



three-phase
60-4000kVA



Standard features

Voltage stabilisation	Independent phase control
Output voltage selectable via display, PC and/or Ethernet*	from 210 to 255V (L-N) from 360 to 440V (L-L)
Frequency	50/60Hz $\pm 5\%$
Admitted load variation	Up to 100%
Admitted load imbalance	100%
Cooling	Natural air ventilation. Up to 35°C aided with fans
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max relative humidity	95%
Admitted overload	200% 2 min.
Harmonic distortion	None introduced
Colour	RAL 7035
Protection degree	IP21
Instrumentation	<ul style="list-style-type: none"> – Input & output digital multimeter with RS485 port – LCD display – Reactive power regulator
Installation	Indoor
Regulator overload protection	Digital control
Communication system	Ethernet / GPRS / USB / MODBUS TCP/IP
Overvoltage protection	<ul style="list-style-type: none"> – Class I input surge arrester – Class II output surge arrester – Optimal voltage return through supercapacitors in case of blackout
Total protection and by-pass kit	<ul style="list-style-type: none"> – Input automatic circuit breaker – By-pass switch made of an interlocked automatic circuit breaker – Output interlocked motorized automatic circuit breaker with protection against overload, overvoltage, undervoltage, phase sequence error and phase failure
Integrated automatic power factor correction system	<ul style="list-style-type: none"> – Based on high energy density metallised polypropylene three-phase capacitors ($U_n = 525V$) – Three-phase blocking reactor (tuning frequency 180Hz)

* The 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 stabiliser parameters.

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Accessories

Input isolating transformer
EMI/RFI filters
Neutral point reactor
IP54 protection degree for indoor and outdoor installation

Rating in relation to the input variation percentage

±15%	±20%	±25%	±30%	+15%/-35%	+15%/-45%
125	100	80	60	80	60
160	125	100	80	100	80
200	160	125	100	125	100
250	200	160	125	160	125
320	250	200	160	200	160
400	320	250	200	250	200
500	400	320	250	320	250
630	500	400	320	400	320
800	630	500	400	500	400
1000	800	630	500	630	500
1250	1000	800	630	800	630
1600	1250	1000	800	1000	800
2000	1600	1250	1000	1250	1000
2500	2000	1600	1250	1600	1250
3200	2500	2000	1600	2000	1600
4000	3200	2500	2000	2500	2000



Sirius Advance voltage stabilisers derive from the SIRIUS type, of which they maintain the main technical characteristics.

The standard integration of some functions and accessories usually offered as optional, **complete** and **enrich** the equipment.

The **additional features** are:

- Input automatic circuit breaker;
- Bypass switch via an interlocked automatic circuit breaker;
- Output interlocked motorized automatic circuit breaker;
- Integrated automatic power factor correction system.

The input **automatic circuit breaker** (QF1) ensures protection against failure and/or short-circuits inside the unit.

The **bypass automatic circuit breaker** (QF2) protects the line supplying the load against overload and short-circuits in bypass condition.

The **output motorized automatic circuit breaker** (QF3), interlocked with the bypass switch, protects against overload, short-circuit, overvoltage, undervoltage, phase sequence error and phase failure.

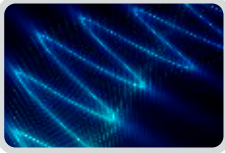
The **integrated automatic Power Factor Correction system** maintains the power factor value ($\cos \phi$) to a high level ensuring the known advantages for the users but also affecting the sizing of the stabiliser.

The PFC system exploits **high energy density metallised polypropylene three-phase capacitors (Un=525V)** exclusively thus guaranteeing **robustness** and **reliability**. The addition of blocking reactors (detuned filters) eliminates undesired harmonics and protects the capacitors.

The reactive power controller is mounted on the external control synoptic panel.

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Wide range

- symmetrical: $\pm 15\%$, $\pm 20\%$, $\pm 25\%$, $\pm 30\%$ (other on request)
 - asymmetrical: $+15\%/-35\%$, $+15\%/-45\%$ (other on request)
- Output voltage accuracy: $\pm 0.5\%$.



