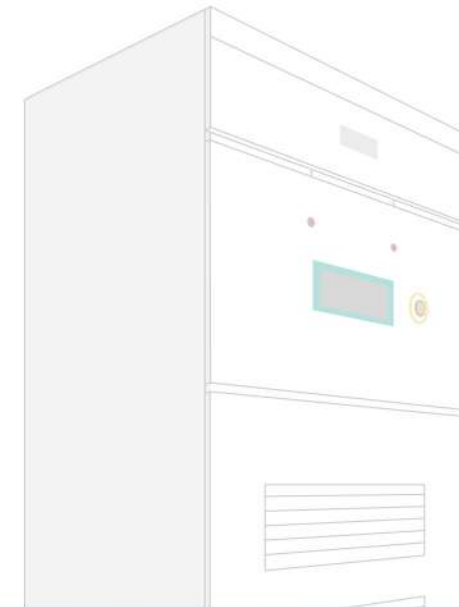




**Elecnova**



## Power Quality Improvement Solutions

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Build SFERE Electric as a top domestic provider of power products and services focusing on comprehensive power applications.

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## COMPANY PROFILE

Established in 1998, Jiangsu Sfer Electric Co., Ltd. is the leading power quality improvement solution provider in China. Benefit from the frontier technology and the contribution of our creative R&D team which leading by the Post-doctoral expertise, Sfer power quality product has play an important role in the domestic industrial automation industry and transportation terminals construction etc. Profit by The Belt and Road Initiative policy, the company also achieve great success for the over-sea infrastructure projects especially for those SINO-ASEAN governmental ones. Sfer is located China and move forward to the word!

Sfer Electric has full range of power quality improvement products to fulfil wide range demand of the customers. Active Power Filter compensation (SFR-APF), Static Var Generator (SFR-SVG) and Hybrid compensation (APF+ intelligent capacitor module, SVG + intelligent capacitor module, APF+SVG ) for up to 63rd harmonic administration and power factor compensation. Besides the finished products, our experienced electric and IT engineers are willing to provide a customized solution to shift your power quality with quality!

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# SFR-APF Series Harmonic Filtering Solution

# 1

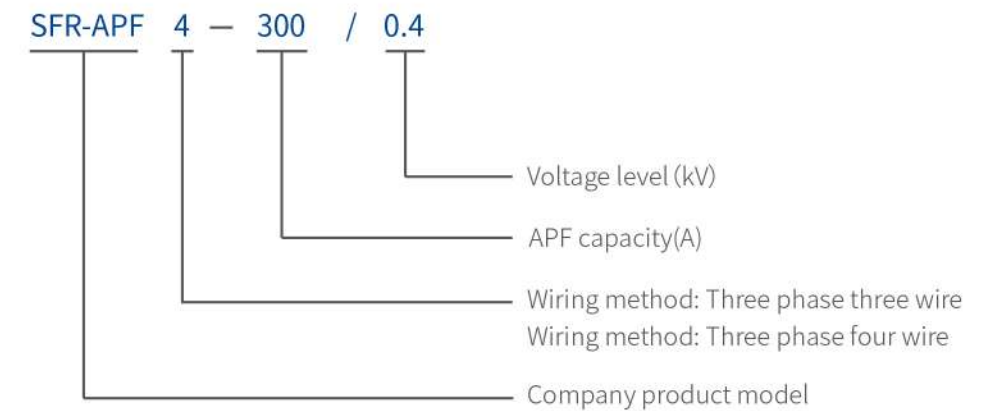
## SFR-APF Series

### Overview

Active power filter is a new type of electronic device for dynamic filtering of harmonic wave and reactive power compensation. It can conduct real-time filtering and compensation to harmonic wave (both size and frequency are changed) and dynamic reactive power, and is used to overcome disadvantages of traditional harmonic suppression and reactive compensation methods of traditional filters, thus realizing systematic harmonic filtering function and reactive power compensation function. In addition, it is widely applied into power, metallurgy, petroleum, port, chemical and industrial and mining enterprises.



### Name Meaning





### Order Sample

#### SFR-APF4-400/0.4

Product	Model Name	Lamp type	Quantity
Active harmonic filtering module	SFR-APF4-150/0.4M		2
Active harmonic filtering module	SFR-APF4-100/0.4M		1
7 inch HMI Touch Screen	HMI		1
Schneider Switch	630A		1

### Features of the scheme

- Harmonic compensation, reactive power compensation, harmonic/reactive power compensation, a complex single machine
- 7 (10) inch HD color touch screen, the screen can display system and device operating parameters in real time
- Complete protection functions, with over-current, over-voltage, under-voltage, over-temperature and other protection functions to ensure safe and reliable system operation
- Modular design, small size, light weight, high power density, easy installation and maintenance

### Fast Model Selection

Transformer capacity (kVA)	Cabinet model	Number	Recommended cabinet dimension
200	SFR-APF4-50/0.4	1	800×800×2200
250/315	SFR-APF4-50/0.4	1	800×800×2200
400	SFR-APF4-75/0.4	1	800×800×2200
500/630	SFR-APF4-75/0.4	1	800×800×2200
800	SFR-APF4-100/0.4	1	1000×1000×2200
1000	SFR-APF4-120/0.4	1	1000×1000×2200
1250	SFR-APF4-150/0.4	1	1000×1000×2200
1600	SFR-APF4-200/0.4	1	1000×1000×2200
2000	SFR-APF4-250/0.4	1	1000×1000×2200
2500	SFR-APF4-300/0.4	1	1000×1000×2200

