

SIRIUS ADVANCE

THREE-PHASE 60-4000kVA

Standard features



Voltage stabilisation	Independent phase control
Output voltage selectable via display, PC and/or Ethernet*	from 210V to 255V (L-N) from 360V to 440V (L-L)
Output voltage accuracy	±0,5%
Frequency	50Hz ±5% or 60Hz ±5%
Admitted load variation	Up to 100%
Admitted load imbalance	100%
Cooling	Natural ventilation From 35°C aided with fans
Ambient temperature	-25/+45°C
Storage temperature	-25/+60°C
Max relative humidity	<95% (non condensing)
Admitted overload	200% 2min.
Harmonic distortion	None introduced
Colour	RAL 7035
Protection degree	IP 21
User interface	<ul style="list-style-type: none"> • 10" touch panel (multilingual) remotely available via VNC • Reactive power regulator
Installation	Indoor
Regulator overload protection	Digital control
Communication system	Ethernet / USB / MODBUS
Overvoltage protection	<ul style="list-style-type: none"> • Class I input surge arrestors • Class II output surge arrestors • Optimal voltage return through supercapacitors in case of black-out
Full 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 PFC automatic system	<ul style="list-style-type: none"> • Based on high-energy density metallized polypropylene three-phase capacitors (Un = 525V) • Three-phase blocking reactor (tuning frequency 180Hz)"

* 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.



All ORTEA equipments are designed and built in compliance with the Low Voltage and Electromagnetic Compatibility European Directives with regard to the CE marking requirements. ORTEA products are built with suitable quality components and that the manufacturing process is constantly verified in accordance with the Quality Control Plans which the Company applies in compliance with the ISO 9001 Standards. The commitment towards environmental issues and safety at work issues is guaranteed by the certification of the Management System according to the ISO14001 and OHSAS18001 Standards. In order to obtain better performance, the products described in the present document can be altered by the Company at any date and without prior notice. Technical data and descriptions do not hold therefore any contractual value.

Ratings in relation to the input variation percentage

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

Accessories

Input isolating transformer

EMI/RFI filters

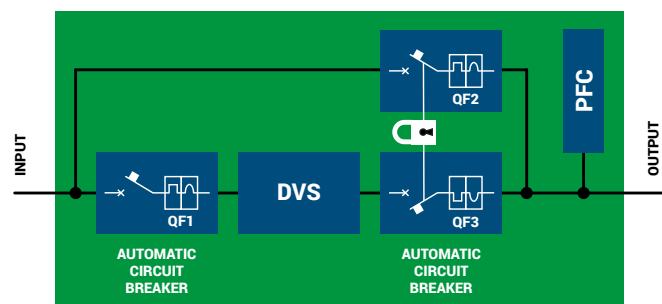
Neutral point reactor

Up to IP55 protection degree for indoor and outdoor installation

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.



WIDE RANGE

±15%, ±20%, ±25%, ±30% (other on request).
Output voltage accuracy: ±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 for Ortea 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

Ortea 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.



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 arrester.
- Class II output surge arrester.



PROTECTION

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



PROTECTION

Total protection by-pass kit:

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



USER INTERFACE

Multilingual 10" touch panel fitted with RS485 port (linked and phase voltage current, frequency, power factor, active power, reactive power, apparent power etc.). The touch panel also displaying all the information regarding each phase operating mode ('power on'; reaching of voltage regulation limits; increase/decrease of voltage regulation, etc.) and the possible alarms (minimum and maximum voltage, maximum current, overtemperature, etc.). The display is remotable using VNC software.



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.



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.

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 shortcircuits 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 ($\cos \varphi$) 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 ($U_n=525V$) 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.



Type	Input variation	Rated power	Input voltage range	Max input current	Output voltage	Rated output current	Eff.	Adjus. speed	Cabinet type	Cabinet dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

