



TORUS POWER

Engineered to perform
& protect like no other

Toroidal Isolation
Power Transformers

AVR2 ELITE Series Owner's Manual



Torus Power toroidal isolation transformers dramatically improve the performance of all audio and video systems. Connect audio equipment to a Torus Power isolation transformer and it comes alive - with more dynamics, improved imaging, and cleaner, enhanced bass. Video is crisper, with darker blacks, and brighter colours. Torus Power toroidal isolation transformers are the consistent choice of knowledgeable audiophiles, home theatre enthusiasts, custom electronic system integrators and designers, whose discriminating tastes and technical requirements mandate the ultimate performance and protection levels achievable.

Power system design and custom integration using Torus is effortless, due to the wide range of models, power ratings, chassis types, mounting choices, and control options, which include a local web browser interface and remotely via the cloud-based **Torus Power Connect** service.

Virtually all power line noise artifacts are eliminated through the toroidal isolation transformer, using patented Narrow Bandwidth Technology. The toroidal isolation transformer provides high levels of instantaneous current, making sure even dynamic components (such as high power amplifiers) are never starved for power. It's like having a clean power source directly adjacent to the plugged-in components. Torus Power isolation transformers also protect connected equipment from potentially damaging AC power line events, including severe lightning strikes and brownouts, thereby increasing system reliability, and extending product life.

Precision engineered, with more than 30 years of experience, and an unparalleled reputation, Torus Power is manufactured under ISO9001: 2008 quality management system in Canada. Whether you are a music lover with a mid-level system, a dedicated audiophile, a home theatre enthusiast, a custom designer, installer or integrator specifying power systems for home, studio, stadium, or commercial applications, a Torus Power isolation transformer will provide the ultimate clean power source solution.

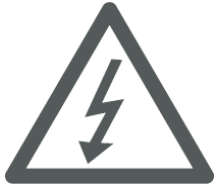
Cover page photos show the AVR2 ELITE 20 CB model.

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IMPORTANT SAFETY INSTRUCTIONS



CAUTION! To reduce the risk of electric shock and fire, do not remove the cover of this device. There are no user serviceable parts inside. Please refer all servicing to licensed service technicians.



CAUTION! The international symbol of a lightning bolt inside a triangle is intended to alert the user to uninsulated “dangerous voltage” within the device’s enclosure. The international symbol of an exclamation point inside a triangle is intended to alert the user to the presence of important operating, maintenance and servicing information in the manual accompanying the device.

CAUTION! To prevent electrical shock, match wide blade of plug to wide slot, fully insert.

CAUTION! To reduce the risk of electrical shock, do not expose this equipment to rain or moisture.

1. Read Instructions—All safety and operating instructions should be read before operating the device.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the device and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and safety instructions should be followed.
5. Water & Moisture—The device should never be used in, on or near water for risk of fatal shock.
6. Ventilation—The device should always be located in such a way that it maintains proper ventilation. It should never be placed in a built-in installation or anywhere that may impede the flow of air through its ventilation slots.
7. Heat—Never locate the device near heat sources such as radiators, floor registers, stoves or other heat-generating devices.
8. Power Cord Protection—Power cables should be routed so they are not likely to be stepped on or crushed by items placed on them or against them. Special attention should be paid to areas where the plug enters a socket or fused strip and where the cord exits the device.
9. Periods Of Non-Use—The device should be unplugged when not being used for extended periods.
10. Dangerous Entry—Care should be taken that no foreign objects or liquids fall or are spilled inside the device.
11. Service—The device should always be serviced by licensed technicians. Only replacement parts specified by the manufacturer should be used. The use of unauthorized substitutions may result in fire, shock, or other hazards.
12. Damage Requiring Service—The device should be serviced by licensed technicians when:
 - The plug or power supply cord has been damaged.
 - Objects have fallen or liquid has spilled inside the device.
 - The device has been exposed to moisture.
 - The device does not appear to be operating properly or exhibits a marked change in performance.
 - The device has been dropped or the enclosure becomes damaged.

- 13.** Do not position the equipment so that it is difficult to operate the disconnecting device (power cord).
- 14.** If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- 15.** The power switch should be in the “off” position when connecting or disconnecting equipment from a Torus Power unit.
- 16. CAUTION** Some units can be very heavy, please use safe practices when lifting.



≥18 kg (39.7 lb)



≥32 kg (70.5 lb)



≥55 kg (121.2 lb)

Shipping Carton & Packing Material

Please keep the original shipping box and all packing material. This will ensure the unit is protected in future transport.

In the unlikely event you have a problem and must return it for service you must use the original packing material.

Ship the unit only in the original packing material, as the unit is not insurable by carriers otherwise.

Placement & Ventilation

Torus Power PIUs (Power Isolation Units) are extremely efficient yet very high power devices, and must be adequately cooled.

PIUs have ventilation slots on the base, side panels and on the cover. Maintain at least 1" distance from each of these surfaces to anything else. Should your installation conditions be confined, additional forced air-cooling may be necessary.

Do not install the unit directly above heat generating equipment. Maintain at least 6" behind the PIU for adequate wiring space.

Torus Power AVR ELITE SERIES Overview

Torus Power AVR ELITE models deliver clean AC power with noise attenuation from 2 KHz to beyond 1 MHz. They provide true isolation (using large toroidal transformers) along with low source impedance and high instantaneous current for today's most sophisticated and powerful audio amplifiers. The performance level is far beyond what any typical power conditioner using discrete filters can provide.

Torus Power AVR ELITE series products are full-feature state-of-the art power transformers and voltage stabilizers, with a built-in web browser interface for Local Area Network and Cloud based connectivity for monitoring and control of audio/video systems. It is not necessary to use either as the AVR ELITE provides all the standard features, performance, and benefits right out of the box.

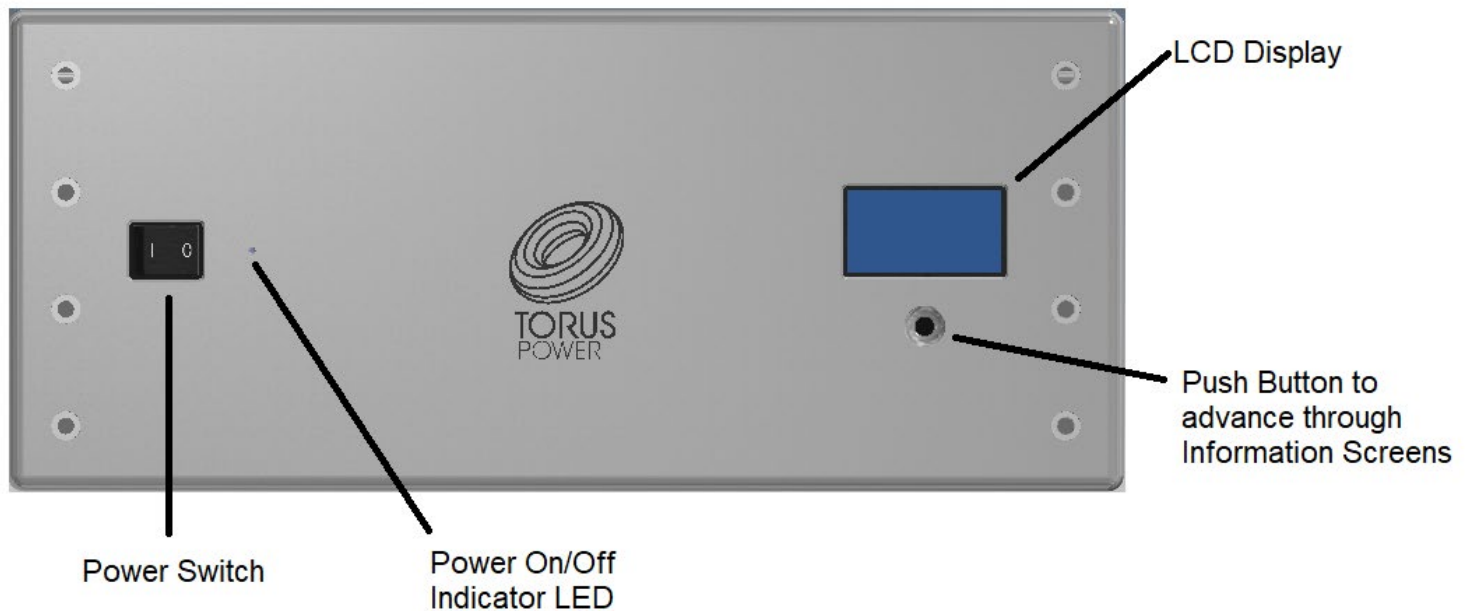
The AVR ELITE series provides multiple outlet zones that can be separately turned on or off through the web browser or via user defined schedules. A key feature is the voltage stabilization that keeps an optimal output voltage range (North America models +/- 4V, Europe/Asia/Australia +/- 8V of nominal operating voltage) regardless of fluctuations in the line voltage. Voltage sags, brownouts, and surges can stress components and shorten equipment life with worst case catastrophic events destroying valuable equipment. In such real world conditions, the Torus Power AVR ELITE can protect your equipment and improve the quality of your audio and video experience.

