K-FACTOR
THE VOLTAGE YOU NEED

APS

SINGLE PHASE – THREE TO SINGLE PHASE – THREE PHASE

A.C. POWER SOURCE DRIVES
adjustable output voltage
selectable/adjustable frequency

TECHNICAL SPECIFICATION

FULLY STATIC electronic FREQUENCY CONVERTER
Adjustable output voltage
Static electronic voltage stabilizer
A P S

The **APS** frequency converter is a compact and lightweight equipment made with an innovative technology, it is available in three formats (rack, tower, or on plate for small powers). The tower configuration is equipped with 4 pivoting wheels. Designed using the most modern technology (**PWM voltage generation in H.F. –high frequency- at IGBT, double conversion**), it is an extremely reliable and multifunctional equipment.

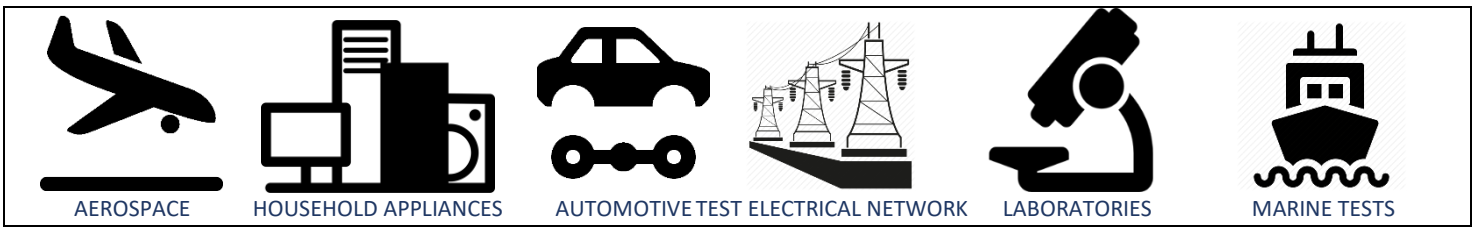
Electronic stabilizer
Equipped with a self-transformer (or isolation transformer on request), it constantly ensures the stability of the value of the voltage supplied and set, even if higher than the input voltage.

Electronic voltage variator
Comparable to a stabilizer - traditional motorized voltage lifter, through an electronic circuit it reproduces the voltage supplied and, in a very rapid intervention time (< 1 mS), even in the event of a change in the load or input mains voltage, ensures power to the connected users. It is possible to arrange the adjustment and / or setting of the output voltage both from the front panel and from the 0-10 V input (the power supply must deliver at least 5mA)

Frequency converter
This equipment allows the delivery of a voltage, with a frequency different from that of the power line, with a perfectly sinusoidal waveform. Engineered for particular industrial applications, depending on the power and/or application, it can be housed in rack modules or in mobile towers. For high powers, the transformer is generally housed in an ergonomically similar piece of furniture and placed under the equipment.

APPLICATIONS

The equipment can be used for various applications, from test benches to carry out tests of electrical and electronic equipment (motors, resistors, solenoid valves, etc ..), to **industrial production lines, where due to repetitive** variations on the network, high voltage peaks and / or voltage drops, it requires the most absolute stability. For the equipment, equipped with a special transformer, the total immunity of the load from any disturbances coming from and passing through the main distribution network is ensured.



SYSTEM ADVANTAGES

Why equip yourself with an electronic stabilizer?
Like electromechanical stabilizers and uninterruptible power supplies, this is typically an equipment specifically designed for the protection of connected loads.
However, with respect to the above-mentioned equipment it is possible to identify the following reasons for preferring an electronic stabilizer over electromechanical stabilizers:

- Significantly smaller dimensions and weights, therefore better handling.
- Absence of moving mechanical parts, therefore no wear, no need for maintenance and consequently no operating costs.
- Higher efficiency, which translates into lower energy consumption.
- **Dynamic response speed (< 1 mS)** resulting in better performance and greater protection of the connected load.
- Greater precision in stabilization.
- Elimination of impurities of the power supply network (the voltage supplied is generated by a continuous), to the advantage of the protection and performance of the connected equipment.

frequency converter
electronic voltage variator - voltage stabilizer
A P S

MAIN FEATURES

Equipped with autotransformer [optional isolation transformer]
TL version available without autotransformer

supported network type standard	**available powers (kVA)**
single-phase input and output	1.5 – 3.5 – 5 – 7.5
three-phase input single-phase output	10 – 17.5 – 25
three-phase input and output	9 – 15 – 21 – 30 – 45 – 60 – 80 – 100