### Advantage



More functionalities, more modes



Comprehensive protection for performing stability



Advanced control strategy and topology design

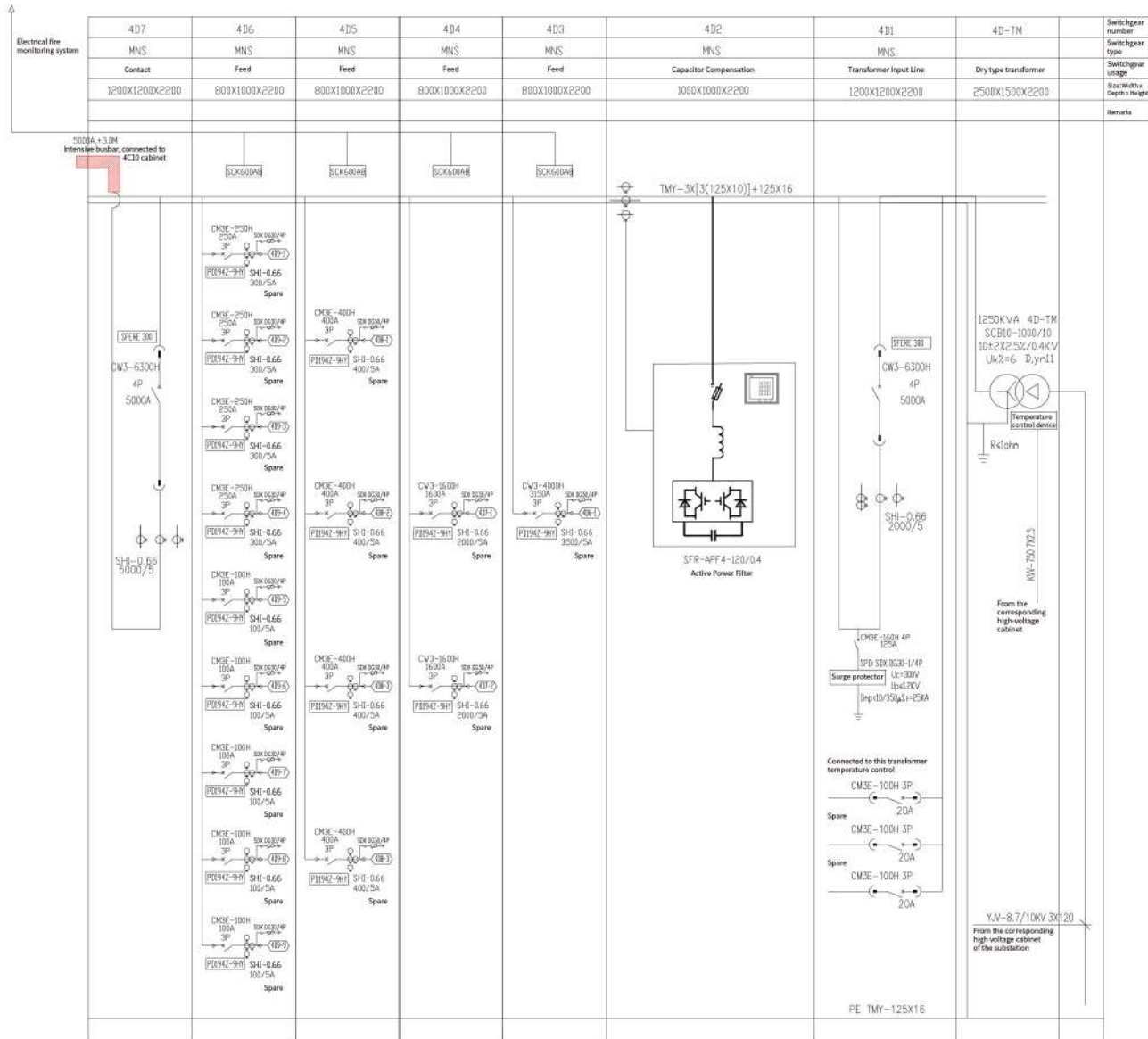


Highly integrated, modular, serialized

### Product Parameters

Rated value	400×(1±20%)
Rated frequency	50Hz±10%
Wiring method	Three phase four wire
Filter capacity	50~600A
Response time	≤10ms
Overload protection	Can be set automatically
Active power loss	<3% rated power
Working mode	Automatic or manual
Communication interface	RS485/Ethernet optional
Protection level	IP20
Display interface	7/10 Inch touch screen(optional)
Altitude	≤1000m, High altitude projects can be customized
Parallel operation	Can achieve
Cooling method	Forced air cooling
Operating environment temperature	-25°C~45°C
Storage / transport environment	-40°C~70°C
Working / storage relative humidity	Relative humidity 20% ≤ 95%, no condensation / Relative humidity 10% ≤ 95%, no condensation
Single cabinet size	1000×1000×2200
Noise	<65dB(A)
Other	Non-standard dimensions can be customized, special requirements can contact Sfere

