

AURIGA HP



AURIGA HP UPS combines **reliability, innovation, and performance** with reduced OPEX.

The only liquid cooled UPS on the market!

This 5th generation UPS guarantees **the lowest OPEX**, thanks also to solar integration and EnerClever functionality.

Designed for durability, AURIGA HP ensures **top-level performance at optimal costs** in every demanding environments.

100% made in Italy

The **AURIGA HP series** by Powertronix represents the **market peak in performance and reduced running costs**, with a strong emphasis on **environmental sustainability**.

These products are meticulously designed for demanding, mission-critical environments, consistently proving their efficiency and stability. The AURIGA HP family has continually met the needs of critical sectors, delivering durable and reliable performance. Powertronix's AURIGA HP enables **unprecedented savings** on the overall running costs of your **emergency power supply system** by remotizing UPS's heat dissipation.

TYPICAL APPLICATION:

- Offices & IT;
- Telecommunications;
- Servers/ Datacenter;
- Medical/ Hospitals;
- Broadcasting;
- Access & Presence

SPECIAL APPLICATION:

- Hybrid UPS
- Energy Manager
- EN 50171

VFI-SS-111	3-3	120kVA-200kVA
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AURIGA HP

UPS MODEL	AURIGA120	AURIGA160	AURIGA200
UPS NOMINAL RATING	120 kVA	160 kVA	200 kVA
UPS ACTIVE POWER	108kW	144 kW	180 kW
UPS PART NUMBER	AU120-000	AU160-000	AU200-000

FRONT VIEW



- A FRONT ACCESS DOOR***
- B FRONT LCD PANEL***
- C EPO BUTTON***
- 1 CABLE ENTRY**
- 2 BATTERY CONNECTION**
- 3 INPUT SWITCH**
- 4 INPUT RESERVE SWITCH**
- 5 MANUAL BYPASS**
- 6 OUTPUT SWITCH**
- 7 MAINTENANCE AND CONTROL ACCESS PANEL**
- 8 RS-232/ RS485****
- 9 SMART SLOT****

* Accessible from the front
 ** Accessible from the Back

General:

UPS TOPOLOGY	VFI On-Line double conversion, with pure sine-wave output
CONVERTER/ INVERTER	PFC and INVERTER IGBT based, high frequency, TRAFOLLESS
STATIC SWITCH	Electronic + Contactors
COOLING SYSTEM	LIQUID COOLED(W/optional remotizable radiators) + AIR COOLED with adaptive fan speed

Input:

INPUT NOMINAL VOLTAGE	3P+N 380/400/415VAC
INPUT VOLTAGE TOLERANCE	304+498VAC 100% load - Factory setting $\pm 20\%$ nominal voltage
INPUT NOMINAL FREQUENCY	50/60Hz
INPUT FREQUENCY TOLERANCE	40 \pm 70 Hz
INPUT POWER FACTOR	0.99
MAX ABSORBED CURRENT	3PH+N @ 400V 195A 260A 325A
INPUT THDI	<3%

Output:

OUTPUT NOMINAL VOLTAGE	3P+N 380/400/415VAC
OUTPUT POWER FACTOR	0.9
OUTPUT THDV	< 2% with linear load & < 4% with non linear load
OVERLOAD	125% for 10 minutes - 150% for 60 seconds
OUTPUT NOMINAL FREQUENCY	50/60Hz $\pm 0.1\%$ stability
SOFT START	Available , 30 Seconds (factory selectable)

Bypass:

BYPASS NOMINAL V&F*	3P+N 380/400/415VAC or 1P+N 220/230/240VAC* - 50/60Hz
BYPASS VOLTAGE TOLERANCE	$\pm 20\%$ - Factory setting $\pm 10\%$
BYPASS ACCEPTED OVERLOAD	150% 30 min - 1000% 100ms
MANUAL BYPASS	Available, with mechanical security

Battery:

BATTERY CONFIGURATION	720VDC x string / EXTERNAL ONLY
BATTERY CHARGING I & V*	Factory setting 0.1C / 13,5VDC/block up to: 35A 45A 56A
BATTERY COMPATIBILITY	VRLA-AGM / VRLA-GEL / NiCd / Lithium / Others
BATTERY MANAGEMENT	Auto Test/ Equalization / Smart-battery management Autonomy display in minutes/seconds or percentage Optional: temperature compensation w/ external sensor