Series mode surge suppression is built into each AVR ELITE to provide protection against lightning strikes and other power disturbances, meeting IEEE endurance standards of 6000 volts, 3000 amps, with 1000 repeats.

Summary of AVR ELITE Series Features

- Toroidal isolation provides ultimate clean power performance
- Remote power management using **Torus Power Connect** cloud-based service
- Automatic voltage regulation with 4V increments maintains stable voltage output
- Series mode surge suppression protects against lighting, surges, spikes etc.
- Connect to local network using Web page browser
- Addressable outlet zones for control and monitoring
- Scheduling and sequencing of outlet zones
- Password control
- Email notification of fault conditions
- No programming or internet connection needed (required if using Torus Power Connect service)
- Powerful 32-bit processor
- Large graphical display of key power parameters
- Internal Flash Memory for 10,000 events to record data when cloud unavailable
- Internal high reliability power supply module
- Enhanced communication module including WiFi connectivity
- USB 2.0 port for 3rd party connectivity, LED lighting, and charging
- Optical isolation between high voltage and low voltage to increase safety and compliance to new standards

Front Panel Display



The front panel consists of a 4 line LCD display and a pushbutton switch. Each time you push the button the display will show a different feature of the AVR ELITE.

When you first turn on the AVR ELITE the System Status will appear. Each time you push the button it will change from one information screen to another.

```
13:34:19
Fri. 14/2/2020
```

Time/Day/Date

```
In: 115V
Out: 118V 1.4A
THD: 3.2%
```

System Status

```
Power: 165W
Peak: 165W
```

Power Status

```
On Outputs
A B C D A
```

Active Zones

```
IP:
192.168.0.103
MAC:
04916229e22b
```

IP and MAC Address

Voltage Fault Protection

If the AC voltage supplied to the AVR ELITE is too high or too low voltage (see reference chart at the end of this section) for 1 second or more, a voltage fault message is displayed and the back panel fault output is turned on. The unit automatically goes into shut down mode so the voltage to each power outlet on the back panel is automatically turned off even while the front panel power switch remains in the ON position.

The front panel display will alternate to show either of the following message pairs:

System OFF HIGH AC VOLTAGE	In: 138V Out: 0V 0.0A THD: 0.0%
OR	
System OFF LOW AC VOLTAGE	In: 83V Out: 0V 0.0A THD: 0.0%

When the AC supply voltage has returned to a normal operating range for 1 minute consecutively the AVR ELITE will resume normal operation and the High or Low AC Voltage advisory message will no longer appear on the LCD display. The rear panel outlet zones will provide power again and be turned on in sequential order with the delay between zones as defined in System Setup.

Nominal Input	Output	Fully Regulated Output Range	Auto Shutdown Low Input Voltage	Auto Shutdown High Input Voltage	Output Range Before Auto Shutdown	Fully Regulated Input Range	Auto Turn On Low Input Value	Auto Turn On High Input Value
North American								
120	120 +/- 4V	116-124	<85	>135	110-130	90-130	90	130
240	120 +/- 4V	116-124	<170	>270	110-130	180-260	180	260
International								
220	220 +/- 8V	212-228	<150	>250	200-240	160-240	160	240
230	230 +/- 8V	222-238	<160	>260	210-250	170-250	170	250
240	240 +/- 8V	232-248	<170	>270	220-260	180-260	180	260

Notes:

1. The AVR ELITE unit needs to be switched **ON at all times for series mode surge protection to be active**. If the AVR ELITE and connected components will not be used for an extended period of time, it is recommended to unplug the AVR ELITE unit from main power.
2. There is a 20-second delay built into the AVR ELITE system, to prevent nuisance switching. The AVR ELITE will take approximately 20-seconds to change relay taps to switch to the proper output voltage setting.
3. North American models (15A, 20A): Torus AVR ELITE will keep the output constant within the range of $120\pm 4V$, with an input voltage of 90V to 130V. Between 85V to 90V, and between 130V and 135V, the regulation will be reduced.
4. North American BAL models: Torus AVR ELITE will keep the output constant within the range of $120\pm 4V$, with an input voltage of 180V to 260V. Between 170V to 180V, and between 260V and 270V, the regulation will be reduced.
5. International models: Torus AVR ELITE will keep the output constant within the range of $240\pm 8V$, with an input voltage of 180V to 260V. Between 170V to 180V, and between 260V and 270V, the regulation will be reduced.
6. The output current (Amps) displayed on the LCD is the RMS reading of the load. It does not indicate the peak current loads.
7. A drop in the input voltage is normal when increasing the load on the AVR ELITE. This is a result of the impedance of the power line, a function of the distance from the electrical panel and transformer regulation.

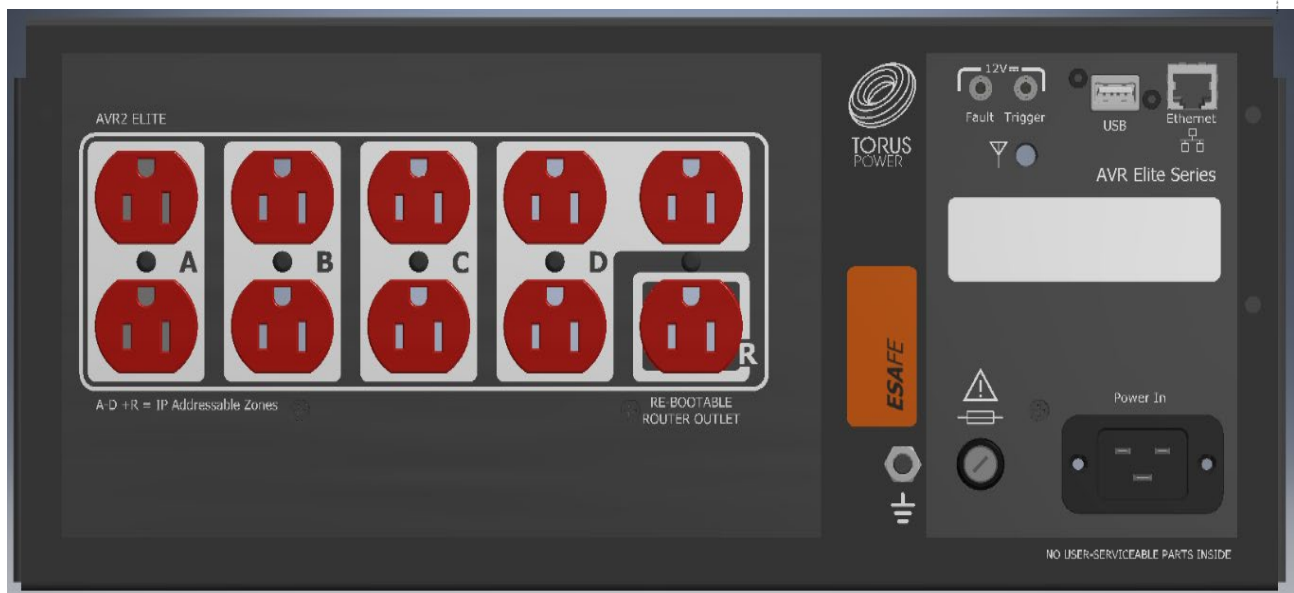
Component Connection Zones

Depending upon the power rating AVR ELITE units come in two configurations in terms of IP Addressable zones.

4 Zones + R: A, B, C, D and R

7 Zones + R: A, B, C, D, E, F, G and R

- Zones A to G can be individually controlled and programmed.
- Each zone can be scheduled to turn ON or OFF at any time or day of the week.
- Each zone can also be individually turned ON or OFF through the local web browser interface or Torus Power Connect account
- Zone R can be programmed as either a controlled outlet or an automatically rebooted Router outlet.



Rear Panel with **4 Zones + R**

The Zones on the AVR ELITE switch on in sequence: Zone A first, Zone B second and so on. This will allow you to select the order in which your components are switched on. For example, components that should be switched on first (such as front end components) can be connected to Zone A and Zone B. Components to be switched on last (such as power amplifiers) can be connected to Zones C, D (or Zones E, F, G in higher capacity units). All outlet zones will be turned to the ON state when the AVR ELITE is turned ON. This also applies when outlet zone(s) were OFF prior to cycling its main power by turning it OFF and then ON again.