Technology

Control and stabilisation, performed on the **true RMS** value, are based on two **two-way DSP-microprocessor** operating with a software specifically developed, and under the supervision provided by a third **microprocessor (bodyguard)**.

Parameters and reference voltage can be **set** via a **PC**, thus allowing for solving any problems related to voltage stability directly in the field.

Independent regulation on each phase.



Long life

System voltage regulator with **rollers** (without brushes, which are subject to heavy wear & tear). **Columnar voltage regulator** make possible to achieve **high ratings** (up to 6000kVA) and a solid and reliable construction



Long life

Extended warranty: **5 years**.



Protection

The stabiliser is provided of an **electronic** voltage regulator **protection system** activates in case of overload on the voltage regulator.

In such conditions, the **load supply is not interrupted**.

The auxiliary circuit is protected by **fuses**.



Protection

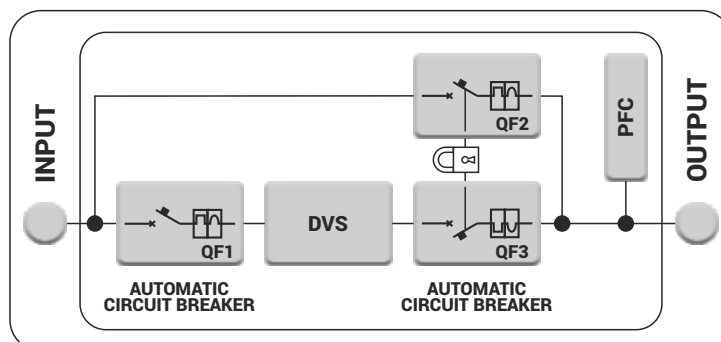
Overvoltage protection:

- Class I input **surge arrestor**.
- Class II output **surge arrestor**.



Protection

Output voltage reset to the minimum value in case of blackout by means of **supercapacitors** banks in order to ensure the correct shutdown.



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Protection

Total protection by-pass kit:

- Input automatic circuit breaker
- By-pass automatic circuit breaker
- Output motorized automatic circuit breaker



Instrumentation

Two **multi-task digital analyser** mounted on the front panel and fitted with RS485 port (linked and phase voltage current, frequency, power factor, active power, reactive power, apparent power etc.).



Power Factor Correction

The PFC system exploits **high energy density metallized polypropylene three-phase capacitors** ($U_n = 525V$) exclusively thus guaranteeing **robustness** and **reliability**. The addition of blocking reactors (**detuned filters**) eliminates undesired harmonics and protects the capacitors.



Power Factor Correction

The **reactive power regulator** RPC are designed to provide the desired power factor while minimizing the wearing on the banks of capacitors, accurate and reliable in measuring and control functions are simple and intuitive in installation and construction.



Monitoring

The local **display** embedded in the front panel enables the visualization of **operating mode** and setting data.

The stabiliser **operating mode** can be easily **monitored** by means of the **LEDs** on the front panel, which provide with **information** and **alarms**.



Monitoring

Monitoring activities can be run remotely by installing on a PC (connected to the stabiliser via Ethernet) the **STABIMON software** provided with the unit. It is also possible to communicate with the stabiliser with the **Modbus TCP/IP** protocol.



Monitoring

The control system is able to interface with the **Internet** thanks to its capability to connect with **Ethernet** and **Gprs** protocols.

This allows for a remote monitoring of the equipment, thus guaranteeing **prompt assistance** worldwide.