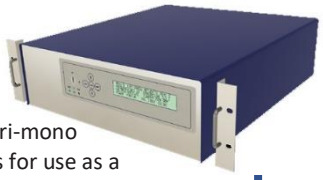
3 upgrade packages available to meet all possible configurations [Standard, Pro, Advanced]

STRUCTURES

PLATE
only single-phase versions
Standard equipment

MAXI TOWER
three-phase from 45kVA to 100kVA

RACK 19"
single-phase and tri-mono
removable rack flanges for use as a bench box
powder coated blue RAL5002



TOWER
Tri to single phase and three-phase up to 30kVA

ADDITIONAL FEATURES

Voltage regulation [2-150Vac and 4-300Vac]
Remote Sensing Function [2-Wire and 4-Wire Options]
Frequency adjustment [40-80Hz]
Current regulation
Setting the maximum current value
Available output frequencies 50Hz, 60Hz and 400Hz quartz
Displaying Cos Φ and Frequency Values
Output phase modulation in THREE-PHASE models [0°, 120°, 180 °] or 0°
synchronization of the three phases to obtain a single-phase output [TS] or 120° - European three-phase or 180° - American two-phase

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frequency converter
electronic voltage variator - voltage stabilizer
A P S

STANDARD

STANDARD configuration
Plate single-phase version
Panel with solor remote control and LED indicators

STANDARD

STANDARD configuration
RACK version
Single-phase and three-phase

LED LCD display 2x16 characters
potentiometer
Led status indicators

PRO

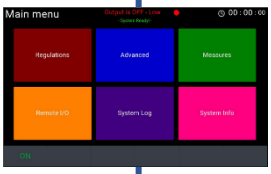
FOR Configuration
RACK/TOWER/MAXITOWER version
Single-phase, three-phase, three-phase

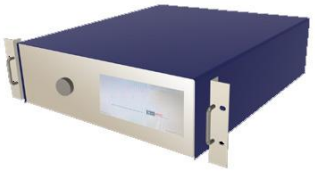
LCD display 4x40 characters
command buttons
Led status indicators

ADVANCED

ADVANCED Configuration
RACK/TOWER/MAXITOWER version
Single-phase, three-phase, three-phase

LCD Optional Touchscreen
Only on ADVANCED configuration





PRODUCT CODE GENERATION

APS - S - 11 - 003 - P - A

- **S** Standard / P Pro / A Advanced
- **11** single phase / 31 tri-single phase / 33 Triphase
- **003** POWER (KVA)
- **P** Plate / R Rack 19" / T Tower
- **A** Autotransformer / I Isolation transformer / TL Trafoless

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		APS			APS-TL The TL version is transformerless and is only available in single-phase or three-single-phase version		
CONFIGURATION		**STANDARD**	**PRO**	**ADVANCED**	**STANDARD**	**PRO**	**ADVANCED**
Single phase	1.5-3-5-7.5 kVA	✓	✓	✓	✓	✓	✓
THREE to single phase	10-17.5-25 kVA	✓	✓	✓	✓	✓	✓
Three phase	9-15-21-30-60-80-100 kVA	✓	✓	✓	Optional	Optional	Optional
Autotransformer		✓	✓	✓	-	-	-
Insulation transformer		Optional up to 30kVA standard from 45 to 150kVA			-	-	-
Output voltage regulation	LOCAL	125 ± 25Vac 250 ± 50Vac	2-150Vac 4-300Vac		Single phase: from 2Vac to Vin.4Vac Three-phase: 2-300Vac		
	REMOTE	2-150Vac 4-300Vac					
Voltage range switching LOW 150Vac and HIGH 300Vac		Manual	Manual and automatic		-	-	-
Sensing function		✓	✓	✓	-	-	-
Maximum current setup		-	✓	✓	-	✓	✓
Current adjustment		-	-	✓	-	-	✓
Output frequency 50-60Hz		✓	✓	✓	✓	✓	✓
Output frequency 50-60-400Hz		-	✓	✓	-	✓	✓
Frequency adjustment from 40Hz to 80Hz		-	✓	✓	-	✓	✓
Offset modulation of phases (three-phase only)		-	-	0°-120°-180°	-	-	0°-120°-180°
Communication interfaces (remote control)		RS232+Ethernet with prot. SCPI and analog I/O 12 poles with 0:10Vdc. Three-single-phase rack: RS232 (optional ethernet) with ASCII code (optional SCPI) and analog I/O 10 poles with 0:10Vdc			RS232+Ethernet with prot. SCPI and analog I/O 12 poles with 0:10Vdc. Three-single-phase rack: RS232 (optional ethernet) with ASCII code (optional SCPI) and analog I/O 10 poles with 0:10Vdc		
Panel with only LED indicators (remote control)		plate only single-phase	-	-	plate only single-phase	-	-
2 led lines + command buttons		solo rack 19" tri-mono			only 19" tri-mono rack		
LCD Display [2x16] + Potentiometer		single-phase only	-	-	single-phase only	-	-
LCD Display [4X40] + control buttons		only tower	✓	✓	only tower	✓	✓
LCD Touch control Panel [7"] + Encoder		-	-	optional	-	-	optional

