



ATLAS UPS is POWERTRONIX solution delivering premium VFI online double conversion, providing power quality and backup for IT and electrical infrastructures in corporate, medical, banking and industrial applications.

100% designed and made in Italy, ATLAS UPS results in the highest levels of reliability and efficiency (0.99 input power factor - THDi <5% with harmonic suppression filter on 12pulse configuration - up to 94% efficiency thanks to transformerless inverter).

Multilanguage LCD display, RS232 port, voltage dry contacts, intelligent slot for SNMP adapter, all for complete interfacing with BMS systems, while standard features like dual input mains, internal manual bypass, possibility to implement parallel capability, low noise level, flexible battery solutions (additional UPS built-in battery charger available) make ATLAS UPS perfect power solution for any 3phase mission critical load, combining proven performance with technical innovation to deliver pure quality.

MAIN TECHNICAL DATA
ATLAS 80
ATLAS 100
ATLAS 120
UPS Topology
VFI On-Line Double Conversion

Converter	3phase SCR Thyristor Conversion (6 or 12pulse version)		
Inverter	High frequency IGBT inverter transformerless		
Static switch	Electronic static switch plus contactor		
Cooling	Forced air		

Input nominal voltage
3Ph+N 380/400/415V
Input nominal frequency
50 or 60 Hz

Input frequency tolerance 40 ÷ 70 Hz

Maximum input current 3Ph+N@400V

Power factor
0.99

Soft start 0 ÷ 100% in 30 sec

Backfeed protection available

Input current distortion THDi ≤8% (12pulse vers.)

Bypass nominal voltage 3Ph 380/400/415 V

Bypass voltage tolerance ±20%

Bypass factory setting ±10%

Bypass nominal frequency 50 or 60 Hz

Bypass accepted overload 10In per 100ms

Manual bypass with mechanical lock

Output active power 72 90 108

Nominal output voltage
3Ph 380/400/415V - Sine wave output

Nominal output current 3ph 3Ph+N@400V 115A 144A 172A

Output power factor 0.9

Output voltage static variation ± 1%

Output voltage dynamic variation ± 5%

Crest factor 3:1

Output voltage distortion linear load ≤ 3%

Output voltage distortion non linear load ≤ 5%

Output frequency
50Hz or 60Hz

Output frequency stability 0.01%

UPS system efficiency up to 96%

Overload 125% for 10 minutes

150% for 60 seconds

MAIN TECHNICAL DATA
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ATLAS 120

Battery type	VRLA AGM or GEL		
Number of elements	192	192	240
Battery nominal voltage	384 VDC	384 VDC	480 VDC
Battery voltage range	320 ÷ 432 VDC	320 ÷ 432 VDC	400 ÷ 540 VDC
Battery maximum charging current	25A	25A	25A
Battery charging profile	DIN 41733 Charging voltage: 810Vdc		
Battery low threshold (factory setting)	350 VDC	350 VDC	440 VDC
Battery management & test	via LCD		
Remote signals	Dry contact - remote EPO		
Standard interfaces and protocol	RS232 port		
Monitoring software	UPSMan & UPSMon		
Communication options	web adapter SNMP		
Parallel capability (optional)	up to 8 units		

MECHANICAL DATA
Case protection rating
IP 20

Dimensions (WxDxH mm)	700 x 740 x 1800		
Weight kg	350	390	430
Noise level at 1m	65 dB		
Storing temperature	-20°C ÷ +70°C (UPS) +20°C ÷ +30°C (Battery)		
Operating temperature	+20°C ÷ +40°C		
Relative humidity	95% non condensing		
Altitude	1000m above MSL without derating (1% derating any 100m up to 2.000m)		
Ventilation	multilevel fan		
UPS moving	casters		
UPS packaging	overseas shipment suitable cartoon box on fumigated wooden pallet		
UPS packaging dimensions (WxDxH mm)	1000x1000x2150 mm * 70kg		