Environment:

DIMENSION	800x830x1800(h)mm - metal case - IP20 - complete with castors
WEIGHT (W/O Battery)	480Kg 540Kg 590Kg
TEMPERATURE & RH%	0 \pm 40°C - RH% up to 95% non-condensing - 1.000m asl 1% derating every +100Mt up to 2000 asl
EXT INTERFACE	Standard: RS-232/RS485 + dry contacts +LED Status Display Optional: MODBUS / SNMP via external card; LCD Touch Display ; Remote panel

Others:

EUROPEAN DIRECTIVES	LV 2014/35/EU Low Voltage Directive EMC 2014/30/EU Electromagnetic Compatibility Directive / CE marks
STANDARDS	Safety IEC EN 62040-1; IEC EN 62040-2 EMC; RoHS Compliance; IEC EN 62040-3 (Voltage and Frequency Independent) VFI-SS-111

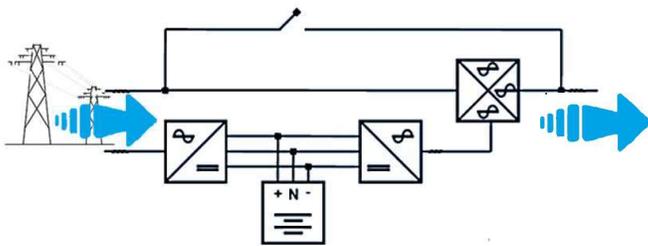
AURIGA HP

Working Mode:

+ UPS

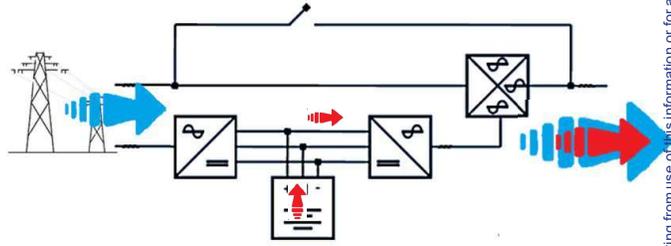
AURIGA HP operates as a standard UPS in Online Double Conversion or ECO mode. In **Online Double Conversion**, the UPS constantly converts AC to DC and back to AC, providing your load with **clean, stable power, free from spikes and fluctuations**—ideal for critical applications.

In **ECO mode**, the UPS powers the load directly from the mains when input power is stable, switching to battery only if an issue is detected.



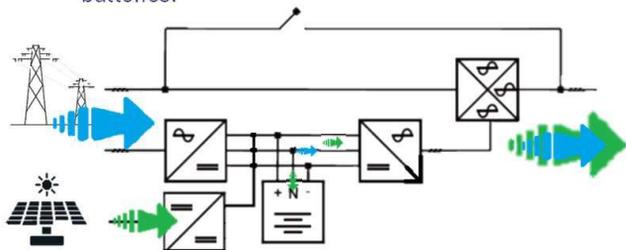
+ PEAK SHAVING

In addition to the standard mode, the AURIGA HP will use the batteries as an **“energy boost”**, meeting the **instantaneous energy demand** by drawing it from the battery instead of from the grid. This also allows the system to **output more energy than is being drawn from the grid**, thanks to the intrinsic intelligence in the control logic, special design considerations, and advanced firmware functionalities.



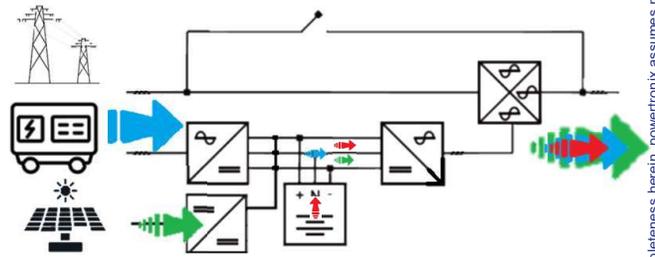
+ HYBRID UPS

In addition to the standard mode, the AURIGA HP can be **directly connected to PV panels** via Powertronix's SBC to **maximize energy efficiency**. Solar energy **will integrate with and reduce the grid power demand** based on the availability of PV energy. If properly sized, the system can potentially eliminate grid power consumption altogether, ensuring **maximum power supply efficiency and load protection**. Extra PV energy may also be used to charge the batteries.