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A P S s i n g l e - p h a s e

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output transformer	Autotransformer – optional isolation transformer			
Efficiency at full load	> 93%			
VOLTAGES				
Input voltage	190 - 267 Vac			
Sensing	YES- (maximum voltage drop 5%)			
Total Harmonic Distortion (THD)	< 1%			
Static adjustment	< 1%			
Static adjustment according to load	< 1%			
Dynamic stability of the output voltage according to load variation	< 0.5%			
Response time to load or network changes	< 1 ms			
CURRENT				
RMS at 150Vac and 300Vac	10 A - 5 A	20 A - 10 A	33.3 A - 16.6 A	50 A - 25 A
Insertion current at 150Vac and 300Vac [6s]	15 A - 7.5 A	30 A - 15 A	50 A - 25 A	75 A - 37.5 A
FREQUENCY				
Input range	47Hz - 63 Hz			
Output (selectable)	50Hz and 60 Hz [± 0.01%]			
OTHER DATA				
Ridge factor	4 : 1			
Noise level	Min 30dbA Max 60dBA			
Protections	OVP, UVP, OCP, OTP			
COMMUNICATION INTERFACES				
Analog	I/O 12 poles 0-10Vdc [response accuracy ± 1%]			
RS232	YES			
Ethernet	YES			
Communication Protocols / Drivers	SCPI (over RS-232 and Ethernet) / LabView Drivers			
Reference Voltage of remote controls	Common ground with ground line			
ENVIRONMENTAL CONDITIONS				
Cooling	Forced air			
Operating temperature	0° to +40°C			
Storage temperature	-40° to +85°C			
REGULATIONS				
SECURITY & EMC	EN 62040-1, EN 62040-2, EN62040-3, EN 62368-1			

Configuration
STANDARD

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output and switching voltage ranges	LOW RANGE 2-150Vac / HIGH RANGE 4-300Vaccomutazione LOW/HIGH MANUAL with control panel (RACK) or remote control (PLATE)			
Adjustment system	RACK: Local [potentiometer] 125 ± 25Vac and 250 ± 50Vac PLATE AND RACK: Remote [interface]: 2-150Vac and 4-300Vac			
Maximum current setting	-			
Functioning and adjustment	-			
CONTROL PANEL				
Forehead	PLATE: LED indicators only RACK: 2 x 16 displays			
Precision and LCD Display voltage and current	± 2 DIGIT			
LCD Display voltage and current resolution	± 0.5			
Cos visualization	-			
Frequency Value Display	-			
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]				
Plate dimensions (W x H x D) mm	420 x 132.5 x 500	420 x 132.5 x 500420 x 265 x 500	420 x 132.5 x 500 2 x 420 x 265 x 500	420 x 132.5 x 500 2 x 420 x 265 x 500
Plate weight	14 / 21 kg	18 / 27 kg	22 / 31 kg	29 / 44 kg
Rack19" Dimensions mm	3U D540 included 40mm handle	3U D540 included 40mm handle	3U D540 2 x 3U D540	3U D540 2 x 3U D540
Rack 19" weight	14 / 21 kg	18 / 27 kg	22 / 31 kg	29 / 44 kg

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S i n g l e - p h a s e A P S

Configuration PRO

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output and switching voltage ranges	LOW RANGE 2-150Vac / HIGH RANGE 4-300Vacting LOW/HIGH MANUAL and AUTOMATIC control with control panel (RACK) or remote control			
Adjustment system	Local [command buttons] and Remote [interface]: 2-150Vac and 4-300Vac			
Maximum current setting	YES'			
Functioning and adjustment	-			
Additional output frequency (selectable)	400Hz [± 0.01%]			
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 0.01%]			
CONTROL PANEL				
LCD Display	4 x 40 characters			
Precision and LCD Display voltage and current	± 2 DIGIT			
LCD Display voltage and current resolution	± 0.5			
Cos visualization	YES'			
Frequency Value Display	YES'			
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]				
Rack19" Dimensions mm	3U D540 included40mm handle	3U D540 included 40mm handle	3U D540 2 x 3U D540	3U D540 2 x 3U D540
Rack 19" weight	14 / 21 kg	18 / 27 kg	22 / 31 kg	29 / 44 kg