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Type	Input voltage variation range	Rating	Input voltage range	Maximum input current	Output voltage $\pm 0.5\%$	Output current	Efficiency	Speed regulation	Cabinet	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]	Type	[kg]

Input voltage variation range **$\pm 20\%/\pm 15\%$** (the values listed in the table are referred to 400V nominal voltage)

100-20	± 20	100	320-480	180		144		15		
125-15	± 15	125	340-460	213	400	181	>98	20	47	880
125-20	± 20	125	320-480	226		181		15		
160-15	± 15	160	340-460	272	400	231	>98	20	47	900
160-20	± 20	160	320-480	289		231		15		
200-15	± 15	200	340-460	340	400	289	>98	20	48	1150
200-20	± 20	200	320-480	361		289		15		
250-15	± 15	250	340-460	425	400	361	>98	20	48	1220
250-20	± 20	250	320-480	452		361		15		
320-15	± 15	320	340-460	544	400	462	>98	20	48	1450
320-20	± 20	320	320-480	578		462		15		
400-15	± 15	400	340-460	680	400	578	>98	20	50	1700
400-20	± 20	400	320-480	722		578		15		
500-15	± 15	500	340-460	851	400	723	>98	20	57	1880
500-20	± 20	500	320-480	903		723		15		
630-15	± 15	630	340-460	1071	400	910	>98	20	64	2200
630-20	± 20	630	320-480	1138		910		18		
800-15	± 15	800	340-460	1360	400	1156	>98	24	64	2720
800-20	± 20	800	320-480	1445		1156		18		
1000-15	± 15	1000	340-460	1700	400	1445	>98	24	72	2950
1000-20	± 20	1000	320-480	1806		1445		18		
1250-15	± 15	1250	340-460	2125	400	1806	>98	24	73	4240
1250-20	± 20	1250	320-480	2258		1806		18		
1600-15	± 15	1600	340-460	2720	400	2312	>98	24	74	5500
1600-20	± 20	1600	320-480	2890		2312		18		
2000-15	± 15	2000	340-460	3400	400	2890	>98	24	75	5980
2000-20	± 20	2000	320-480	3613		2890		22		
2500-15	± 15	2500	340-460	4251	400	3613	>98	30	85	7840
2500-20	± 20	2500	320-480	4516		3613		22		
3200-15	± 15	3200	340-460	5440	400	4624	>98	30	87	9600
3200-20	± 20	3200	320-480	5780		4624		27		
4000-15	± 15	4000	340-460	6800	400	5780	>98	36	95	12800

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Type	Input voltage variation range	Rating	Input voltage range	Maximum input current	Output voltage $\pm 0.5\%$	Output current	Efficiency	Speed regulation	Cabinet	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]	Type	[kg]

Input voltage variation range **$\pm 30\%/ \pm 25\%$** (the values listed in the table are referred to 400V nominal voltage)

60-30	± 30	60	280-520	124		87		10		
80-25	± 25	80	300-500	154	400	116	>98	12	47	880
80-30	± 30	80	280-520	165		116		10		
100-25	± 25	100	300-500	193	400	144	>98	12	47	900
100-30	± 30	100	280-520	206		144		10		
125-25	± 25	125	300-500	241	400	181	>98	12	48	1150
125-30	± 30	125	280-520	258		181		10		
160-25	± 25	160	300-500	308	400	231	>98	12	48	1220
160-30	± 30	160	280-520	330		231		10		
200-25	± 25	200	300-500	385	400	289	>98	12	48	1450
200-30	± 30	200	280-520	413		289		10		
250-25	± 25	250	300-500	482	400	361	>98	12	50	1700
250-30	± 30	250	280-520	516		361		10		
320-25	± 25	320	300-500	617	400	462	>98	12	57	1880
320-30	± 30	320	280-520	661		462		10		
400-25	± 25	400	300-500	770	400	578	>98	12	64	2200
400-30	± 30	400	280-520	826		578		12		
500-25	± 25	500	300-500	963	400	723	>98	15	64	2720
500-30	± 30	500	280-520	1032		723		12		
630-25	± 25	630	300-500	1214	400	910	>98	15	72	2950
630-30	± 30	630	280-520	1300		910		12		
800-25	± 25	800	300-500	1541	400	1156	>98	15	73	4240
800-30	± 30	800	280-520	1651		1156		12		
1000-25	± 25	1000	300-500	1927	400	1445	>98	15	74	5500
1000-30	± 30	1000	280-520	2064		1445		12		
1250-25	± 25	1250	300-500	2408	400	1806	>98	15	75	5980
1250-30	± 30	1250	280-520	2580		1806		15		
1600-25	± 25	1600	300-500	3083	400	2312	>98	18	85	7840
1600-30	± 30	1600	280-520	3303		2312		15		
2000-25	± 25	2000	300-500	3853	400	2890	>98	18	87	9600
2000-30	± 30	2000	280-520	4130		2892		18		
2500-25	± 25	2500	300-500	4817	400	3613	>98	22	95	12800