Routers should be connected to Zone R if the automatic reboot feature is to be utilized; if this feature is NOT to be used, Zone R can be used as an extra controllable outlet zone. Zone R switches on last. Since every outlet on the AVR ELITE is capable of providing full current with no restriction, connecting components for preferred sequencing will NOT compromise performance.

Rear Panel Connections



Ethernet

Allows access to the AVR ELITE and internal software via a local web browser interface (See AVR ELITE software section for more details) or Torus Power Connect service (see Torus Power Connect section).

USB 2.0 Port

For charging and external control (future)

12VDC Trigger On/Off

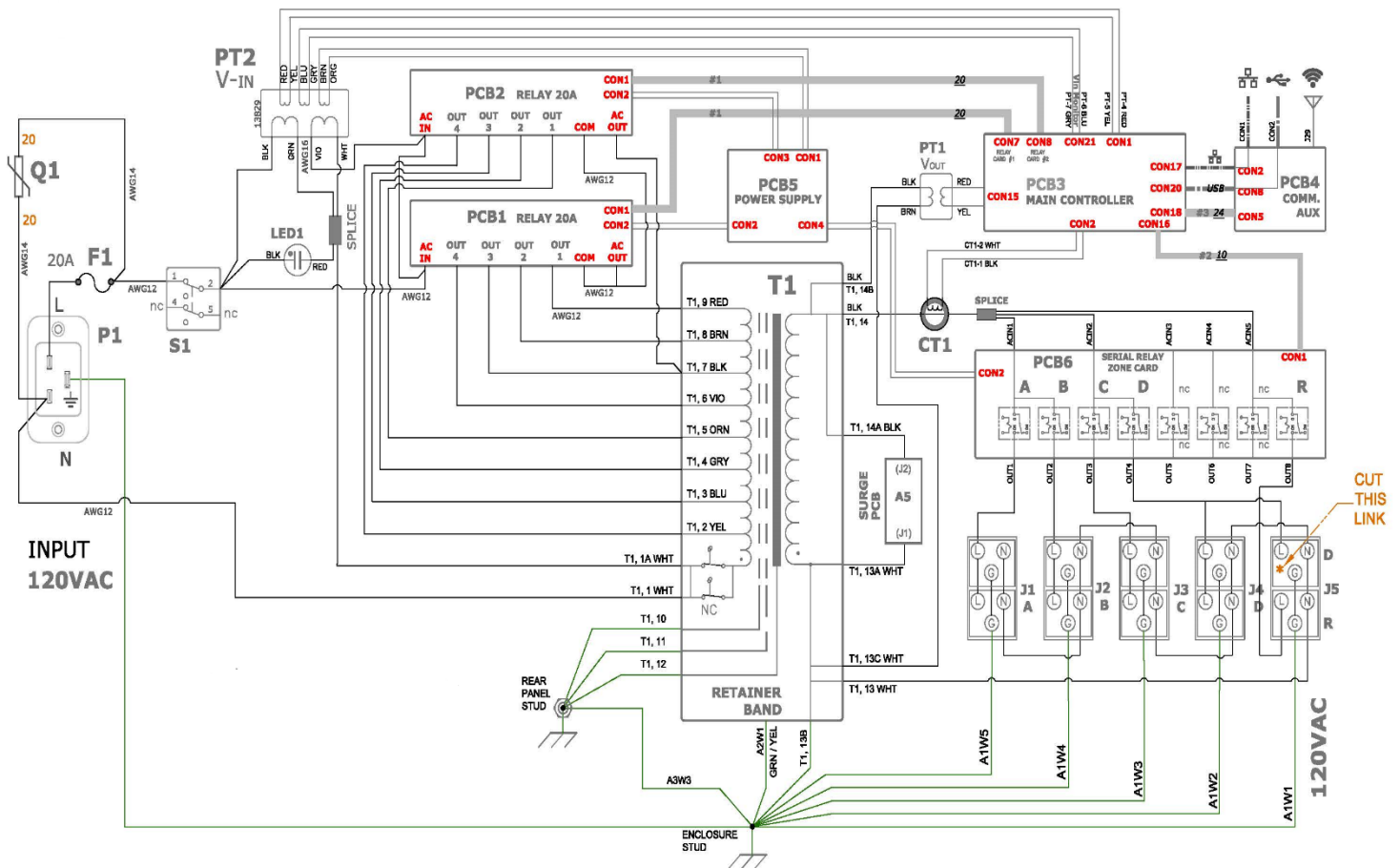
The AVR ELITE can be turned on and off by a 12 volt trigger input. Applying 12 volts turns ON the AVR ELITE and removing the 12 volts turns it OFF. Requires a 3.5 mm TS type male audio connector with tip wired as positive and sleeve wired as negative from controlling source.

12VDC Fault Output

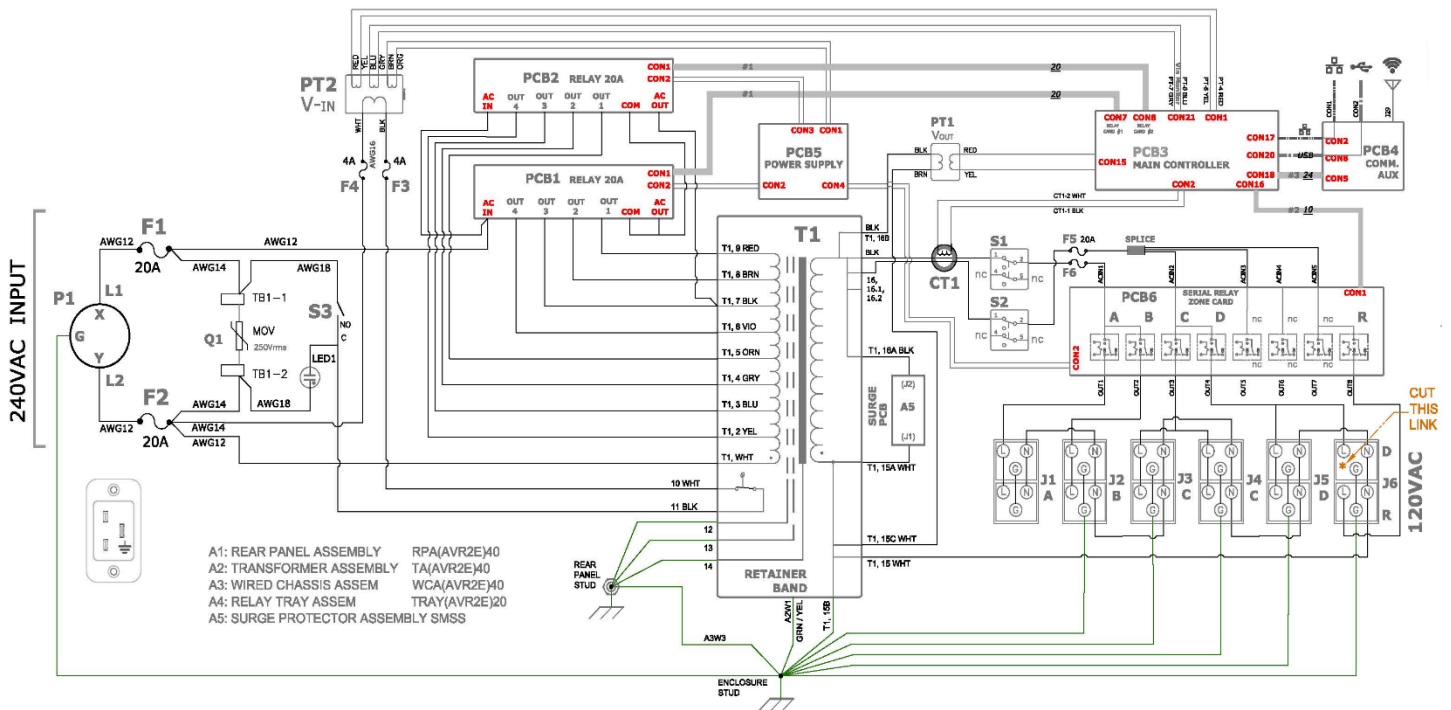
The AVR ELITE provides a 12 volt fault output through a jack on the back panel. The output goes to 12 volts when a relay or voltage fault is detected. The maximum current that can be drawn from this output is 75mA. Requires a 3.5 mm TS type male audio connector with tip wired as +ve and sleeve wired as -ve.