Configuration ADVANCED

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output and switching voltage ranges	LOW RANGE 2-150Vac / HIGH RANGE 4-300Vacting LOW/HIGH MANUAL and AUTOMATIC control with control panel (RACK) or remote control			
Adjustment system	Local [command buttons] and Remote [interface]: 2-150Vac and 4-300Vac			
Maximum current setting	YES'			
Functioning and adjustment	YES'			
Additional output frequency (selectable)	400Hz [± 0.01%]			
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 1% from control panel] 40Hz to 80Hz [± 0.01% from 7" touch screen]			
CONTROL PANEL				
LCD Display	4 x 40 characters			
Precision and LCD Display voltage and current	± 2 DIGIT			
LCD Display voltage and current resolution	± 0.5			
Cos visualization	YES'			
Frequency Value Display	YES'			
7" touch control panel	OPTIONAL			
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]				
Rack19" dimensions mm	3U D540 included 40mm handle	3U D540 included 40mm handle	3U D540 2 x 3U D540	3U D540 2 x 3U D540
Rack 19" weight	14 / 21 kg	18 / 27 kg	22 / 31 kg	29 / 44 kg

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Three-phase APS

POWER	10 kVA	17.5 kVA	25 kVA
Output transformer	Autotransformer – optional isolation transformer		
Efficiency at full load	> 93%		
VOLTAGES			
Input voltage	350 - 440 Vac three-phase + N		
Sensing	YES- (maximum voltage drop 5%)		
Total Harmonic Distortion (THD)	< 1%		
Static adjustment	< 1%		
Static adjustment according to load	< 1%		
Dynamic stability of the output voltage according to load variation	< 0.5%		
Response time to load or network changes	< 1 ms		
CURRENT			
RMS at 150Vac and 300Vac	66 A / 33 A	116.6 A / 58.3 A	166.6 A / 83.3 A
Insertion current at 150Vac and 300Vac [6s]	99 A / 49.5 A	175 A / 87.5 A	250 A / 125 A
FREQUENCY			
Input range	47Hz - 63 Hz		
Output (selectable)	50Hz and 60 Hz [± 0.01%]		
OTHER DATA			
Ridge factor	4 : 1		
Noise level	60dBA		70dBA
Protections	OVP, UVP, OCP, OTP		
COMMUNICATION INTERFACES			
Analog	RACK 19" I/O 10 poles MINITOWER I/O 12 poles both 0-10Vdc control [response accuracy ± 1%]		
RS232	YES'		
Ethernet	RACK 19" adapter available MINITOWER : YES		
Communication Protocols / Drivers	Rack 19" - standard ASCII code, optional adapter SCPIMini Tower - SCPI and LabView Drivers		
Reference Voltage of remote controls	Common ground with ground line		
ENVIRONMENTAL CONDITIONS			
Cooling	Forced air		
Operating temperature	0° to +40°C		
Storage temperature	-40° to +85°C		
REGULATIONS			
SECURITY & EMC	EN 62040-1, EN 62040-2, EN62040-3, EN 62368-1		

Configuration
STANDARD

POWER	10 kVA	17.5 kVA	25 kVA
Output and switching voltage ranges	LOW RANGE 2-150Vac / HIGH RANGE 4-300Vaccomutazione LOW/HIGH MANUAL with control panel (RACK) or remote control (PLATE)		
Adjustment system	Local and Remote [interface]: 2-150Vac and 4-300Vac		
Maximum current setting	-		
Functioning and adjustment	-		
CONTROL PANEL			
Lcd	RACK: 2 x 16 displays Minitower: 4x40 characters		
Precision and LCD Display voltage and current	± 2 DIGIT		
LCD Display voltage and current resolution	± 0.5		
Cos visualization	-		
Frequency Value Display	-		
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]			
Rack19" Dimensions mm	(6U + 5U) D560including 40mmhands glie	(6U + 5U) D720including 40mm handlesand	-
Rack 19" weight	36 / 46 kg	62 / 72 kg	-
Tower Dimensions (W x H x D)	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm
Tower weight	95 / 105 kg	100 / 110 kg	120 / 135 kg

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Three-phase APS

Configuration PRO

POWER	10 kVA	17.5 kVA	25 kVA
Output and switching voltage ranges	LOW RANGE 2-150Vac / HIGH RANGE 4-300Vaccomutazione LOW/HIGH MANUAL with control panel (RACK) or remote control (PLATE)		
Adjustment system	Local and Remote [interface]: 2-150Vac and 4-300Vac		
Maximum current setting	Yes		
Functioning and adjustment	-		
Additional output frequency (selectable)	400Hz [± 0.01%]		
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 1%]		
CONTROL PANEL			
Lcd	RACK: 2 x 16 displays Minitower: 4x40 characters		
Precision and LCD Display voltage and current	± 2 DIGIT		
LCD Display voltage and current resolution	± 0.5		
Cos visualization	MINITOWER ONLY		
Frequency Value Display	MINITOWER ONLY		
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]			
Rack19'' Dimensions mm	(6U + 5U) D560including 40mmhands glie	(6U + 5U) D720including 40mm handlesand	-
Rack 19'' weight	36 / 46 kg	62 / 72 kg	-
Tower Dimensions (W x H x D)	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm
Tower weight	95 / 105 kg	100 / 110 kg	120 / 135 kg