Typical Design



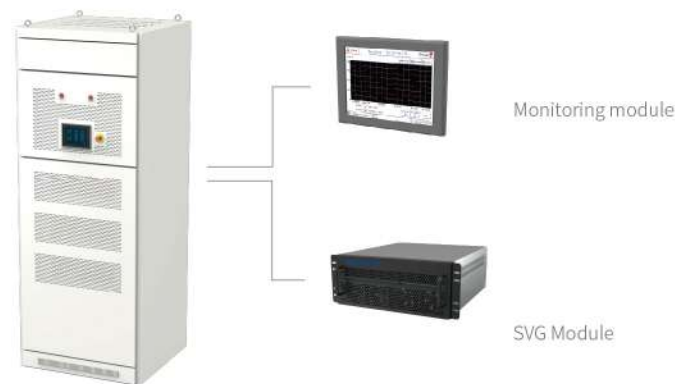
# SFR-SVG Series Reactive Power Compensation Solution

# 2

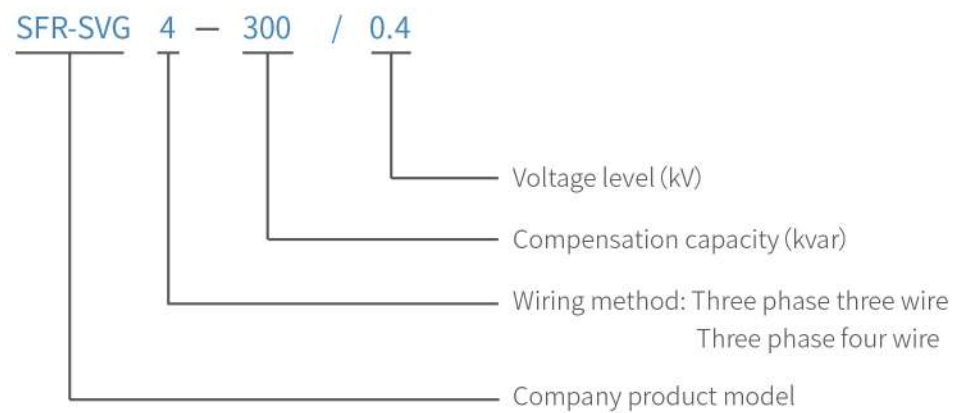
# SFR-SVG Series

## Overview

SFR-SVG is a static var generator. It is based on the digital signal processor (DSP), and the self-switching bridge circuit is connected in parallel to the power grid through the reactor. The real-time data acquisition technology and dynamic tracking technology are used to detect the voltage and current information of the power grid. After the internal DSP calculates, the reactive component of the load current is extracted, and then the PWM signal is sent to the internal IGBT to control the inverter to generate the reactive current that meets the requirement according to the setting, thereby achieving the purpose of reactive power compensation.



## Name Meaning



## Order Sample

### SFR-SVG4-250/0.4

Product	Model Name	Lamp type	Quantity
Static Var Generator	SFR-SVG4-100/0.4M		2
Static Var Generator	SFR-SVG4-50/0.4M		1
7 inch HMI Touch Screen	HMI		1
Schneider Switch	630A		1