Sirius advance $\pm 20\%/\pm 15\%$

100-20	± 20	100	320-480	180	400	144	>98	15	47	1600x800x1800	830
125-15	± 15	125	340-460	212	400	180	>98	20	47	1600x800x1800	830
125-20	± 20	125	320-480	226	400	180	>98	15	47	1600x800x1800	900
160-15	± 15	160	340-460	272	400	231	>98	20	47	1600x800x1800	900
160-20	± 20	160	320-480	289	400	231	>98	15	48	2200x800x1800	970
200-15	± 15	200	340-460	340	400	289	>98	20	48	2200x800x1800	970
200-20	± 20	200	320-480	361	400	289	>98	15	48	2200x800x1800	1070
250-15	± 15	250	340-460	425	400	361	>98	20	48	2200x800x1800	1070
250-20	± 20	250	320-480	451	400	361	>98	15	48	2200x800x1800	1250
320-15	± 15	320	340-460	543	400	462	>98	20	48	2200x800x1800	1250
320-20	± 20	320	320-480	577	400	462	>98	15	50	2400x800x1800	1500
400-15	± 15	400	340-460	679	400	577	>98	20	50	2400x800x1800	1500
400-20	± 20	400	320-480	722	400	577	>98	15	57	2400x800x2000	1880
500-15	± 15	500	340-460	849	400	722	>98	20	57	2400x800x2000	1880
500-20	± 20	500	320-480	902	400	722	>98	15	64	3000x1000x2000	2200
630-15	± 15	630	340-460	1070	400	909	>98	20	64	3000x1000x2000	2200
630-20	± 20	630	320-480	1137	400	909	>98	18	64	3000x1000x2000	2720
800-15	± 15	800	340-460	1359	400	1155	>98	24	64	3000x1000x2000	2720
800-20	± 20	800	320-480	1443	400	1155	>98	18	72	4800x1000x2100	2950
1000-15	± 15	1000	340-460	1698	400	1443	>98	24	72	4800x1000x2100	2950
1000-20	± 20	1000	320-480	1804	400	1443	>98	18	73	5400x1000x2100	4240
1250-15	± 15	1250	340-460	2123	400	1804	>98	24	73	5400x1000x2100	4240
1250-20	± 20	1250	320-480	2255	400	1804	>98	18	74	6000x1000x2100	5000
1600-15	± 15	1600	340-460	2717	400	2309	>98	24	74	6000x1000x2100	5000
1600-20	± 20	1600	320-480	2887	400	2309	>98	18	75	6600x1000x2100	5800
2000-15	± 15	2000	340-460	3396	400	2887	>98	24	75	6600x1000x2100	5800
2000-20	± 20	2000	320-480	3609	400	2887	>98	22	85	6600x1400x2200	7100
2500-15	± 15	2500	340-460	4245	400	3609	>98	30	88	7000x1400x2200	7100
2500-20	± 20	2500	320-480	4511	400	3609	>98	22	88	7000x1400x2200	8350
3200-15	± 15	3200	340-460	5434	400	4619	>98	30	89	8000x1400x2200	8350
3200-20	± 20	3200	320-480	5774	400	4619	>98	27	95	8400x2000x2400	11800
4000-15	± 15	4000	340-460	6793	400	5774	>98	36	95	8400x2000x2400	11800

The values listed in the table are referred to 400V nominal voltage

Type	Input variation	Rated power	Input voltage range	Max input current	Output voltage	Rated output current	Eff.	Adjus. speed	Cabinet type	Cabinet dimensions WxDxH	Weight
	[%]	[kVA]	[V]	[A]	[V]	[A]	[%]	[ms/V]		[mm]	[kg]

Sirius advance ±30%/±25%

60-30	±30	60	280-520	124	400	87	>98	10	47	1600x800x1800	830
80-25	±25	80	300-500	154	400	115	>98	12	47	1600x800x1800	830
80-30	±30	80	280-520	165	400	115	>98	10	47	1600x800x1800	900
100-25	±25	100	300-500	192	400	144	>98	12	47	1600x800x1800	900
100-30	±30	100	280-520	206	400	144	>98	10	48	2200x800x1800	970
125-25	±25	125	300-500	241	400	180	>98	12	48	2200x800x1800	970
125-30	±30	125	280-520	258	400	180	>98	10	48	2200x800x1800	1070
160-25	±25	160	300-500	308	400	231	>98	12	48	2200x800x1800	1070
160-30	±30	160	280-520	330	400	231	>98	10	48	2200x800x1800	1250
200-25	±25	200	300-500	385	400	289	>98	12	48	2200x800x1800	1250
200-30	±30	200	280-520	412	400	289	>98	10	50	2400x800x1800	1500
250-25	±25	250	300-500	481	400	361	>98	12	50	2400x800x1800	1500
250-30	±30	250	280-520	516	400	361	>98	10	57	2400x800x2000	1880
320-25	±25	320	300-500	616	400	462	>98	12	57	2400x800x2000	1880
320-30	±30	320	280-520	660	400	462	>98	10	64	3000x1000x2000	2200
400-25	±25	400	300-500	770	400	577	>98	12	64	3000x1000x2000	2200
400-30	±30	400	280-520	825	400	577	>98	12	64	3000x1000x2000	2720
500-25	±25	500	300-500	962	400	722	>98	15	64	3000x1000x2000	2720
500-30	±30	500	280-520	1031	400	722	>98	12	72	4800x1000x2100	2950
630-25	±25	630	300-500	1212	400	909	>98	15	72	4800x1000x2100	2950
630-30	±30	630	280-520	1299	400	909	>98	12	73	5400x1000x2100	4240
800-25	±25	800	300-500	1540	400	1155	>98	15	73	5400x1000x2100	4240
800-30	±30	800	280-520	1650	400	1155	>98	12	74	6000x1000x2100	5000
1000-25	±25	1000	300-500	1925	400	1443	>98	15	74	6000x1000x2100	5000
1000-30	±30	1000	280-520	2062	400	1443	>98	12	74	6000x1000x2100	5800
1250-25	±25	1250	300-500	2406	400	1804	>98	15	74	6000x1000x2100	5800
1250-30	±30	1250	280-520	2578	400	1804	>98	15	84	6000x1400x2200	7100
1600-25	±25	1600	300-500	3079	400	2309	>98	18	84	6000x1400x2200	7100
1600-30	±30	1600	280-520	3299	400	2309	>98	15	84	6000x1400x2200	8350
2000-25	±25	2000	300-500	3849	400	2887	>98	18	85	6600x1400x2200	8350
2000-30	±30	2000	280-520	4124	400	2887	>98	18	95	8400x2000x2400	11800
2500-25	±25	2500	300-500	4811	400	3609	>98	22	95	8400x2000x2400	11800

The values listed in the table are referred to 400V nominal voltage