Configuration ADVANCED

POWER	10 kVA	17.5 kVA	25 kVA
Output and switching voltage ranges	LOW RANGE 2-150Vac / HIGH RANGE 4-300Vaccomutazione LOW/HIGH MANUAL with control panel (RACK) or remote control (PLATE)		
Adjustment system	Local and Remote [interface]: 2-150Vac and 4-300Vac		
Maximum current setting	Yes		
Functioning and adjustment	-		
Additional output frequency (selectable)	400Hz [± 0.01%]		
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 1%]		
CONTROL PANEL			
Lcd	RACK: 2 x 16 displays Minitower: 4x40 characters		
Precision and LCD Display voltage and current	± 2 DIGIT		
LCD Display voltage and current resolution	± 0.5		
Cos visualization	MINITOWER ONLY		
Frequency Value Display	MINITOWER ONLY		
7" touch control panel	OPTIONAL		
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]			
Rack19'' Dimensions mm	(6U + 5U) D560 including 40mm handle	(6U + 5U) D720 including 40mm handle	-
Rack 19'' weight	36 / 46 kg	62 / 72 kg	-
Tower Dimensions (W x H x D)	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm
Tower weight	95 / 105 kg	100 / 110 kg	120 / 135 kg

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Three-phase APS

POWER	9 kVA	15 kVA	21 kVA	30 kVA	45 kVA	60 kVA	80 kVA	100 kVA
Architecture/transformers	Half-Bridge Inverter, standard autotransformer or optional isolation transformer in output				Full-Bridge Inverter, Isolation transformer in output		Full-Bridge Inverter, autotransformer in input and Isolation transformer in output	
Output transformer	Autotransformer – optional isolation transformer							
Efficiency at full load	> 93%							
VOLTAGES								
Input voltage	350 - 440 Vac three-phase + N							
Sensing	YES- (maximum voltage drop 5%)							
Total Harmonic Distortion (THD)	< 1%							
Static adjustment	< 1%							
Static adjustment according to load	< 1%							
Dynamic stability of the output voltage according to load variation	< 0.5%							
Response time to load or network changes	< 1 ms							
CURRENT								
RMS at 150Vac and 300Vac	3 x 20 A 3 x 10 A	3 x 33.3 A 3 x 16.6 A	3 x 46.6 A 3 x 23.3 A	3 x 66.6 A 3 x 33.3 A	3 x 100 H 3 x 50 A	3 x 133.3 A 3 x 66.6 A	3 x 177.7 A 3 x 88.8 A	3 x 222.2 A 3 x 111.1 A
Inrush current at 150Vac and 300Vac [6s]	3 x 30 A 3 x 15 A	3 x 50 A 3 x 25 A	3 x 70 A 3 x 35 A	3 x 100 A 3 x 50 A	3 x 150 A 3 x 75 A	3 x 200 A 3 x 100 A	3 x 266.6 A 3 x 133.3 A	3 x 333.3 A 3 x 166.6 A
FREQUENCY								
Input range	47Hz - 63 Hz							
Output (selectable)	50Hz and 60 Hz [± 0.01%]							
OTHER DATA								
Crest factor	4 : 1							
Noise level	60dBA							
Protections	OVP, UVP, OCP, OTP							
COMMUNICATION INTERFACES								
Analog	I/O 12 poles both 0-10Vdc control [response accuracy ± 1%]							
RS232	YES'							
Ethernet	YES'							
Communication Protocols / Drivers	SCPI and LabView Drivers							
Reference Voltage of remote controls	Common ground with ground line							
ENVIRONMENTAL CONDITIONS								
Cooling	Forced air							
Operating temperature	0° to +40°C							
Storage temperature	-40° to +85°C							
REGULATIONS								
SECURITY & EMC	EN 62040-1, EN 62040-2, EN62040-3, EN 62368-1							