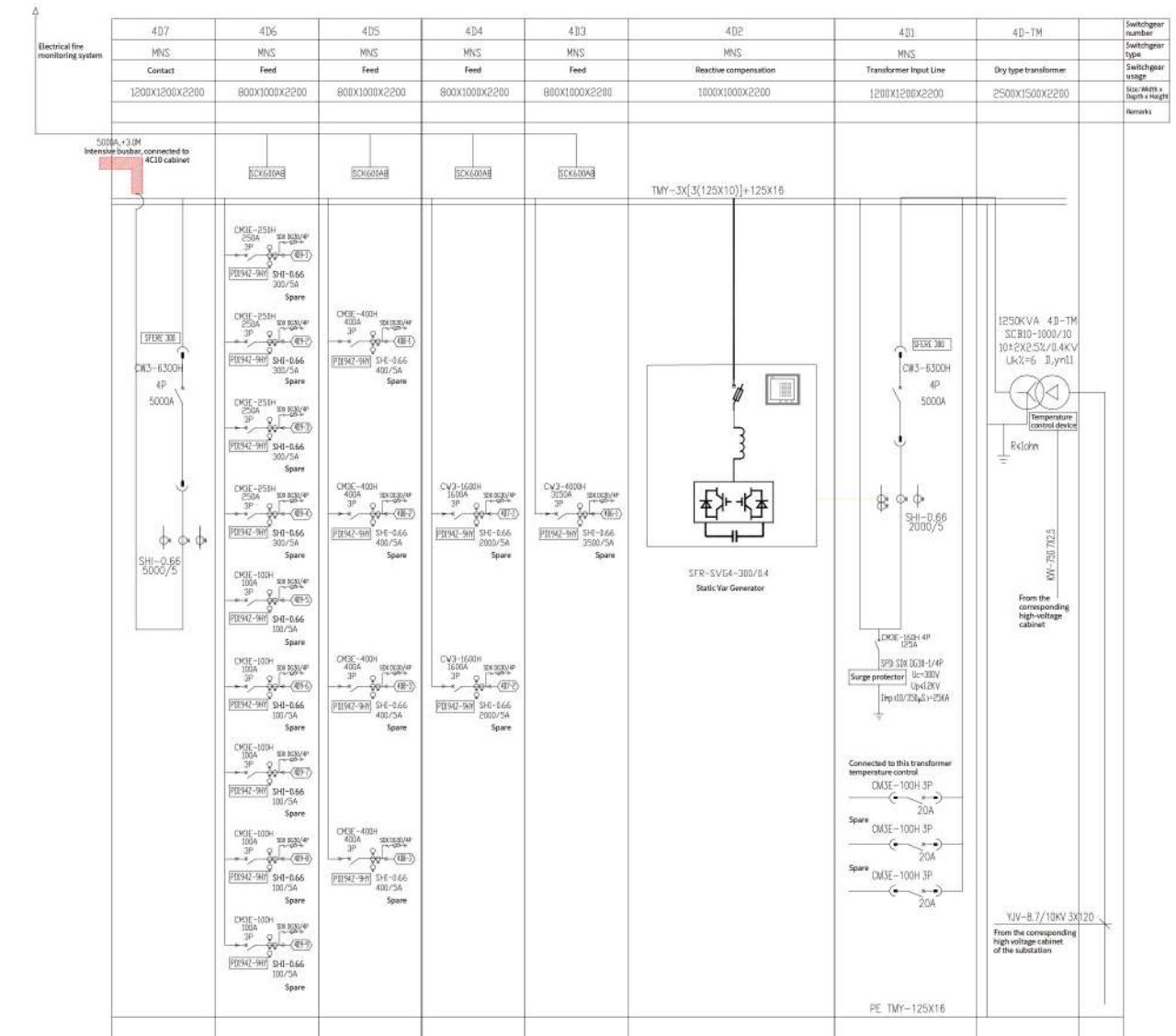
## Selection table

Transformer capacity (kVA)	Cabinet model	Number	Recommended cabinet dimension
200	SFR-SVG4-100/0.4	1	800×800×2200
250/315	SFR-SVG4-100/0.4	1	800×800×2200
400	SFR-SVG4-150/0.4	1	800×800×2200
500/630	SFR-SVG4-200/0.4	1	800×800×2200
800	SFR-SVG4-250/0.4	1	1000×1000×2200
1000	SFR-SVG4-300/0.4	1	1000×1000×2200
1250	SFR-SVG4-200/0.4	2	1000×1000×2200
1600	SFR-SVG4-250/0.4	2	1000×1000×2200
2000	SFR-SVG4-300/0.4	2	1000×1000×2200
2500	SFR-SVG4-250/0.4	3	1000×1000×2200

Product Parameters

Rated value	400 × (1 ± 20%)
Rated frequency	50Hz ± 10%
Wiring method	Three phase four wire
Reactive power compensation capacity	50~400kvar
Phase separation compensation ability	100% with phase compensation
Response time	≤ 5ms
Overload protection	Can be set automatically
Active power loss	< 3% rated power
Working mode	Automatic or manual
Communication interface	RS485/Ethernet optional
Protection level	IP20
Display interface	7/10 Inch touch screen(optional)
Altitude	≤ 1000m, High altitude projects can be customized
Parallel operation	Can achieve
Cooling method	Forced air cooling
Operating environment temperature	-25°C~45°C
Storage / transport environment	-40°C~70°C
Working / storage relative humidity	Relative humidity 20% ≤ 95%, no condensation / Relative humidity 10% ≤ 95%, no condensation
Single cabinet size	1000 × 1000 × 2200
Noise	< 65dB(A)
Other	Non-standard dimensions can be customized, special requirements can contact Sfere

Typical Design



# SFR-APFC Series Active Dynamic Compensation Solution

# 3

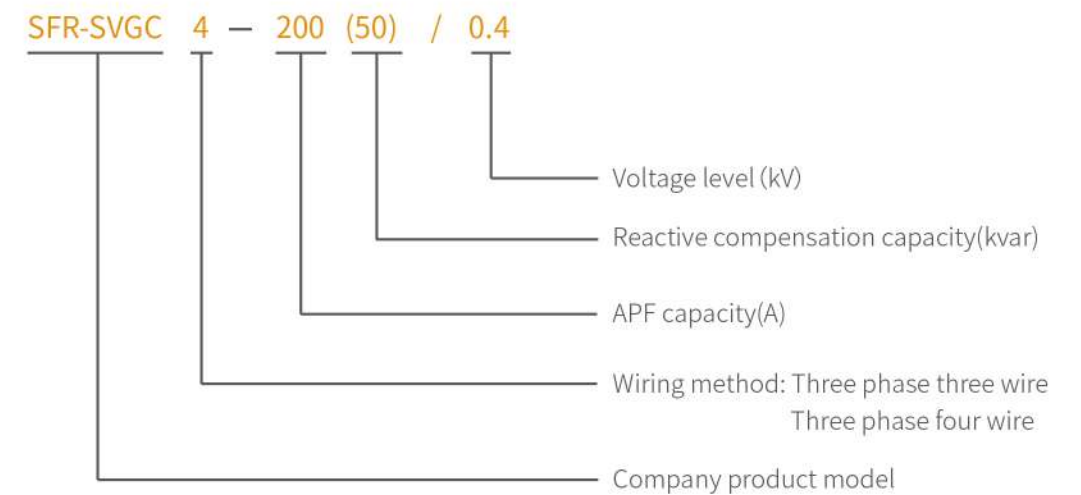
## SFR-APFC Series

### Overview

The SFR-APFC series is developed by Jiangsu SFERE Electric Co.,Ltd , providing complete power quality solution to customers. Flexible combination meet different requirements of customers, realizing real-time monitoring with powerful monitoring module, professional harmonic filtering and reactive compensation equipment to optimize power factor,purify grid pollution and significantly improve power quality.