+ ENERCLEVER UPS -AU/HP

Energclever functionality for AURIGA HP. The system will act as a **“SYSTEM ENERGY MANAGER,”** always giving the opportunity to switch seamlessly and use, among the available sources, the **most convenient energy**, while maintaining solid **continuity, stability and quality power provision** demands. It is also possible to combine EC UPS with Powertronix's specifically designed **Li-Ion based battery energy storage (BESS)**



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Secure Power
Innovation That Saves

AURIGA HP

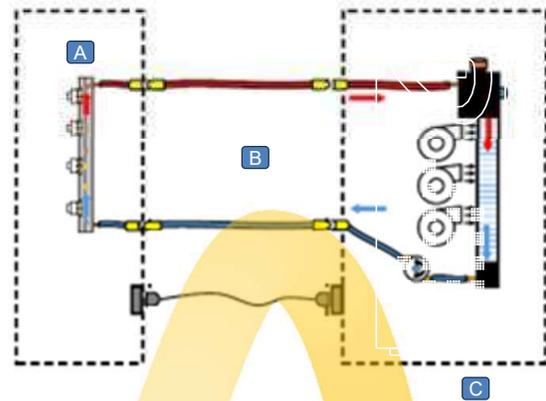


+ H₂O COOLING BENEFITS

The Auriga HP liquid cooling system captures the heat generated by the double conversion process and allows it to be dissipated remotely, either in a separate room or outdoors. With the optional OSDE1154 kit, heat dissipation can be relocated up to 30 meters away from the UPS installation site, significantly reducing installation costs and cutting down energy consumption needed to maintain optimal temperatures in the UPS room. This results in substantial operational savings, maximizing the efficiency and cost-effectiveness of the system



AVERAGE SAVING ON A/C
of approx **250Mln BTU/y**



- A UPS's COLD PLATE**
- B CONTROL CABLES AND LIQUID PIPES**
- C EXTERNAL/ REMOTIZED HEAT-EXCHANGER**

+ SNMP/TCP-IP

The AURIGA HP series offers the possibility to integrate the UPS into your **Local Area Network**, enabling remote monitoring and control of the UPS status. The **OX-MGTBX506/4 SNMP** card provides full control over thresholds, allowing **alarms to be triggered and notifications to be sent via email** to the entire team or selected personnel.

The freeware ViewPowerPro gives customers free access to a simple yet comprehensive monitoring tool



+ RELAY CARD

The AURIGA HP series **comes standard with CS0191** cards. Powertronix's exclusive CS0191 card design **ensures full integration** of the AURIGA series into your **Building Management System (BMS)** via RS232-RS485 com-protocols.

It supports five simultaneous active connections:

- Potential-free contacts (NO/NC)
- RS232 port with DB9 connector
- RS485 Modbus RTU
- rEPO (Remote Emergency Power Off)
- External Bypass AUX contact



+ HMI

The Auriga HP series can be equipped as optional with a modern, functional, and user-friendly **5" LCD touch screen display (OSDE1342)**. Additionally, with the **OSDE1024 remote panel**, control and monitoring of the UPS status can be **extended up to 100 meters**.



+ AURIGA HP ADDITIONAL OPTIONS

OSDE1232	Auriga 120+200 parallel kit (up to 8 units)	OSDE1342	LCD Touch-screen Display for Auriga HP Family
OSDE1236	Auriga 120 built in backfeed protection	OSDE0122	Auriga 120 2nd independent output AS+EO (emergency only)
OSDE1237	Auriga 160 built in backfeed protection	OSDE0129	Auriga 160 2nd independent output AS+EO (emergency only)
OSDE1238	Auriga 200 built in backfeed protection	OSDE0130	Auriga 200 2nd independent output AS+EO (emergency only)
OSDE1154	Auriga 120+200 remote heat-exchanger		