Configuration
STANDARD

POWER	9 kVA	15 kVA	21 kVA	30 kVA	45 kVA	60 kVA	80 kVA	100 kVA
Output and switching voltage ranges	LOW RANGE 2-260Vac / HIGH RANGE 6-520Vaccomutation LOW/HIGH MANUAL and AUTOMATIC with control panel or control remoto							
Adjustment system	Local (control buttons) and Remote [interface]: 3-260Vac and 6-52 0Vac							
Maximum current setting	-							
Functioning and adjustment	-							
CONTROL PANEL								
Lcd	4 x 40 characters							
Precision and LCD Display voltage and current	± 2 DIGIT							
LCD Display voltage and current resolution	± 0.5							
Cos visualization	-							
Frequency Value Display	-							
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]								
Tower Dimensions (W x H x D)	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm	800 x 2000 x 800 mm	800 x 2000 x 800 mm	1000 x 2000 x 800 mm	1000 x 2000 x 800 mm
Tower weight	150 / 175 kg	170 / 185 kg	180 / 210 kg	240 / 280 kg	300 / 350 kg	340 / 430 kg	380 / 480 kg	440 / 580 kg

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Three-phase APS

Configuration PRO

POWER	9 kVA	15 kVA	21 kVA	30 kVA	45 kVA	60 kVA	80 kVA	100 kVA
Output and switching voltage ranges	LOW RANGE 2-260Vac / HIGH RANGE 6-520Vaccomutation LOW/HIGH MANUAL and AUTOMATIC with control panel or remote control							
Adjustment system	Local (control buttons) and Remote [interface]: 3-260Vac and 6-52 0Vac							
Maximum current setting	Yes							
Functioning and adjustment	-							
Additional output frequency (selectable)	400Hz [± 0.01%]							
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 1%]							
CONTROL PANEL								
Lcd	4 x 40 characters							
Precision and LCD Display voltage and current	± 2 DIGIT							
LCD Display voltage and current resolution	± 0.5							
Cos visualization	YES'							
Frequency Value Display	YES'							
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]								
Tower Dimensions (W x H x D)	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm	800 x 2000 x 800 mm	800 x 2000 x 800 mm	1000 x 2000 x 800 mm	1000 x 2000 x 800 mm
Tower weight	150 / 175 kg	170 / 185 kg	180 / 210 kg	240 / 280 kg	300 / 350 kg	340 / 430 kg	380 / 480 kg	440 / 580 kg

Configuration ADVANCED

POWER	9 kVA	15 kVA	21 kVA	30 kVA	45 kVA	60 kVA	80 kVA	100 kVA
Output and switching voltage ranges	LOW RANGE 2-260Vac / HIGH RANGE 6-520Vaccomutation LOW/HIGH MANUAL and AUTOMATIC with control panel or remote control							
Adjustment system	Local (control buttons) and Remote [interface]: 3-260Vac and 6-52 0Vac							
Maximum current setting	Yes							
Functioning and adjustment	-							
Additional output frequency (selectable)	400Hz [± 0.01%]							
Frequency adjustment function (adjustable)	40Hz to 80Hz[± 1% with 4 x 40 LCD control panel] [± 0.01% with 7'' LCD touch screen]							
Offset modulation	0° - Three-Phases synchronization to attain a single-phase output [TS working mode]120° - European Three-Phase working mode [TT working mode] 180° - American Two-Phase working mode							
CONTROL PANEL								
Lcd	4 x 40 characters							
Precision and LCD Display voltage and current	± 2 DIGIT							
LCD Display voltage and current resolution	± 0.5							
Cos visualization	YES'							
Frequency Value Display	YES'							
LCD touch panel 7"	Optional							
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]								
Tower Dimensions (W x H x D)	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm	550 x 1100 x 800 mm	800 x 2000 x 800 mm	800 x 2000 x 800 mm	1000 x 2000 x 800 mm	1000 x 2000 x 800 mm
Tower weight	150 / 175 kg	170 / 185 kg	180 / 210 kg	240 / 280 kg	300 / 350 kg	340 / 430 kg	380 / 480 kg	440 / 580 kg

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A P S - T L s i n g l e - p h a s e

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output transformer	Without transformer			
Efficiency at full load	> 96%			
VOLTAGES				
Input voltage	190 - 267 Vac			
Sensing	NO			
Total Harmonic Distortion (THD)	< 1%			
Static adjustment	< 1%			
Static adjustment according to load	< 1%			
Dynamic stability of the output voltage according to load variation	< 0.5%			
Response time to load or network changes	< 1 ms			
CURRENT				
RMS in Vin – 4Vac	6.6 A	13 A	22 A	33 A
Current insertion at Vin -4Vac [6s]	10 A	19.5 A	33 A	49.5 A
FREQUENCY				
Input range	47Hz - 63 Hz			
Output (selectable)	50Hz and 60 Hz [± 0.01%]			
OTHER DATA				
Ridge factor	4 : 1			
Noise level	Min 30dbA Max 60DBA			
Protections	OVP, UVP, OCP, OTP			
COMMUNICATION INTERFACES				
Analog	I/O 12 commando 0-10Vdc [response accuracy ± 1%]			
RS232	YES'			
Ethernet	YES'			
Communication Protocols / Drivers	SCPI (over RS-232 and Ethernet) / LabView Drivers			
Reference Voltage of remote controls	Common ground with ground line			
ENVIRONMENTAL CONDITIONS				
Cooling	Forced air			
Operating temperature	0° to +40°C			
Storage temperature	-40° to +85°C			
REGULATIONS				
SECURITY & EMC	EN 62040-1, EN 62040-2, EN62040-3, EN 62368-1			