### Name Meaning







Order Sample

SFR-APFC4-50-200/0.4



Product	Model Name	Lamp type	Quantity
Active harmonic filtering module	SFR-APF4-50/0.4M		1
Reactive compensation device	SFR-M(50kvar)		4
Reactive compensation controller	WGK-31-203		1
7 inch HMI Touch Screen	HMI		1
Schneider Switch	630A		1
Three phase digital display ammeter	S3I96		1
CT	SHI-0.66		3
Surge protector	SDXDG53		Optional

Features of the scheme

- Modular design, easy extension, prevent investment waste
- The total response time is less than 10ms, the control is faster, and the transient stability is improved
- Through the 7-inch LCD touch screen interface, users can clearly understand the power quality improvement of the system waveform, harmonic spectrum, THDi, THDu, current RMS, power factor and other systems before and after compensation.
- External electrical fault protection of the equipment, including busbar short circuit, over and under voltage, over and under frequency, phase sequence error, current reverse sequence, etc.

FeatureFast Model Selection

Transformer capacity (kVA)	Cabinet model	Number	Recommended cabinet dimension
200	SFR-APFC4-50-100/0.4	1	800×800×2200
250/315	SFR-APFC4-50-100/0.4	1	800×800×2200
400	SFR-APFC4-50-150/0.4	1	800×800×2200
500/630	SFR-APFC4-75-200/0.4	1	1000×1000×2200
800	SFR-APFC4-75-250/0.4	1	1000×1000×2200
1000	SFR-APFC4-100-300/0.4	1	1000×1000×2200
1250	SFR-APFC4-75-200/0.4	2	1000×1000×2200
1600	SFR-APFC4-100-250/0.4	2	1000×1000×2200
2000	SFR-APFC4-100-300/0.4	2	1000×1000×2200
2500	SFR-APFC4-100-250/0.4	3	1000×1000×2200

Feature



Intelligent Operation



Intelligent And Flexible




Flexible Smoothing



Self-diagnosis

Advantage

 Flexible Application

 Excellent filtering performance

 Passed CE certification

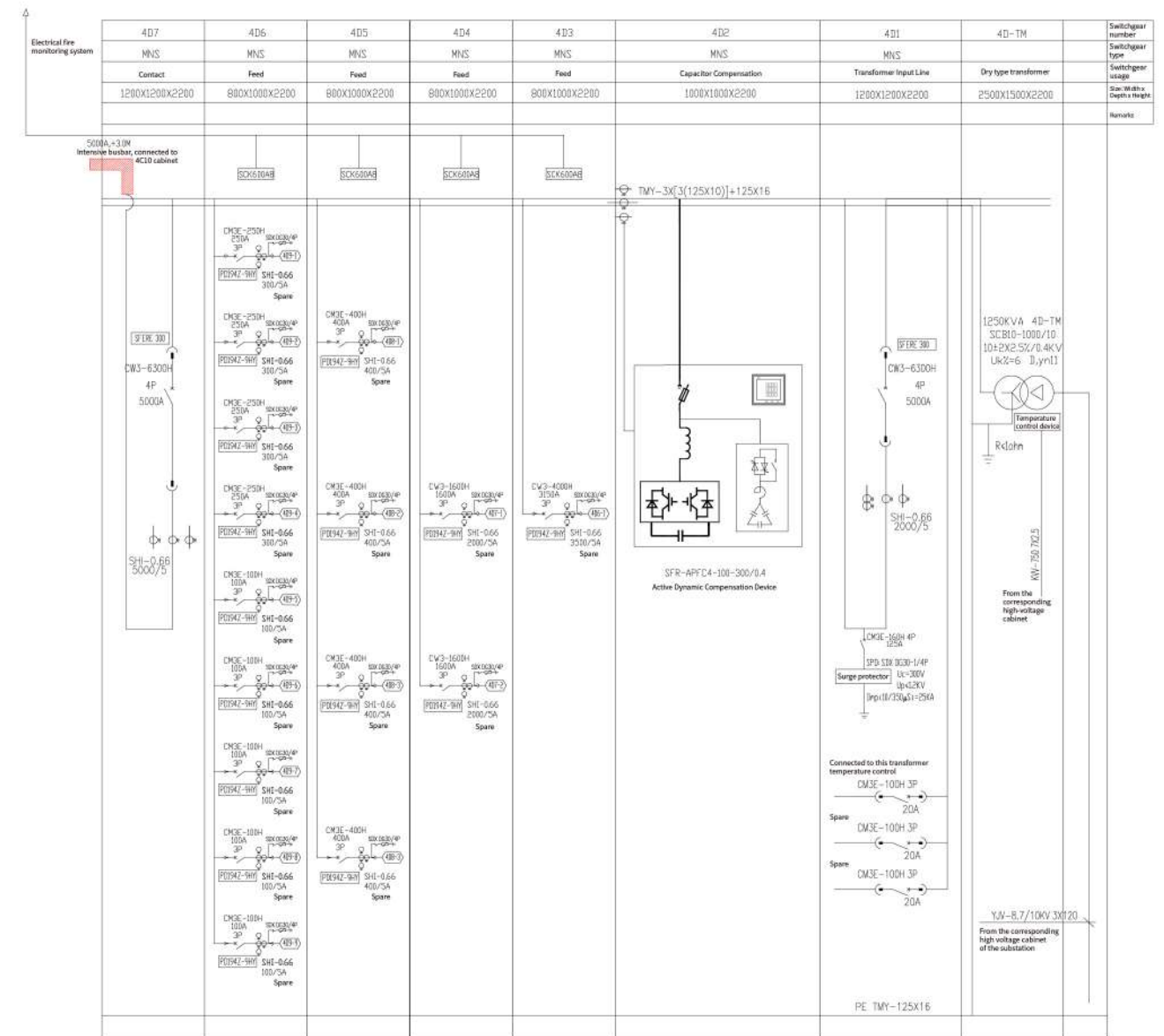
 Humanized human-computer interaction experience