012001-ISC9001-AUG680100

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AURIGA HP LIST OF ALARM

msg Auriga HP

Msg No	String	ENG
1	Mains	not available
3	Battery	boost charge
4	Battery	float charge
5	Battery test	failed
6	Battery test	executing
7	Battery empty	
8	Battery prealarm	
9	Battery test	passed
10	Battery test	not executed
11	Inverter	switched off
12	Inverter overload	(>100%)
13	Inverter overload	(>125%)
14	Inverter overload	(>150%)
15	Inverter overload	time exceeded
16	Cabinet temperature	over alarm level
17	Maintenance period	elapsed
18	UPS Emergency	Power Off
19	ECONOMY MODE	enabled
20	Static switch	overload (>100%)
21	Static switch	overload (>125%)
22	Static switch	overload (>150%)
23	SS overload	time exceeded
24	Manual bypass	switch closed
25	Load on	manual bypass
26	PFC overload	(>100%)
27	PFC overload	(>125%)
28	PFC overload	(>150%)
29	PFC overload	time exceeded
30	wrong reserve	phases sequence
31	Reserve not	available
32	Static switch	failure
33	Static switch	locked
34	Load on reserve	
35	Load on inverter	
36	Battery failure	
37	UPS Master	
38	UPS Slave	
39	Parallel data	exchange failure
41	Load not fed	
42	Input status	low / ok / fail
43	PFC power reduction	function active

msg Auriga HP

50	Fan speed	reduced
51	Cabinet temperature	over warning level
52	Battery temperature	over alarm level
53	Battery temperature	over warning level
54	PFC IGBT temperature	over warning level
55	Fan speed	nominal
56	PFC IGBT temperature	over alarm level
57	INV IGBT temperature	over warning level
58	INV IGBT temperature	over alarm level
59	PFC/INV module	overtemp. protection
60	Command E.P.O.	(local)
61	Command E.P.O.	(relay board 1)
62	Command E.P.O.	(relay board 2)
63	Command E.P.O.	(parallel)
65	Mains ok	
67	Inverter on	
68	Reserve ok	
69	Synchro	not ok
70	Manual bypass	breaker open
71	Input section	activated
72	Flash memory	write protection
73	Synchro ok	
74	Precharge failed	
75	Autostart process	activated
76	Autostart process	finished
77	Autostart process	interrupted
78	Autostart process	failed
80	System start	done
81	System start	failed
82	System stop	done
83	System stop	failed
84	UPS protection	Power supply low



POWERTRONIX[®]

UNINTERRUPTIBLE POWER SUPPLY

USER MANUAL AURIGA HP 120 ÷ 200kVA

Document : DT0503 English

<i>Revision</i>	<i>Date</i>	<i>Checked</i>	<i>Approved</i>
04	12/09/2013	Modenesi A.	Modenesi A.
05	09-04-2014	Ghezzi R.	Ghezzi R.

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1.2.6 REMOTE PANEL

The remote panel is used for remote viewing of the UPS state; it shows the status of the main UPS blocks with LED indicators and the sound signalization in the case of alarm conditions (more info chapter 2.8.3).

1.2.7 REMOTE E.P.O. PUSHBUTTON

The remote E.P.O push-button provides the safe, remote way to fast and full disable the unit running in the event of an emergency (more info chapter 2.8).

1.2.8 REMOTE MANUAL BY-PASS

The remote Manual By-Pass is a security system that allows, when closed, to connect directly load to the power line, excluding the UPS (more info chapter 2.8).

3.2.1 MENU MULTILEVEL INDEX

Table 3.2.1 summarizes the list of available menus.

MENU	N°	NOTE
UPS STATUS AND ALARMS	1	This is default content of the LCD screen. System returns to this level automatically when no keys are used for 3 min.
MEASUREMENTS	2	Used to display the values of all the measurements
UPS COMMANDS	3	System on / off, static switch, battery test
PANEL SETUP	4	Settings for date / time / battery test / language
EVENTS LOG	5	Displays the log of events and related alarms
SERVICE MODE	6	Reserved for technical assistance service

Table 3.2.1

It is possible to scroll among the listed 6 menu in table 3.2 using the NEXT(>) or BACK(<) keys.

By pressing the NEXT(>) and BACK(<) keys simultaneously, you select ENTER (< >) and by confirming the selection go to the next menu level.

To return to the previous menu level press the MENU key

Each alarm indication on the display is followed by a sound signal which can be switched off by pressing ESC (see figure 3.2)

If the operator does not perform any actions for 3 minutes, the "1. UPS STATUS AND ALARMS" menu is automatically displayed.