Antenna

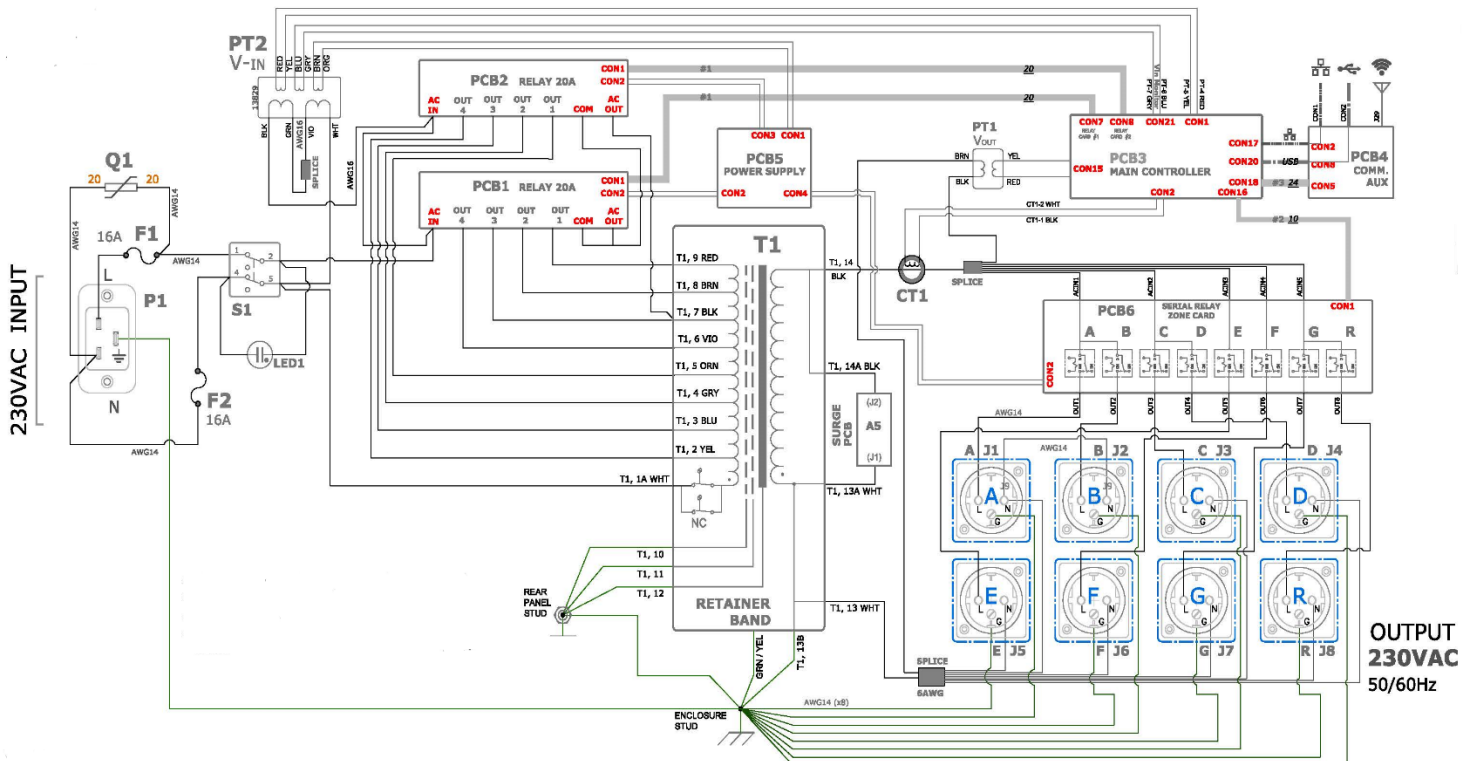
Connect the provided antenna for WiFi functionality if using the Torus Power Connect service.



North American Model (AVR-2 ELITE 40 BAL)



International Model (AVR-2 ELITE 16 CE)

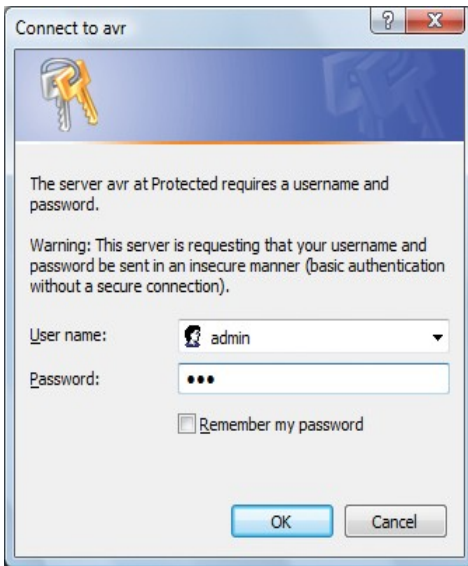


AVR ELITE Embedded Software

The AVR ELITE local area network web browser interface is resident in the microprocessor on the internal control board. There are two methods to access the software.

1) Connect the AVR ELITE Ethernet port to a local network port and open a web browser on a PC that is connected to the same local network. Enter AVR (or the IP address displayed on the AVR ELITE's LCD display) into the browser window. Press ENTER and the software will open.

2) Use a three way DHCP Router. You then connect both PC and AVR ELITE to the same DHCP Router. Open a browser window from the PC. Type AVR, (or the IP address displayed on the LCD) into the browser window. Press ENTER and the software will open.



Username and Password

The password is required to change the setup of the Torus unit.

Username: **admin**

The username is factory set and cannot be changed.

Password: **avr**

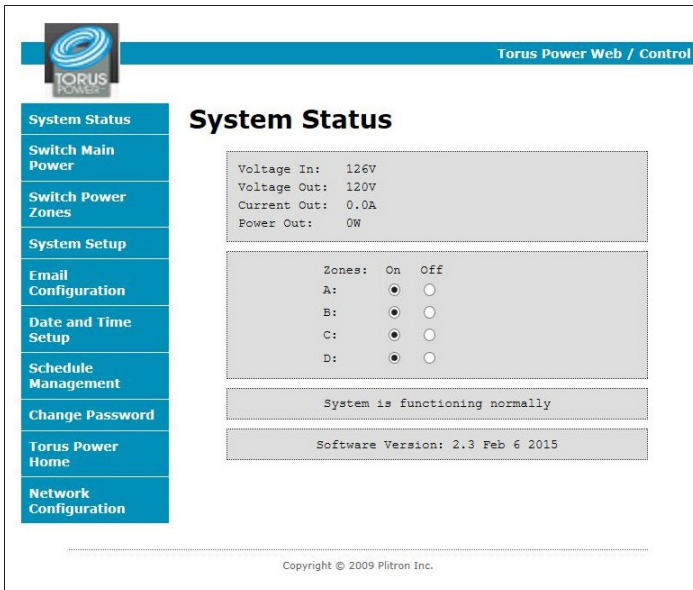
This is the default password, and can be changed.

You can change your password by selecting: **Set Password**

Forget your password

The AVR ELITE can be restored to the factory default password **avr** by pressing and holding the button on the front panel for at least 10 seconds.

AVR ELITE Menu Selections



The screenshot shows the 'System Status' menu selected in the left sidebar. The main content area displays the following information:

Voltage In:	126V
Voltage Out:	120V
Current Out:	0.0A
Power Out:	0W

Zones:	On	Off
A:	<input checked="" type="radio"/>	<input type="radio"/>
B:	<input checked="" type="radio"/>	<input type="radio"/>
C:	<input checked="" type="radio"/>	<input type="radio"/>
D:	<input checked="" type="radio"/>	<input type="radio"/>

System is functioning normally

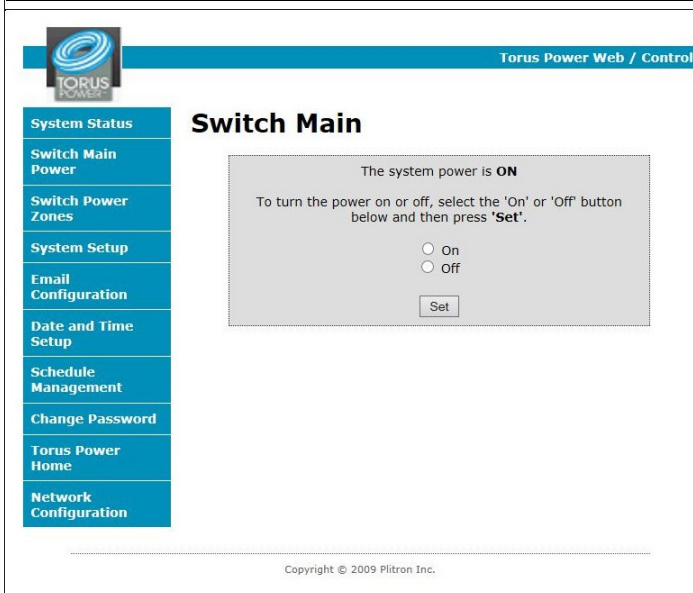
Software Version: 2.3 Feb 6 2015

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System Status

This screen indicates the overall status of the system, showing Voltage In, Voltage Out, Current Out, Power Consumption and Active Zones.