 Complete equipment and system protection

**Product Parameters**

Single cabinet compensation capacity	100~400kvar	
AC input	Rated voltage	400 × (1 ± 20%)
	Rated frequency	50Hz ± 10%
	Wiring method	Three phase four wire
Technical indicators	Target power factor	0.99
	Split-phase compensation capacity	30~100%
	Harmonic compensation times	2~50 times
	Response time	≤ 10ms
	Overload protection	Automatic adjustment
Working mode	Automatic or manual	
Communication interface	RS485 / Ethernet optional	
Protection level	IP20	
Display interface	7 / 10 inch touch screen (optional)	
Altitude requirement	≤ 1000m, high altitude projects can be customized	
Parallel operation	Available	
Cooling method	Forced air cooling	
Operating environment temperature	-25°C~45°C	
Storage/transport environment	-40°C~70°C	
Working/storage relative humidity	Relative humidity 20%~95%, no condensation/ relative humidity 10%~95%, no condensation	
Single cabinet dimension	1000 × 1000 × 2200	
Noise	< 65dB(A)	
Other	Non-standard sizes can be customized, special requirements can contact SFERE	
SFR-M Module	Capacity: 10~50kvar optional	
	Reactance rate: 7% and 14% optional	

**Typical Design**



# SFR-SVGC Series Dynamic Filtering Compensation Solution

# 4

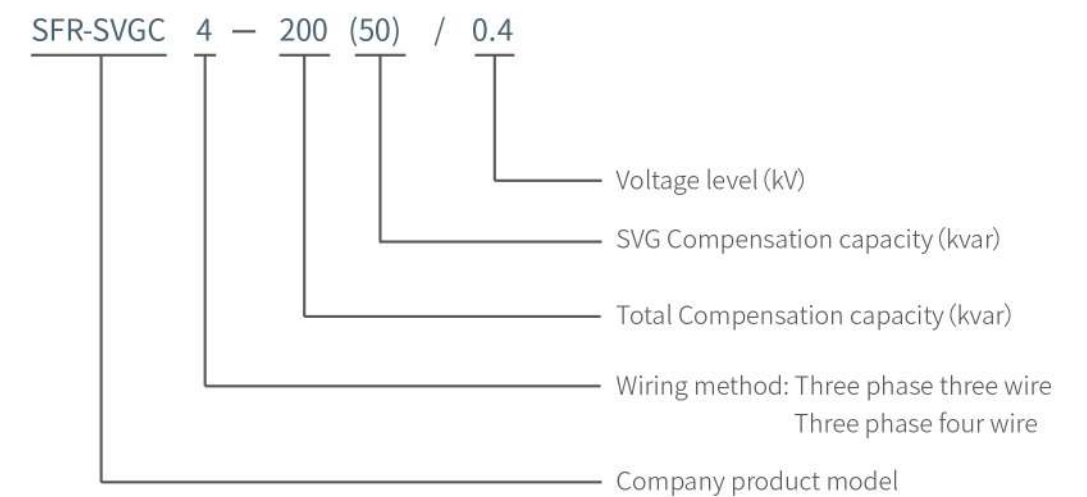
## SFR-SVGC Series

### Overview

SFR-SVGC is the combination of a SFR-SVG static reactive power compensation module and SFR-M harmonic suppression compensation module in a cabinet for accurate continuous compensation.











### Name Meaning



**Order Sample**

**SFR-SVGC4-300(50)/0.4**



Product	Model Name	Lamp type	Quantity
SVG Module	SFR-SVG4-50/0.4M		1
Reactive compensation device	SFR-M (50Kvar)		5
Reactive compensation controller	WGK-31-203		1
7 inch HMI Touch Screen	HMI		1
Schneider Switch	630A		1
Three phase digital display ammeter	S3I96		1
CT	SHI-0.66		3
Surge protector	SDXDG53		Optional

**Features of the scheme**

- Modular design, easy extension, prevent investment waste
- The total response time is less than 10ms, the control is faster, and the transient stability is improved
- Through the 7-inch LCD touch screen interface, users can clearly understand the power quality improvement of the system waveform, harmonic spectrum, THDi, THDu, current RMS, power factor and other systems before and after compensation.
- External electrical fault protection of the equipment, including busbar short circuit, over and under voltage, over and under frequency, phase sequence error, current reverse sequence, etc.