STANDARDS

European Directives: LC 2014/35/EU low voltage Directive
 EMC 2014/30/EU electromagnetic compatibility Directive
 Standards: Safety IEC EN 62040-1:2008+A1:2013;
 EMC IEC EN 62040-2 C2
 Classification in accordance with **IEC 62040-3 VFI - SS - 111**

Main electrical features

- * Dual input mains: separated or common
- * Genset compatibility without any additional equipment
- * Integrated maintenance bypass
- * Detection circuit for backfeed protection (additional backfeed device UPS built in or in external panel)
- * Distributed or shared battery for optimized energy storage and uninterrupted power during strings maintenance
- * UPS *eco-mode* functional profile for 96% efficiency
- * Frequency converter profile with or without backup time 60Hz to 50Hz or viceversa

Main electrical optional features

- * Parallel capability for redundant or add capacity system configuration (up to 8 units)
- * Extended runtime in external cabinet matching UPS design
- * Extended runtime in external cabinet IP20 or open rack, complete of DC breaker
- * UPS external cabinet galvanic isolation transformer (full system isolation)
- * UPS I/O phase voltage and frequency configuration settable via LCD
- * UPS upgrade to double independent outputs
- * Battery bank disconnection in case of UPS shutdown or according to BMS design
- * BACS battery advanced care system for constant monitoring and harmonization of individual charging voltages
- * Battery temperature sensor and supervised battery management dual charging method profile

UPS connectivity available features for immediate system status info

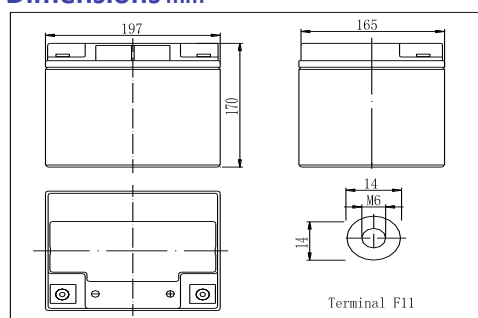
Real time information, real time solution!

- * User friendly Multilanguage LCD (Russian and Chinese available)
- * Event log access via LCD for on-site checking & event log download via open software
- * Dry contact interface complete of 4 change-over contact outputs
- * Serial connection interface via RS232 for BMS full compatibility
- * At-a-glance user view for simultaneous monitoring of all UPS systems connected in the same network
- * Intelligent free slot for additional SNMP interface and ambient sensors (temperature, humidity, smoke etc...)
- * UPS MAN & MON software for UPS managing and monitoring
- * Remote LED panel for UPS status
- * Remote EPO
- * Remote UPS monitoring service 24/7 - 365
- * Server, PC and/or virtual machine configured shutdown
- * e.mail/SMS/pop up UPS status information

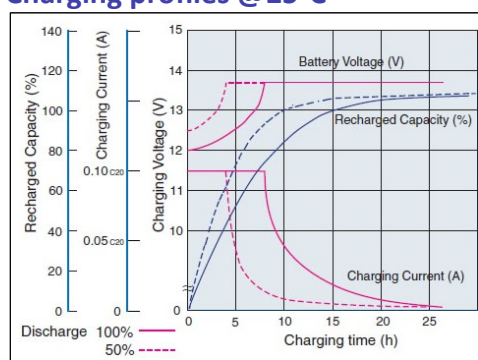
Specifications

Nominal Voltage		12 V
Capacity 20hr 25°C		40 Ah
Dimensions	Length	197 mm
	Width	165 mm
	Height	170 mm
	Total Height	170 mm
Approx. Weight		13.8 kg
Internal resistance fully charged 25°C		Approx. 9.5mΩ
Capacity affected by temperature 20hours	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self discharge 25°C	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12 months	Remaining Capacity: 65%
Nominal operating temperature		25°C ± 3°C
Operating temperature range		-15°C to +50°C
Float charging voltage 25°C		13.60 to 13.80V
Cyclic charging voltage 25°C		14.50 to 14.90V
Maximum charging current		12 A
Terminal material		Copper
Maximum discharging current		400A 5sec