It also reports if the system is functioning normally or whether there is a fault condition. (No password required to monitor status)



The screenshot shows the 'Switch Main' menu selected in the left sidebar. The main content area displays the following information:

The system power is **ON**

To turn the power on or off, select the 'On' or 'Off' button below and then press 'Set'.

☐ On
☐ Off

Set

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Switch Main Power

This screen allows ON/OFF control of the AVR ELITE unit.

Press the SET button to implement your selection. As the output power from the Torus AVR ELITE unit is shut down, all the connected equipment is turned off.

The AVR ELITE main power switch remains in the ON position, although there is no power to the load.



System Status

Switch Main
PowerSwitch Power
Zones

System Setup

Email
ConfigurationDate and Time
SetupSchedule
Management

Change Password

Torus Power
HomeNetwork
Configuration

Zone Power Control

Zones:	On	Off
A:	<input checked="" type="radio"/>	<input type="radio"/>
B:	<input checked="" type="radio"/>	<input type="radio"/>
C:	<input checked="" type="radio"/>	<input type="radio"/>
D:	<input checked="" type="radio"/>	<input type="radio"/>

The current on/off state of each zone is indicated above.
Use the 'On' and 'Off' buttons to change the zone state.
Press 'Set' to save the new settings.

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Zone Power Control

The current ON/OFF state of each zone is indicated here. Each zone can be individually turned on or off.

Use the 'ON' and 'OFF' buttons to change the zone state. Press 'SET' to save the new settings.

Active zones are also shown in the front panel display.



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Email Configuration

1. Please enter the "Email Address" that the logged data should be sent to.
2. If you have multiple AVR devices, assign different "Email Subjects" to them to tell apart the logs of different devices.

Email Configuration	
SMTP Server:	<input type="text"/>
Port:	<input type="text" value="25"/>
User Name:	<input type="text"/>
Password:	<input type="text"/>
Email Address:	<input type="text"/>
Email Subject:	<input type="text"/>
<input type="button" value="Save"/>	
<input type="button" value="Send Test Email"/>	

Copyright © 2009 Pitron Inc.

Email Fault Alert Notification

In the unlikely event your AVR ELITE experiences an issue the AVR ELITE will shut down and send an email notification, if this section is configured.

After entering the configuration parameters use the 'Send Test Email' button to confirm your settings are correct.



System Status

Switch Main
PowerSwitch Power
Zones

System Setup

Email
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Management

Change Password

Torus Power
HomeNetwork
Configuration

Set Date and Time

Date:	<input type="text" value="1/21/2020"/>	mm/dd/yyyy
Time:	<input type="text" value="11:00:05"/>	24hr format
Day:	<input type="text" value="3"/>	
	1-Sun 2-Mon 3-Tue 4-Wed 5-Thu 6-Fri 7-Sat	
Time Zone:	<input type="text" value="-5.0"/>	+/- Hours,
	GMT	
<input type="button" value="Set Date/Time"/>		


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Date and Time Setup

When the AVR ELITE is connected to the Internet, the date, time and day will automatically be set. However, when the AVR ELITE has no access to the Internet the Date, Time and Day can be set manually which will allow the AVR ELITE to follow scheduled programming even if the Internet is later unavailable.

If the Internet connection is restored the date, time and day will be automatically set.

WARNING: If the unit is powered off/on when the Internet connection is lost the date, time and day is nulled. It can be manually re-entered here.


Torus Power Web / Control

System Status

Switch Main Power

Switch Power Zones

System Setup

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Date and Time Setup

Schedule Management

Change Password

Torus Power Home

Network Configuration

System Setup

This page allows the configuration of the AVR's programmable parameters.

Zone R/Router Reset: ☐ Check to Activate Auto Reboot and disable Zone R Scheduling.

Router Reset Delay Time: (1 to 255 minutes)
Select time interval between router resets. System will attempt 3 resets.

Delay Time between zones (Scheduler and Start-Up): (1 to 999 seconds)
Select interval for sequencing and power up between zones.

Schedule: ☒ System Follow Schedule

Front Panel Display

Always ON: ☐ Display is always On

DIMMING Delay: ☐ Display is dimmed after delay

OFF Delay: ☒ Display is turned off after delay

Delay: (10 to 255 seconds)

System Setup

Delay Time Between Zones (Scheduler and Start UP):

Select a delay interval time (1 to 999 seconds) for sequential Power ON and OFF between zones.

Schedule:

By checking this button the output zones will follow the defined schedules for turning power on or off. (see Schedule Management)

Front Panel Display:

There are 3 modes for the front panel display;

- Always ON (default setting)
- Dim after delay time (10-255 seconds) expires
- Turn off after delay time (10-255 seconds) expires

Zone R/Router Reset:

User has the option to assign Zone R (individual zone located at rear panel) to act as an additional output zone or to be used for automatic router reboot.

Unchecked Zone R/Router Reset:

- Zone R will act like a regular zone, and can be programmed to switch ON/OFF individually like other zones. (see page 8, Zone Power Control)
- Zone R works with the Schedule Manager and can be programmed to turn ON/OFF at any time on any day of the week like other zones. (see page 10, Scheduling Management)
- Zone R operates with other zones during sequential start-up.

Checked Zone R/Router Reset:

- Zone R can only be used for router and/or modems.
- The Auto reboot feature initiates power cycling of the router or modem when internet connection is down. The system will reset Zone R up to three times with adjustable time intervals between each attempt.
- Zone R can no longer be individually turned OFF/ON through Zone Power Control.
- Zone R will disappear in the Zone Power Control section.
- Zone R can no longer be scheduled or sequenced to turn ON/OFF.

When you have made your selection, press **SAVE SETUP**.



System Status

Switch Main Power

Switch Power Zones

System Setup

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Torus Power Home

Network Configuration

Schedule Management

Enter "Time" in 24 hour format. (e.g. 21:35 instead of 9:35PM.)

Day	Hour	Min.	Power Zones			
			A	B	C	D R
Monday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wednesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wednesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wednesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wednesday:	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Schedule Management

Scheduling features allow automatic control (ON/OFF) of any outlet zone according to user-defined schedule.

Schedule parameters allow one week repeating schedule, with up to 6 events per day for each controlled zone.

Outlets can be sequenced during start up. Each zone can be operated by the schedule, or in real-time via the web browser.

Schedule is followed even when Internet connection is lost, as long as system power is maintained.

Check the box associated with each zone to have power enabled at its outlets at the specified time.

WARNING: Leaving a zone's box unchecked for a specific time will turn power off.



System Status

Switch Main Power

Switch Power Zones

System Setup

Email Configuration

Date and Time Setup

Schedule Management

Change Password

Torus Power Home

Network Configuration

Network Configuration

This page allows the configuration of the board's network settings.

CAUTION: Incorrect settings may cause the board to lose network connectivity. Recovery options will be provided on the next page.

Enter the new settings for the board below:

MAC Address:	04:91:62:29:e2:2b
Host Name:	AVR
<input checked="" type="checkbox"/> Enable DHCP	
IP Address:	192.168.0.106
Gateway:	192.168.0.1
Subnet Mask:	255.255.255.0
Primary DNS:	192.168.0.1
Secondary DNS:	0.0.0.0
NTP Server:	pool.ntp.org
NTP Query Interval:	600
WiFi Setting:	<input checked="" type="checkbox"/> WiFi Installed
CAUTION: WiFi SSID and Password length must not be more than 20 characters.	
WiFi SSID:	ASUS
WiFi Password:	*****
<input type="button" value="Save Config"/>	

Network Configuration

Each AVR ELITE unit has a unique MAC Address which is factory assigned.

The IP address assigned to the AVR ELITE is dynamically assigned and is displayed on this screen as well as on the front panel LCD of the AVR ELITE.

The AVR ELITE can be programmed through the web browser to automatically get an IP address from the network switch or router and this is the default setting and should work on most networks.

Some networks require each PC or device to use a fixed IP address and the AVR ELITE also supports this option.

The WiFi section is required when using the Torus Power Connect service.



System Status

Switch Main Power

Switch Power Zones

System Setup

Email Configuration

Date and Time Setup

Schedule Management

Change Password

Torus Power Home

Network Configuration

Change Password

Enter New Password:	<input type="password"/>
Re-enter Password:	<input type="password"/>
<input type="button" value="Save Password"/>	

Change Password

If you wish to change the password, use this screen.

In case you forget your password, the AVR ELITE can be restored to the factory default password by pressing and holding the button on the front panel for at least 10 seconds. The default password is **avr**.