**Selection table**

Transformer capacity (kVA)	Cabinet model	Number	Recommended cabinet dimension
200	SFR-SVGC4-100(50)/0.4	1	800×800×2200
250/315	SFR-SVGC4-100(50)/0.4	1	800×800×2200
400	SFR-SVGC4-150(50)/0.4	1	800×800×2200
500/630	SFR-SVGC4-200(50)/0.4	1	800×800×2200
800	SFR-SVGC4-250(50)/0.4	1	1000×800×2200
1000	SFR-SVGC4-300(50)/0.4	1	1000×1000×2200
1250	SFR-SVGC4-375(50)/0.4	1	1000×1000×2200
1600	SFR-SVGC4-250(50)/0.4	2	1000×800×2200
2000	SFR-SVGC4-300(50)/0.4	2	1000×1000×2200
2500	SFR-SVGC4-375(50)/0.4	2	1000×1000×2200

**Feature**



Intelligent Operation



Intelligent And Flexible





Flexible Smoothing



Self-diagnosis

**Advantage**

 Flexible Application

 Excellent filtering performance

 Passed CE certification

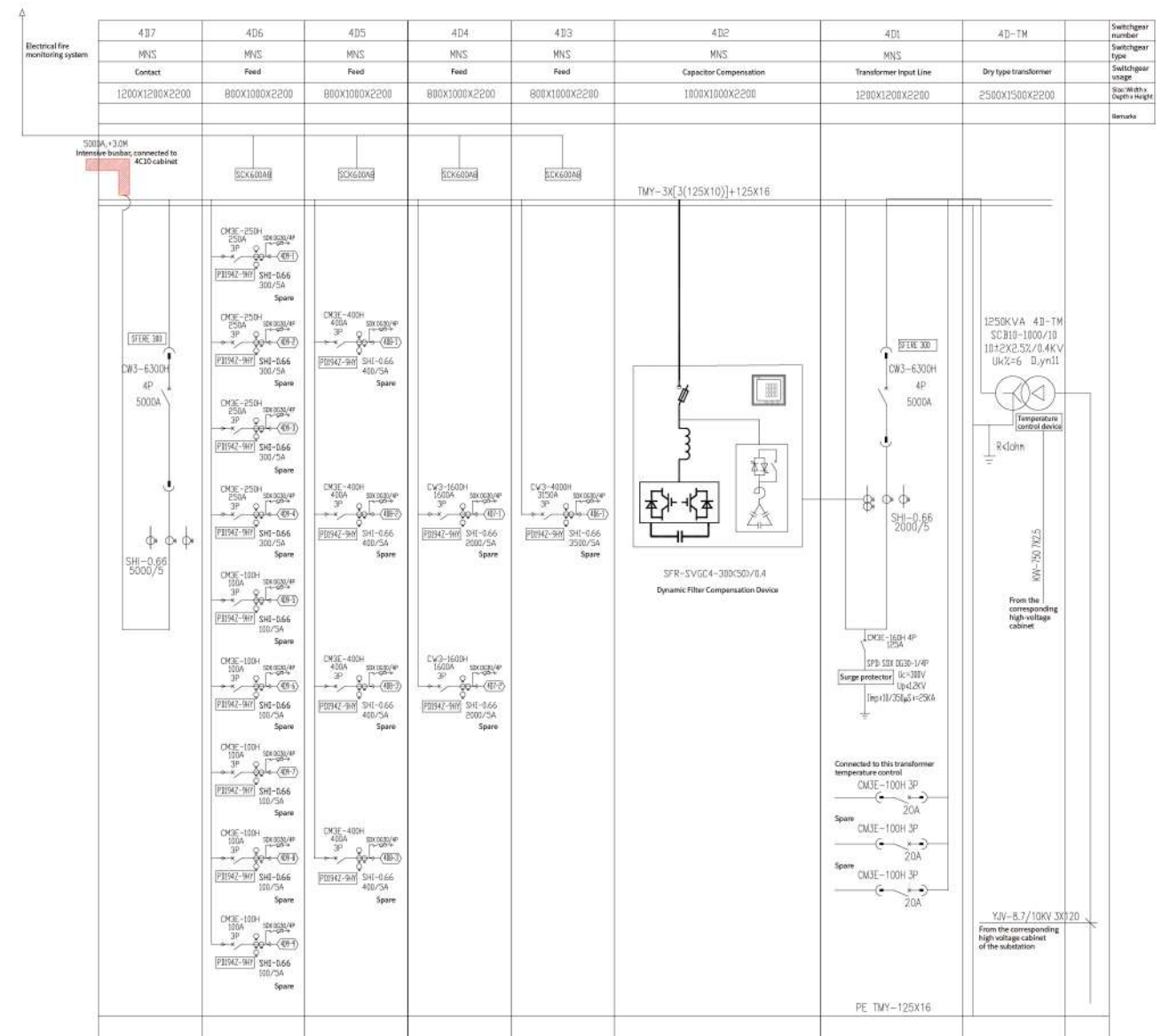
 Humanized human-computer interaction experience