Dimensions mm



Charging profiles @25°C



VRLA Absorbent Glass Material & GAS recombination technology

UL & CE recognized

ABS container UL94 HB - Shock and vibrations resistant

Non-spillable and maintenance free

Non-hazardous for sea/air/rail/road transportation

Ideal for high rate discharge UPS application

EUROBAT 10÷12 years project lifetime design - floating life @20°C

Outstanding value and performance

Extended shelf life thanks to low self discharge rate

Constant Power Discharge Characteristics - Watt @25°C

F.V / time	5min	10min	15min	30min	60min	3h	5h	10h	20h
9.60V	1285	875	750	450	300	125	87.0	48.5	25.2
10.2V	1230	840	720	435	285	120	85.5	48.0	25.2
10.8V	1150	790	685	415	270	118	84.2	48.0	24.6

Constant Current Discharge Characteristics - A @25°C

F.V / time	5min	10min	15min	30min	60min	3h	5h	10h	20h
9.60V	125	81.5	69.0	40.5	26.5	10.8	7.40	4.10	2.12
10.2V	118	78.0	66.0	38.5	25.0	10.2	7.20	4.05	2.10
10.8V	110	72.5	63.0	36.5	24.0	10.0	7.10	4.00	2.05

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Battery sizing according to time and power value

Grezzago 12/08/2024

UPS model **ATLAS 120**
 UPS nominal rating 120,000 kVA
 Battery string design 40 x12V_{DC}
 Sizing method IEEE 485

Voltage window

Maximum voltage: 544,80 V_{DC}
 Minimum voltage: 400,08 V_{DC}
 Cell number range: 240

Calculation criteria

U float charge: 2,27 V_{pc}
 U_f interpolated: Activated
 Temperature: 25 °C
 Temperature factor: 1,000
 Aging factor: 1,000
 Margin factor: 1,000
 Total factor: 1,000

Power value

Time set: **35 min** *pre-set or calculated*
 Nominal rating: 20,000 kVA *pre-set*
 CosPhi: 0,9 *pre-set*
 Efficiency DC-AC: 98,000 % *pre-set*

Battery

Battery model: SLC 12- 40 *calculated*
 Battery type: VRLA AGM 12V
 Part code: OCBE12 40
 Number of cells: 240 *range: 400,08÷544,8 VDC*
 String quantity: 1
 Final voltage: 1,667 V_{DC}

Battery bank design

1 string(s) 40x12VDC **40Ah**

4.10. TROUBLESHOOTING**4**

ALARM	CAUSE	ACTION
INVERTER OFF	Initial start-up Permanent output overload or output short circuit	Start the Inverter Check the loads connected to the UPS
INVERTER OVERLOAD	Permanent output overload or output short circuit	Check the loads connected to the UPS
BATTERY NOT CONNECTED	Battery breaker off or battery not connected Battery test fail	Switch on the battery fuses or connect the battery Check the battery elements
BATTERY END OF DISCHARGING	Mians missing for long time	Make shutdown to the connected loads
BATTERY PREALARM	Battery almost flat, next to shutdown	
BATTERY CHARGER FAILURE		Call service office to replace the battery charger
BYPASS SWITCH FAILURE	One or more phase in the output are missing	Check Bypass SCR
STATIC SWITCH LOCKED	High output inrush current	Check the loads connected and reset to normal condition
BYPASS LINE OUT OF LIMITS	Bypass line voltage out of the specified limits	Check the bypass line voltage
MAINS OUT OF LIMITS	Mains line voltage out of the specified limits	Check the mains line voltage
MANUAL BYPASS ON	UPS on maintenance	
EMERGENCY POWER OFF	EPO command activated	Investigate on cause. Switch off completely the UPS. To restart follow the procedure on paragraph 3.1.1 on user manual

Controlli sia sul sovraccarico che sulla sovratemperatura garantiscono l'immediato e più opportuno intervento nel caso che una di queste condizioni si verifichi durante il funzionamento. E' possibile il collegamento di uno o più pulsanti di emergenza (non forniti) che in caso di incendio permettano di comandare la totale disattivazione dell'UPS.