North American Models

Electrical Specifications

Model Number	Input Voltage Nominal	Output Voltage Nominal	Input Fuses	Maximum Available Output Current	Number of IP Addressable Zones
AVR2 ELITE 20	120VAC, 60Hz (Operating Range 85V to 135V)	120VAC \pm 4V	1 x 20A	20A	4 + R
AVR2 ELITE 40 BAL	240VAC, 60Hz (Operating Range 170V to 270V)	120VAC \pm 4V	2 x 20A	40A	7 + R
AVR2 ELITE 60 BAL			2 x 30A	60A	7 + R
AVR2 ELITE 90 BAL			2 x 45A	90A	7 + R

Mechanical Specifications

Model Number	Input Connector (Rear Panel)	Output Connector (Rear Panel)	Line Cord	Size, mm (WxDxH) Size, inch (WxDxH)	Weight KG(lb)	Chassis Height
AVR2 ELITE 20	IEC 20A Inlet, NEMA C20	10 Medical Grade Outlets, 20A	N5/20, 12AWG-C19, 20A/125V	483x483x203 17x19x8	40.5(89)	4U (7.00")
AVR2 ELITE 40 BAL	Hubbell Twist-lock 30A/250V NEMA L6-30P	18 Medical Grade Outlets, 20A	Twist-lock, 2.5M 10AWG, 30A	483x559x249 17x22x9.8	63(139)	5U (8.75")
AVR2 ELITE 60 BAL					75(165)	
AVR2 ELITE 90 BAL	Hubbell Twist-lock 50A/250V 2P3W	24 Medical Grade Outlets, 20A	Twist-lock, 2.5M 6AWG, 50A	483x660x249 17x26x9.8	91(201)	

International Models

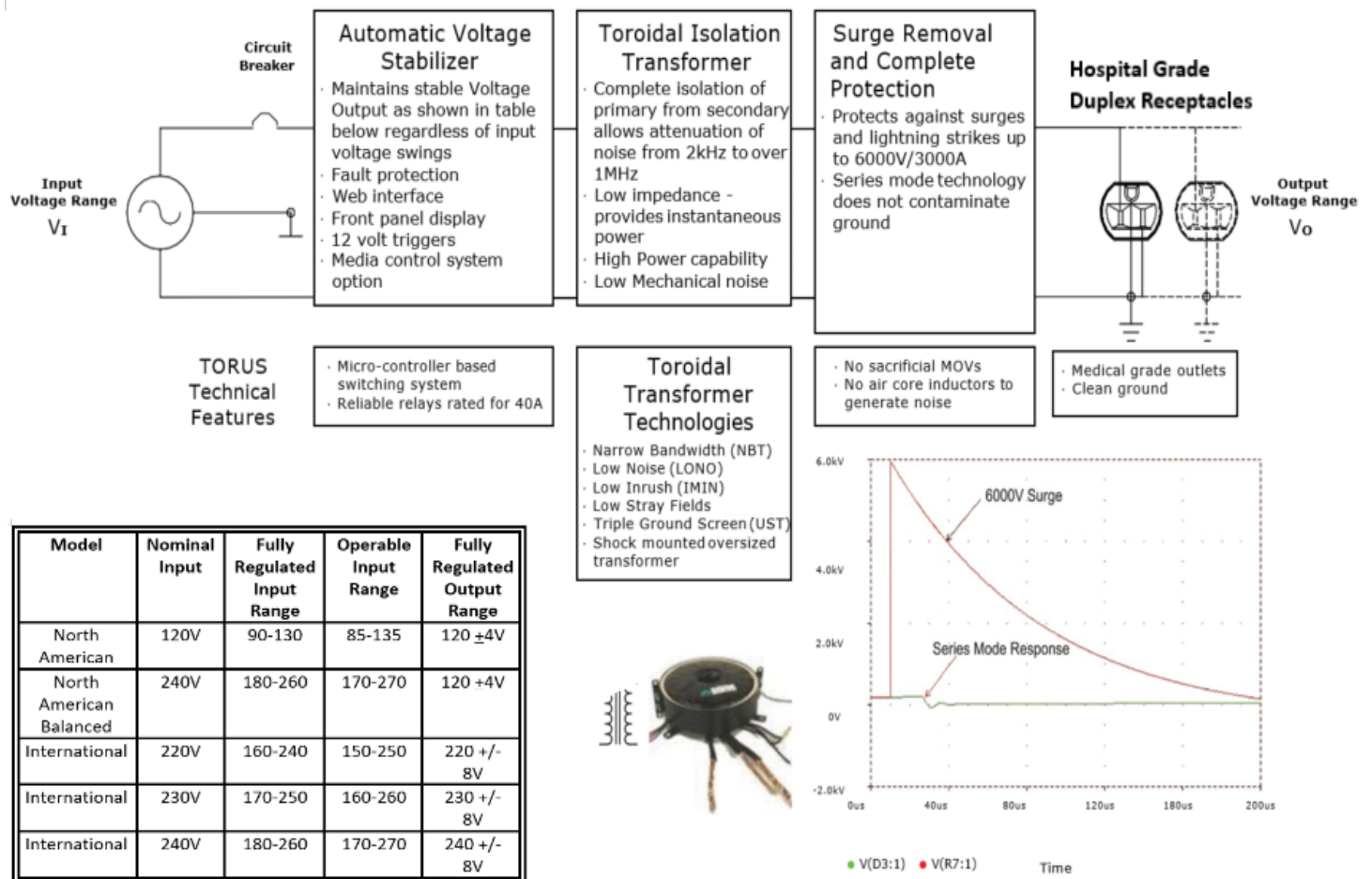
Electrical Specifications

Model Number	Input Voltage Nominal	Output Voltage Nominal	Input Circuit Breaker (Fuses)	Maximum Available Output Current	Number of IP Addressable Zones
AVR2 ELITE 8 CE	240VAC, 50/60Hz (Operating Range 170V to 270V)	220-240VAC \pm 8V	1 x 8A	8A	4 + R
AVR2 ELITE 16 CE			1 x 16A	16A	7 + R
AVR2 ELITE 30 CE			2 x 30A (Fuses)	30A	7 + R
AVR2 ELITE 8 UK	240VAC, 50/60Hz (Operating Range 170V to 270V)	220-240VAC \pm 8V	1 x 8A	8A	4 + R
AVR2 ELITE 16 UK			1 x 16A	16A	7 + R
AVR2 ELITE 30 UK			2 x 30A (Fuses)	30A	7 + R
AVR2 ELITE 8 AUS	240VAC, 50/60Hz (Operating Range 170V to 270V)	220-240VAC \pm 8V	1 x 8A	8A	4 + R
AVR2 ELITE 16 AUS			1 x 16A	16A	7 + R
AVR2 ELITE 30 AUS			2 x 30A (Fuses)	30A	7 + R
AVR2 ELITE 8 515R	240VAC, 50/60Hz (Operating Range 170V to 270V)	220-240VAC \pm 8V	1 x 8A (Fuse)	8A	4 + R
AVR2 ELITE 16 520R			1 x 16A	16A	7 + R
AVR2 ELITE 30 520R			2 x 30A (Fuses)	30A	7 + R

Mechanical Specifications

Model Number	Input Connector (Rear Panel)	Output Connector (Rear Panel)	Line Cord	Size, mm (WxDxH) Size, inch (WxDxH)	Weight KG(lb)	Chassis Height
AVR2 ELITE 8 CE	IEC 15A Inlet, NEMA C14	16A/250V CE Socket (x6)	10A/250VAC, 2.5M Plug: CEE 7/7 Connector: IEC - C13	483x483x203 17x19x8	38.5(85)	4U (7.00")
AVR2 ELITE 16 CE	IEC 20A Inlet, NEMA C20	16A/250V CE Socket (x9)	16A/250VAC, 2.5M Plug: CEE 7/7 Connector: IEC - C19	483x559x249 17x22x9.8	56.5(125)	5U (8.75")
AVR2 ELITE 30 CE	Hubbell Twist-lock 30A/250V NEMA L6-30P	16A/250V CE Socket (x9)	Twist-lock, 2.5M 10AWG, 30A		86(190)	
AVR2 ELITE 8 UK	IEC 15A Inlet, NEMA C14	13A/250V UK Socket (x6)	10A/250VAC, 2.5M Plug: BS 1363 Connector: IEC - C13	483x483x203 17x19x8	38.5(85)	4U (7.00")
AVR2 ELITE 16 UK	IEC 20A Inlet, NEMA C20	13A/250V UK Socket (x8)	13A/250VAC, 2.5M Plug: BS 1363 Connector: IEC - C19	483x559x249 17x22x9.8	56.5(125)	5U (8.75")
AVR2 ELITE 30 UK	Hubbell Twist-lock 30A/250V NEMA L6-30P	13A/250V UK Socket (x8)	Twist-lock, 2.5M 10AWG, 30A		86(190)	