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Type	Input voltage variation range	Rating	Input voltage range	Maximum input current	Output voltage $\pm 0.5\%$	Output current	Efficiency	Speed regulation	Cabinet	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]	Type	[kg]

Input voltage variation range **+15%/-35%** (the values listed in the table are referred to 400V nominal voltage)

80-15/35	+15/-35	80	260-460	178	400	116	>98	12	47	1000
100-15/35	+15/-35	100	260-460	222	400	144	>98	12	47	1030
125-15/35	+15/-35	125	260-460	278	400	181	>98	12	48	1300
160-15/35	+15/-35	160	260-460	356	400	231	>98	12	48	1420
200-15/35	+15/-35	200	260-460	444	400	289	>98	12	48	1650
250-15/35	+15/-35	250	260-460	556	400	361	>98	12	58	2100
320-15/35	+15/-35	320	260-460	711	400	462	>98	12	58	2220
400-15/35	+15/-35	400	260-460	889	400	578	>98	12	65	2600
500-15/35	+15/-35	500	260-460	1111	400	723	>98	15	65	3420
630-15/35	+15/-35	630	260-460	1400	400	910	>98	15	71	3700
800-15/35	+15/-35	800	260-460	1778	400	1156	>98	15	73	5040
1000-15/35	+15/-35	1000	260-460	2223	400	1445	>98	15	74	5950
1250-15/35	+15/-35	1250	260-460	2779	400	1806	>98	15	76	6480
1600-15/35	+15/-35	1600	260-460	3557	400	2312	>98	18	86	9540
2000-15/35	+15/-35	2000	260-460	4446	400	2890	>98	18	95	11350
2500-15/35	+15/-35	2500	260-460	5558	400	3613	>98	22	C30	15500

Input voltage variation range **+15%/-45%** (the values listed in the table are referred to 400V nominal voltage)

60-15/45	+15/-45	60	220-460	158	400	87	>98	10	47	1080
80-15/45	+15/-45	80	220-460	211	400	116	>98	10	47	1130
100-15/45	+15/-45	100	220-460	262	400	144	>98	10	48	1450
125-15/45	+15/-45	125	220-460	329	400	181	>98	10	48	1520
160-15/45	+15/-45	160	220-460	420	400	231	>98	10	48	1800
200-15/45	+15/-45	200	220-460	525	400	289	>98	10	58	2300
250-15/45	+15/-45	250	220-460	656	400	361	>98	10	58	2420
320-15/45	+15/-45	320	220-460	840	400	462	>98	10	65	2800
400-15/45	+15/-45	400	220-460	1051	400	578	>98	12	65	3720
500-15/45	+15/-45	500	220-460	1315	400	723	>98	12	71	4050
630-15/45	+15/-45	630	220-460	1655	400	910	>98	12	73	5440
800-15/45	+15/-45	800	220-460	2102	400	1156	>98	12	74	6400
1000-15/45	+15/-45	1000	220-460	2627	400	1445	>98	12	76	6980
1250-15/45	+15/-45	1250	220-460	3284	400	1806	>98	15	86	10540
1600-15/45	+15/-45	1600	220-460	4204	400	2312	>98	15	C30	12400
2000-15/45	+15/-45	2000	220-460	5254	400	2890	>98	18	C30	16800