3.2.2 MENU 1: UPS STATUS AND ALARMS

This menu is characterized by the first line of the message which can be UPS OPERATING (if the UPS is operating normally) or UPS ALARM (if the UPS has an alarm condition). The meanings of the displayed messages are given below:

UPS IN NORMAL OPERATING CONDITIONS

MESSAGE	MEANING
INVERTER ON	The inverter is on and operating normally
LOAD ON INVERTER	The load is supplied by the inverter
LOAD ON RESERVE	The load is supplied by the by-pass line. This may be a temporary condition which lasts 20 seconds after short overload
RESERVE MAINS OK / NOT AVAILABLE	The input by-pass supply line is on and the voltage is / is not in the specified range
INPUT SECTION ACTIVE / NOT ACTIVE	PFC is on and working properly / PFC off
FAN SPEED REDUCED / NOMINAL	The fans work at reduced speed because module temperature is below 60°C or at nominal speed when module temperature is upper 60°C
MAINS OK / NOT AVAILABLE	The input mains line is on and the voltage is / is not in the specified range

Tabella 3.2.1

Certificate of Training

TO WHOM IT MAY CONCERN

We,
the Italian company **POWERTRONIX s.r.l.**, hereby certify that **Mr. Ion Negru** has successfully completed the Technical Training Course, which has been sponsored by us for the benefit of **Intermed SRL**, located in the Republic of Moldova, that has been held from 6th of February to 09th of February 2023.

Therefore, **Mr. Ion Negru** has been instructed to install, operate, maintain and repair the **MIZAR, ALCOR, AURIGA, AURIGA HP, QUASAR, VELA, ATLAS, SUPERNOVA U.P.S.** manufactured by **POWERTRONIX s.r.l.**



Grezzago, Italy, 09th February 2023

Powertronix Srl
Società Unipersonale



Andrea Modenesi

Certificate of Training

TO WHOM IT MAY CONCERN

We,
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Grezzago, Italy, 09th February 2023

Powertronix Srl
Società Unipersonale


Andrea Modenesi

Certificate of Training

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Grezzago, Italy, 09th February 2023

Powertronix Srl
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Andrea Modenesi

CE DECLARATION OF CONFORMITY

POWERTRONIX S.r.l.

Via Abruzzi 1 - 20056 Grezzago – Milano – Italia
 Codice Fiscale e Partita Iva 08305700158
 Iscrizione Tribunale n. 258503/6752/3MI - CCIAA n. 1214863 MI

Herewith we declare that below designated Uninterruptible Power Supply models are developed, designed and manufactured in accordance with

European Directive

- EC Directive on Electromagnetic Compatibility 2014/30/EU
- EC Directive on Low Voltage Directive 2014/35/EU
- RoHS Directive 2017/2102/EU replacing 2011/65/EU

UPS Standards

- EN 62040-1:2008+A1:2013 UPS: Safety
- EN 62040-1-2 UPS: Safety
- EN 62040-2 UPS: Electromagnetic Compatibility (EMC)
- EN 62040-3** UPS: Performances and tests

Category: Uninterruptible Power Supply

Antares Pro UPS series 1÷10kVA	single phase UPS – tower/rack design
Vector HP UPS series 10÷30kVA	3 phase UPS – tower design
Vector RI UPS series 10÷100kVA	3 phase UPS – rack design
Mizar UPS series 10÷15kVA	3 phase UPS – tower design
Alcor UPS series 20÷40kVA	3 phase UPS – tower design
Coral UPS series 10÷80kVA	3 phase UPS – tower design
Auriga UPS series 60÷100kVA	3 phase UPS – tower design
Auriga HP UPS series 120÷200kVA	3 phase UPS – tower design
Auriga MV UPS series 20÷300kVA	3 phase UPS – modular design
Auriga MV9 UPS series 20÷90kVA	3 phase UPS – modular design
Auriga MS UPS series 100÷800kVA	3 phase UPS – modular design
Hyperion UPS series 100÷300kVA	3 phase UPS – tower design
Vela UPS series 40÷60kVA	3 phase UPS – tower design
Atlas UPS series 80÷120kVA	3 phase UPS – tower design
Supernova UPS series 160kVA÷300kVA	3 phase UPS – tower design

Grezzago (MI)

05-01-2024

(Place)

(Date)

Powertronix S.r.l


(Signature of the Legal Representative)