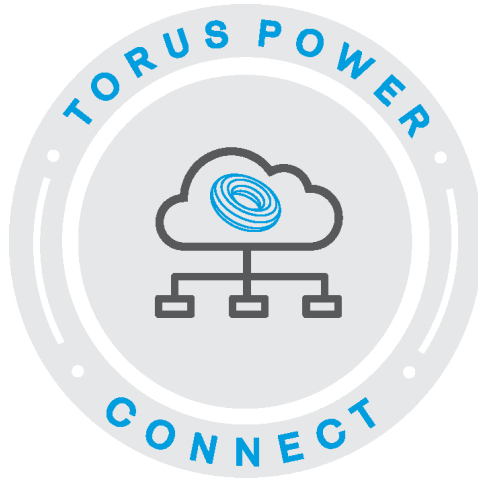
Model Number	Input Connector (Rear Panel)	Output Connector (Rear Panel)	Line Cord	Size, mm (WxDxH) Size, inch (WxDxH)	Weight KG(lb)	Chassis Height
AVR2 ELITE 8 AUS	IEC 15A Inlet, NEMA C14	10A/250V AUS Socket (x6)	10A/250VAC, 2.5M Plug: AS/NZS 3112:2000 Connector - IEC C13	483x483x203 17x19x8	38.5(85)	4U (7.00")
AVR2 ELITE 16 AUS	IEC 20A Inlet, NEMA C20	20A/250V AUS Socket (x8)	13A/250VAC, 2.5M Plug: BS 1363 Connector: IEC - C19	483x559x249 17x22x9.8	56.5(125)	5U (8.75")
AVR2 ELITE 30 AUS	Hubbell Twist-lock 30A/250V NEMA L6-30P	20A/250V AUS Socket (x8)	Twist-lock, 2.5M 10AWG, 30A		86(190)	
AVR2 ELITE 8 515R	IEC 20A Inlet, NEMA C20	10 Medical Grade Outlets, 15A	N5/20, 12AWG-C19, 2.5M	483x483x203 17x19x8	38.5(85)	4U (7.00")
AVR2 ELITE 16 520R	IEC 20A Inlet, NEMA C20	12 Medical Grade Outlets, 20A	N5/20, 12AWG-C19, 2.5M	483x559x249 17x22x9.8	56.5(125)	5U (8.75")
AVR2 ELITE 30 520R	Hubbell Twist-lock 30A/250V NEMA L6-30P	18 Medical Grade Outlets, 20A	Twist-lock, 2.5M 10AWG, 30A		86(190)	



Factory Reset Procedure

1. Disconnect the Ethernet cable from the AVR.
2. Turn the power switch to the OFF position. The power light will go out.
3. Press and hold the little pushbutton switch below the front panel display on the AVR.
4. Continue to hold the pushbutton switch and turn the power switch to the ON position. Hold the pushbutton switch for approximately 30 seconds and then release the pushbutton switch.
5. Use the pushbutton as you would normally to scroll through the various screens until you get to the IP address screen and it should now show as 0.0.0.0.
6. Plug in the Ethernet cable. The IP address should change to a value appropriate for your new network setup as the unit's network configuration is now set to factory default as DHCP.
7. You can then use this new IP address to access the unit as you did previously if you wish to assign it a new static IP address.

Torus Power Connect



Torus Power Connect is a powerful cloud-based website developed by Torus Power for control, data logging and reporting. Torus Power Connect provides Users with a custom dashboard for control, status, setup, and configuration purposes.

One year of Torus Power Connect service is included with each new AVR Elite purchase. A subscription renewal is required to continue this service beyond the first year. Visit www.toruspowers.com to purchase a 1, 2, or 3 year subscription renewal.

User Registration

A User can register for the Torus Power Connect service directly or via their dealer/installer.

Direct Registration

This is done on the Torus Power Connect web site (<https://toruspowerconnect.com>). Click on *Register* and complete all fields on the Self Registration screen, perform the Anti-Spam Verification, and then click on *Register Account*.

A temporary password will be sent to the email address provided. The User must login to the Torus Power Connect web site (<https://toruspowerconnect.com>) within 30 days to set a new secure password and activate their Torus Power Connect account.

For any problems with this self registration please email (tpc@toruspowerconnect.com) or contact Torus Power Connect directly (1-877-337-9480).

Dealer/Installer Registration

Your Torus Power dealer/installer will get the required details to proceed with the registration and activation of this service for your AVR Elite and provide your account login details.

Device Registration (applies to Self Registered Users only)

Each AVR Elite device to utilize the Torus Power Connect service by the dealer and/or user must be registered. There is a unique identifier called a MAC address for each AVR Elite device. The MAC address can be found on the label close to the Ethernet connection jack on the back of the unit. It can also be found by scrolling through the information shown on the front panel's LCD display by pressing the small button below the display when the unit is powered on. Email tpc@toruspowerconnect.com the unit's unique MAC address and a Device Description (optional but recommended). You will receive an email reply when your unit has been registered.

The AVR ELITE connects to Torus Power Connect service via a WiFi network connect. This setup can be found on page 16 of this manual.

User Menu

The Torus Power Connect User login defaults to the Live Data screen (see Present Live Data for details).

Click on [User Menu](#) to see a dropdown list of available options. Highlight and click to select the desired option (see below for details of each option)



Get information by hovering the mouse cursor over (computer or tablet) or clicking on (smart phone) this icon to open a popup window with information about the fields on that specific screen.

System Status

Click the [Show](#) text for a specific AVR Elite device to view its system status details. This will provide a snapshot of the values at the time of the request. Clicking the [Refresh](#) text bar will update the System Status details every 3 seconds for 1 minute.

System Status

Device Status

Location Description

Torus Power Offices

Device ID

04916229e22b

MAC Address

04:91:62:29:e2:2b

System Power

ON

Model Type

North American 120

Status

System is functioning normally

Device Last Time

1/28/2020 11:36:38 AM

Time Zone

-5 Hours, GMT

Refresh Mode

No updates

Refresh

Subscription End

8/7/2020


System Status	
Electrical Values	
Voltage In [V]	118.0
Voltage Out [V]	121.4
Current Out [A]	0.2
Power Out [W]	24.0
Output THD [%]	4.2
Tap Number	3

System Status	
Zone Values	
Zone A	OFF
Subs	
Zone B	OFF
Amps	
Zone C	OFF
Video hardware	
Zone D	OFF
Components	
Zone R	ON
Network Equipment	

Live Data

Click the [Present](#) text for a specific AVR Elite device to easily view its input voltage, output voltage, input current, output current, and output Total Harmonic Distortion values. Clicking the [Refresh](#) text bar will update the Live Data details every 3 seconds for 1 minute.

Live Data



Device Specifications

Location Description: Torus Power Offices

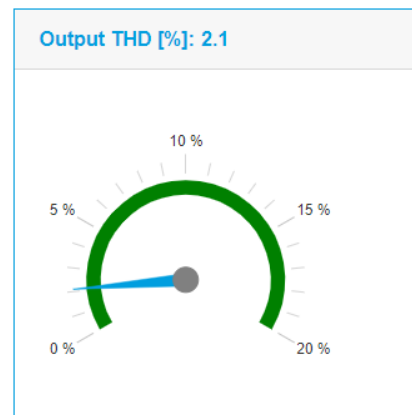
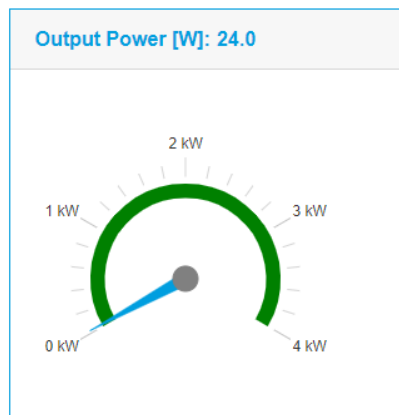
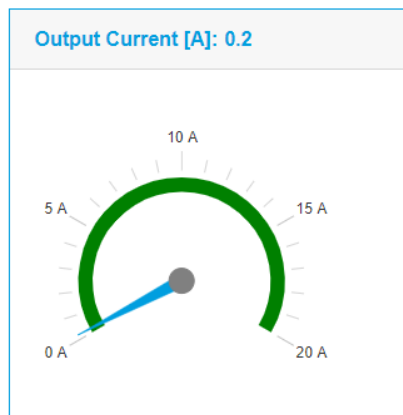
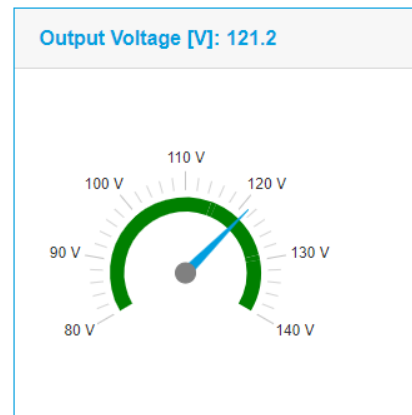
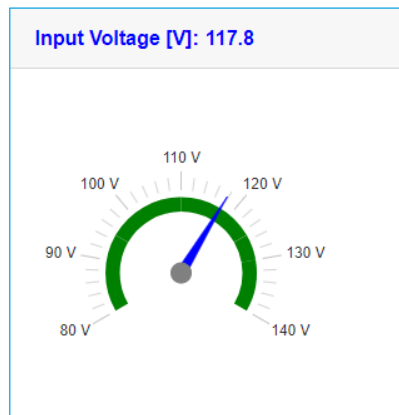
Device ID: 04916229e22b