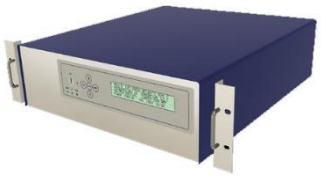
Configuration
STANDARD

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output voltage ranges	Maximum output voltage Vin -4Vac			
Adjustment system	PLATE: only remote interface from 2Vac to Vin – 4Vac PLATE AND RACK: Remote [interface] and local (potentiometer): from 2Vac to Vin – 4Vac			
Maximum current setting	-			
Functioning and adjustment	-			
CONTROL PANEL				
Forehead	PLATE: LED indicators only RACK: 2 x 16 displays			
Precision and LCD Display voltage and current	± 2 DIGIT			
LCD Display voltage and current resolution	± 0.5			
Cos visualization	-			
Frequency Value Display	-			
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]				
Plate dimensions (W x H x D) mm	420 x 132.5 x 500	420 x 132.5 x 500	420 x 132.5 x 500	420 x 132.5 x 500
Plate weight	11 kg	15 kg	17 kg	22 kg
Rack19'' dimensions mm	3U D540 included40mm handle	3U D540 included40mm handle	3U D540 included40mm handle	3U D540 included40mm handle
Rack 19'' weight	14 kg	18 kg	22 kg	29 kg

Technical data and images may be subject to a change without notice

A P S - T L s i n g l e - p h a s e

Configuration PRO



POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output and switching voltage ranges	Maximum output voltage Vin -4Vac			
Adjustment system	PLATE: only remote interface from 2Vac to Vin – 4Vac PLATE AND RACK: Remote [interface] and local (potentiometer): from 2Vac to Vin – 4Vac			
Maximum current setting	YES'			
Functioning and adjustment	-			
Additional output frequency (selectable)	400Hz [± 0.01%]			
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 0.01%]			
CONTROL PANEL				
LCD Display	4 x 40 characters			
Precision and LCD Display voltage and current	± 2 DIGIT			
LCD Display voltage and current resolution	± 0.5			
Cos visualization	YES'			
Frequency Value Display	YES'			
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]				
Rack19" dimensions mm	3U D540 included40mm handle	3U D540 included40mm handle	3U D540 included40mm handle	3U D540 included40mm handle
Rack 19" weight	14 kg	18 kg	22 kg	29 kg

Configuration ADVANCED

POWER	1.5 kVA	3 kVA	5 kVA	7.5 kVA
Output and switching voltage ranges	Maximum output voltage Vin -4Vac			
Adjustment system	PLATE: only remote interface from 2Vac to Vin – 4Vac PLATE AND RACK: Remote [interface] and local (potentiometer): from 2Vac to Vin – 4Vac			
Maximum current setting	YES'			
Functioning and adjustment	YES ' within the limit current according to the power			
Additional output frequency (selectable)	400Hz [± 0.01%]			
Frequency adjustment function (adjustable)	40Hz to 80Hz [± 1% from control panel] 40Hz to 80Hz [± 0.01% from 7" touch screen]			
CONTROL PANEL				
LCD Display	4 x 40 characters			
Precision and LCD Display voltage and current	± 2 DIGIT			
LCD Display voltage and current resolution	± 0.5			
Cos visualization	YES'			
Frequency Value Display	YES'			
7" touch control panel	OPTIONAL			
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]				
Rack19" dimensions mm	3U D540 included 40mm handle	3U D540 included 40mm handle	3U D540 included 40mm handle	3U D540 included 40mm handle
Rack 19" weight	14 kg	18 kg	22 kg	29 kg

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A P S - T L t h r e e t o s i n g l e p h a s e