 Complete equipment and system protection

**Product Parameters**

Single cabinet compensation capacity	100~400kvar	
AC input	Rated voltage	400× (1±20%)
	Rated frequency	50Hz±10%
	Wiring method	Three phase four wire
Technical indicators	Target power factor	0.99
	Split-phase compensation capacity	30~100%
	Harmonic compensation times	Specific times
	Response time	≤10ms
	Overload protection	Automatic adjustment
Working mode	Automatic or manual	
Communication interface	RS485 / Ethernet optional	
Protection level	IP20	
Display interface	7 / 10 inch touch screen (optional)	
Altitude requirement	≤1000m, high altitude projects can be customized	
Parallel operation	Available	
Cooling method	Forced air cooling	
Operating environment temperature	-25°C~45°C	
Storage/transport environment	-40°C~70°C	
Working/storage relative humidity	Relative humidity 20%~95%, no condensation/ relative humidity 10%~95%, no condensation	
Single cabinet dimension	1000×1000×2200	
Noise	<65dB(A)	
Other	Non-standard sizes can be customized, special requirements can contact SFERE	
SFR-M Module	Capacity:10~50kvar optional	
	Reactance rate:7% and 14% optional	

**Typical Design**



# SFR-LCT Series Dynamic Compensation Solution

# 5

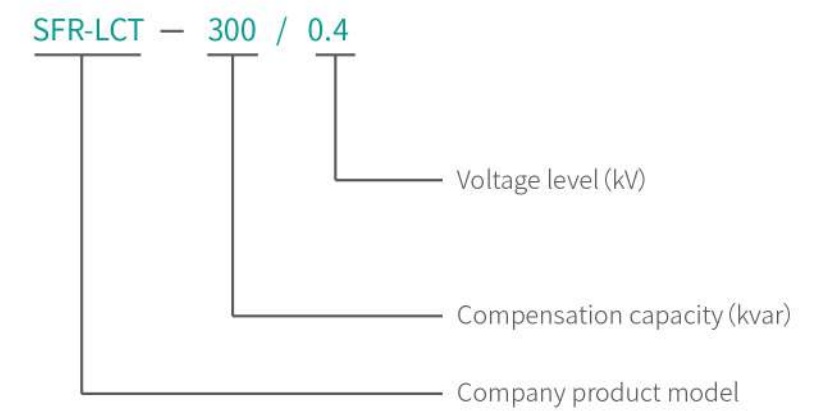
## SFR-LCT Series

### Overview

SFR-LCT is the integration of the capacitive reactance module and the thyristor switch in a cabinet to improve the power factor for the reactive power compensation and harmonic suppression achievement.










### Name Meaning





### Order Sample

Product	Model Name	Lamp type	Quantity
Compensation module	SLG		7
Thyristor switch	LBT		7
Reactive compensation controller	WGK-31-203		1
Schneider Switch	630A		1
Three phase digital display ammeter	S3I96		1
CT	SHI-0.66		3
Surge protector	SDXDG53		1

### Features of the scheme

- The intelligent monitoring module can automatically adjust the output ratio of the passive module according to the dynamic requirements of the system, and at the same time meet the compensation.
- Completely linear, dynamic output, smooth and stable, neither overcompensating nor undercompensating.

### Feature



Intelligent And Flexible



Flexible Smoothing

### Selection table

Transformer capacity (kVA)	Cabinet model	Number	Recommended cabinet dimension
200	SFR-LCT-60/0.4	1	800×800×2200
250/315	SFR-LCT-100/0.4	1	800×800×2200
400	SFR-LCT-120/0.4	1	800×800×2200
500/630	SFR-LCT-200/0.4	1	800×800×2200
800	SFR-LCT-240/0.4	1	1000×1000×2200
1000	SFR-LCT-300/0.4	1	1000×1000×2200
1250	SFR-LCT-375/0.4	1	1000×1000×2200
1600	SFR-LCT-480/0.4	1	1000×1000×2200
2000	SFR-LCT-300/0.4	2	1000×1000×2200
2500	SFR-LCT-375/0.4	2	1000×1000×2200

### Product Parameters

Single cabinet compensation capacity	100~500kvar	
AC input	Rated voltage	400×(1±20%)
	Rated frequency	50Hz±10%
	Wiring method	Three phase four wire
Technical	Target power factor	0.99
indicators	Split-phase compensation capacity	30~100%
	Harmonic compensation times	Specific times
	Response time	≤20ms
	Overload protection	Automatic adjustment
Working mode	Automatic or manual	
Communication interface	RS485 / Ethernet optional	
Protection level	IP20	
Display interface	LCD display	
Altitude requirement	≤1000m, high altitude projects can be customized	
Parallel operation	Available	
Cooling method	Forced air cooling	
Operating environment temperature	-25°C~45°C	
Storage/transport environment	-40°C~70°C	
Working/storage relative humidity	Relative humidity 20%~95%, no condensation/ relative humidity 10%~95%, no condensation	
Single cabinet dimension	1000×1000×2200	
Noise	<65dB(A)	
Other	Non-standard sizes can be customized, special requirements can contact SFERE	
SFR-M Module	Capacity: 10~60kvar optional	
	Reactance rate: 7% and 14% optional	