Poichè il funzionamento dell'UPS è completamente automatico non c'è bisogno di dare comandi, perciò il pannello frontale è estremamente semplice e ha la sola funzione di verificare il corretto funzionamento a intervalli periodici.

Il monitoraggio dell'UPS può essere gestito con la massima semplicità tramite un personal computer ed un apposito programma di comunicazione (opzionale).

Un pannello remoto (opzionale) per il controllo a distanza può essere collegato all'UPS; il pannello remoto si rivela indispensabile quando l'UPS è installato in locali non sorvegliati: visualizza il modo di funzionamento, ripete gli allarmi con l'accensione di LED e l'attivazione di un allarme sonoro.

1.1.4. Particolari costruttivi

Sulla parte frontale dell'UPS è posto il pannello di comando.

Aperto la porta, nella parte inferiore dell'UPS, sono collocati i morsetti degli interruttori che sono anche i terminali ingresso e uscita di potenza della macchina.

L'ingresso cavi può essere realizzato dal basso o dall'alto.

Checks have been made both on overload and on overtemperature to guarantee a prompt and fitting intervention should one of the aforementioned conditions arise during operation.

One or more emergency push-buttons (not supplied) can be connected. These, in case of fire, fully de-activate the UPS.

Since UPS operates in an automatic mode, there is no need to forward commands.

Therefore, the front panel is extremely easy and operation is the sole function to have a periodical check.

UPS is easily managed through a personal computer and through an interacting program (optional).

A remote panel can be connected to UPS for remote control operations. The remote panel is considered essential when the UPS is installed in unmanned rooms: it displays the operating mode, repeats the alarms through the lighting up of LEDs and activates a buzzer.

1.1.4. Construction details

The control panel is placed on the front door.

Behind the door, in the lower part of the cubicle, I/O power switches terminals are also I/O connectors for power cables.

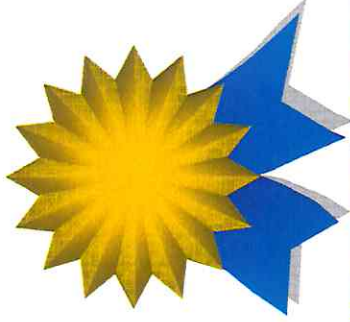
Power cables inlet is provided from the top or from the bottom of the cubicle.

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

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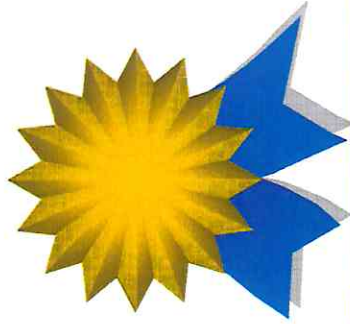
Andrea Modenesi

Certificate of Training

TO WHOM IT MAY CONCERN

We,
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Therefore, **Mr. Alexandr Grigoret** 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

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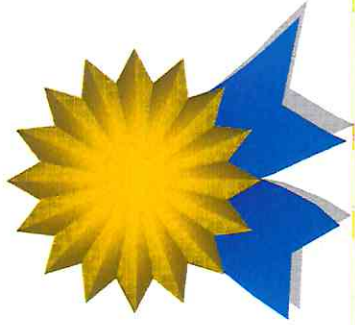
Andrea Modenesi

Certificate of Training

TO WHOM IT MAY CONCERN

We,
the Italian company **POWERTRONIX s.r.l.**, hereby certify that **Mr. Andrei Guranda** 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. Andrei Guranda** 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

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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

Powertronix S.r.l

(Place)

(Date)

(Signature of the Legal Representative)