POWER	10 kVA	17.5 kVA	25 kVA
Output transformer	Without autotransformer		
Efficiency at full load	> 96%		
VOLTAGES			
Input voltage	350 - 440 Vac three-phase + N		
Sensing	NO		
Total Harmonic Distortion (THD)	< 1%		
Static adjustment	< 1%		
Static adjustment according to load	< 1%		
Dynamic stability of the output voltage according to load variation	< 0.5%		
Response time to load or network changes	< 1 ms		
CURRENT			
RMS at 300Vac	33 A	58.3 A	83.3 A
Insertion current at 150Vac and 300Vac [6s]	49.5 A	87.5 A	125 A
FREQUENCY			
Input range	47Hz - 63 Hz		
Output (selectable)	50Hz and 60 Hz [± 0.01%]		
OTHER DATA			
Ridge factor	4 : 1		
Noise level	60dBA		70dBA
Protections	OVP, UVP, OCP, OTP		
COMMUNICATION INTERFACES			
Analog	RACK 19" I/O 10 poles MINITOWER I/O 12 poles both 0-10Vdc control [response accuracy ± 1%]		
RS232	YES'		
Ethernet	RACK 19" adapter available MINITOWER : YES		
Communication Protocols / Drivers	Rack 19" - standard ASCII code, optional adapter SCPIMini Tower - SCPI and LabView Drivers		
Reference Voltage of remote controls	Common ground with ground line		
ENVIRONMENTAL CONDITIONS			
Cooling	Forced air		
Operating temperature	0° to +40°C		
Storage temperature	-40° to +85°C		
REGULATIONS			
SECURITY & EMC	EN 62040-1, EN 62040-2, EN62040-3, EN 62368-1		

Configuration
STANDARD

POWER	10 kVA	17.5 kVA	25 kVA
Output voltage ranges	2 : 300Vac (Ph-N)		
Adjustment system	Local and Remote [interface]: from 2Vac to 300Vac		
Maximum current setting	-		
Functioning and adjustment	-		
CONTROL PANEL			
Lcd	RACK: 2 x 16 displays Minitower: 4x40 characters		
Precision and LCD Display voltage and current	± 2 DIGIT		
LCD Display voltage and current resolution	± 0.5		
Cos visualization	-		
Frequency Value Display	-		
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]			
Rack19'' Dimensions mm	6U D560including 40mmglie hands	6U D720including 40mm handlesand	-
Rack 19'' weight	28 kg	52 kg	-
Tower Dimensions (W x H x D)		550 x 1100 x 800 mm	550 x 1100 x 800 mm
Tower weight		67 kg	80 kg

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A P S - T L t h r e e t o s i n g l e p h a s e

Configuration PRO

POWER	10 kVA	17.5 kVA	25 kVA
Output and switching voltage ranges	2 : 300Vac (Ph-N)		
Adjustment system	Local and Remote [interface]: from 2Vac to 300Vac		
Maximum current setting	Yes		
Functioning and adjustment	-		
Additional output frequency (selectable)	400Hz [± 0.01%]		
Frequency adjustment function (adjustable)	40Hz to 80Hz 19" Rack [±1%] Mini Tower [±1% with LCD Control Panel]		
CONTROL PANEL			
Lcd	RACK: 2 x 16 displays Minitower: 4x40 characters		
Precision and LCD Display voltage and current	± 2 DIGIT		
LCD Display voltage and current resolution	± 0.5		
Cos visualization	MINITOWER ONLY		
Frequency Value Display	MINITOWER ONLY		
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]			
Rack19" Dimensions mm	6U D560 including 40mm handles	6U D720 including 40mm handles	-
Rack 19" weight	28 kg	52 kg	-
Tower Dimensions (W x H x D)		550 x 1100 x 800 mm	550 x 1100 x 800 mm
Tower weight		67 kg	80 kg

Configuration ADVANCED

POWER	10 kVA	17.5 kVA	25 kVA
Output and switching voltage ranges	2 : 300Vac (Ph-N)		
Adjustment system	Local and Remote [interface]: from 2Vac to 300Vac		
Maximum current setting	Yes		
Functioning and adjustment	-		
Additional output frequency (selectable)	400Hz [± 0.01%]		
Frequency adjustment function (adjustable)	40Hz to 80Hz 19" Rack [±1%] Mini Tower [±1% with LCD Control Panel]		
CONTROL PANEL			
Lcd	RACK: 2 x 16 displays Minitower: 4x40 characters		
Precision and LCD Display voltage and current	± 2 DIGIT		
LCD Display voltage and current resolution	± 0.5		
Cos visualization	MINITOWER ONLY		
Frequency Value Display	MINITOWER ONLY		
7" touch control panel	OPTIONAL		
MECHANICAL CHARACTERISTICS [version with autotransformer / isolation transformer]			
Rack19" Dimensions mm	6U D560 including 40mm handles	6U D720 including 40mm handles	-
Rack 19" weight	28 kg	52 kg	-
Tower Dimensions (W x H x D)		550 x 1100 x 800 mm	550 x 1100 x 800 mm
Tower weight		67 kg	80 kg

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