MAC Address: 04:91:62:29:e2:2b

Device Last Time: 1/21/2020 10:06:33 AM

Refresh Mode: No updates

Refresh



Power Control

Click the [Control](#) text for a specific AVR Elite device to manually control (ON/OFF) the unit's power state or the power state of each individual outlet zone. Click the [Refresh Reported Values](#) text to confirm the specific action was successful.

Power Control

Switch Main Power

Location
Description

Torus Power Offices

Device ID

04916229e22b

MAC Address

04:91:62:29:e2:2b

System
Power

Reported
ON

Desired
ON

Enable Desired Settings

Refresh Reported Values

Power Control

Zone Power Control

Zone	Reported	Desired
A	OFF	OFF
B	OFF	OFF
C	OFF	OFF
D	OFF	OFF
R	ON	ON

Enable Desired Settings

Refresh Reported Values

Power Control

Power Zone Description

Zone	Description
A	Subs
B	Amps
C	Video hardware
D	Components
R	Network Equipment

Save Zone Descriptions

System Setup

Click the [Setup](#) text for a specific AVR Elite device to view and edit operational setting of the device. Click the [Save Setup](#) text bar for changes to be saved on the AVR Elite.

- Out of Range Voltage – when this box is checked the AVR Elite will automatically turn off when the incoming voltage is above or below the acceptable range.
- Zone R/Router Reset – there is a single outlet on the back of the AVR Elite labelled as zone 'R'. When this box is checked the outlet should only be used to power a network router or switch. Power to this outlet will automatically cycle when the AVR Elite detects a loss of internet connectivity. When this box is checked Zone R state can no longer be controlled through Zone Control (it will not be shown as one of the zones) and it can not have a schedule assigned for automatic on/off control.
- Router Reset Delay Time – enter the time (in minutes from 1 to 255) that Zone R outlet power should be cycled if the initial power cycle failed to restore internet connectivity. This power cycle will be attempted a maximum of three time. This setting requires the Zone R/Router Reset box to be checked.
- Delay Time between Zones – enter the time (in seconds from 1 to 999) for delay between the sequential power up of zones when the AVR Elite unit is turned on or multiple zones are turned on at the same by a schedule.
- Front Panel Display – choose between 3 modes;
 - Always ON when the AVR ELITE is powered on
 - Automatically DIM when the delay time expires (10-255 seconds)
 - Automatically turn OFF when the delay time expires (10-255 seconds)For the automatic dim and off options the display will turn ON when the AVR ELITE is powered ON or the small pushbutton below the LCD display is pushed.
- Schedule – when this box is checked the outlets for each zone can be controlled automatically by a schedule (see Manage Schedule).
- Device Time Zone – enter the value relative to GMT for the location of the AVR Elite (e.g. enter -5 for Eastern Standard Time, -8 for Pacific Standard Time,)
- Device Time – this displays the current local date and time at the AVR Elite.



Device Settings

Location Description Torus Power Offices

Device ID 04916229e22b

MAC Address 04:91:62:29:e2:2b

Zone R/Router Reset ☐

Router Reset Delay Time 15

Delay Time between zones 15

Schedule ☒

Device Time Zone -5

Device Time 3/24/2020 1:13:49 PM

Front Panel Display

Always ON ☐DIMMING Delay ☐OFF Delay ☒

Delay Time 120

Save Setup


Refresh Setup

Historical Charts

Click the [Plot](#) text for a specific AVR Elite device to

Move the mouse cursor to one of the plot points to get the value and time for that data point.

Historical Charts



Device Information

Location Description

Torus Power Offices

Device ID

04916229e22b

MAC Address

04:91:62:29:e2:2b

Requested Date

21/01/2020

Requested Time

10:56 AM

Chart Interval

1 hour

Chart Type

Voltages

Device Last Time

1/28/2020 12:03:38 PM

Time Zone

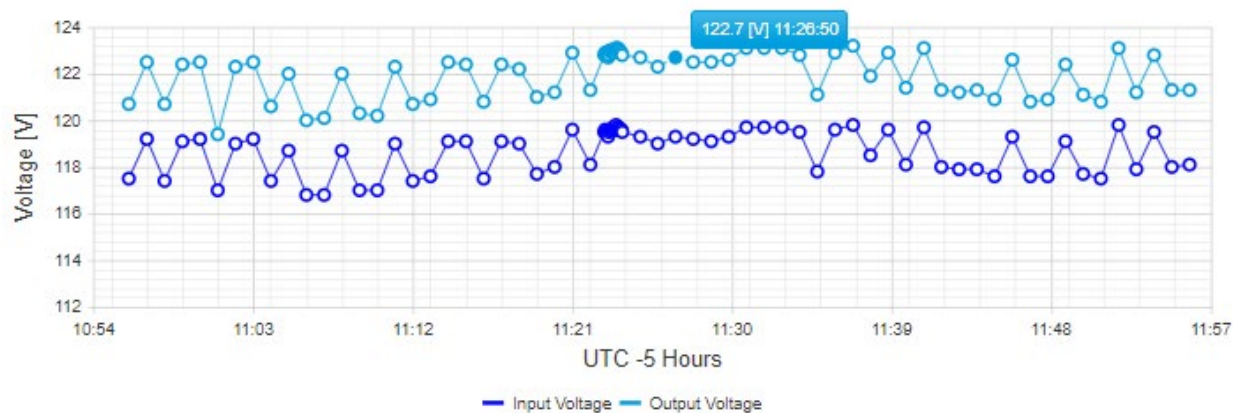
-5 Hours, GMT

Get Chart

Save PDF chart




Input and Output Voltages



Historical Data

Click the [Retrieve](#) text for a specific AVR Elite device to get a listing of voltage, current, total harmonic distortion, and voltage regulation values based on the date and time period entered. The Requested Time entered is the time for the first data values and the Requested Interval is the time period duration to be provided. The data is listed chronologically in one minute intervals as the default sort order. The data can be sorted by the values in any of the columns by clicking on the specific column header (e.g. Output Voltage [V]). The first click on the specific column header will sort the values from highest to lowest. Clicking the same column header a second time will sort its data from lowest to highest.

Historical Data



Device Information

Location Description

Torus Power Offices

Device ID

04916229e22b

MAC Address

04:91:62:29:e2:2b

Requested Date

28/01/2020

Requested Time

10:56 AM

Requested Interval

1 hour

Device Last Time

1/28/2020 11:55:37 AM

Time Zone

-5 Hours, GMT

Get Data

1 2 3 4 5 6 7 8 9 10

Date/Time	Input Voltage [V]	Output Voltage [V]	Output Current [A]	Output Power [W]	Output THD [%]	Tap Number	Fault
12/27/2019 12:49:24 PM	121.2	119	0	0	3.3	2	0
12/27/2019 12:50:24 PM	121.3	119.1	0	0	3.4	2	0
12/27/2019 12:51:23 PM	121.3	119.1	0	0	2.7	2	0
12/27/2019 12:52:24 PM	119.5	117.4	0	0	2.8	2	0
12/27/2019 12:53:23 PM	120.8	118.7	0	0	3.2	2	0
12/27/2019 12:54:24 PM	120.8	118.6	0	0	2.9	2	0
12/27/2019 12:55:24 PM	120.8	118.7	0	0	4.1	2	0
12/27/2019 12:56:24 PM	119.1	116.9	0	0	4.2	2	0
12/27/2019 12:57:24 PM	120.8	118.7	0	0	3.4	2	0
12/27/2019 12:57:27 PM	120.8	118.6	0	0	4.6	2	0
12/27/2019 12:57:30 PM	120.8	118.6	0	0	4.6	2	0
12/27/2019 12:57:33 PM	120.7	118.5	0	0	4.6	2	0

1 2 3 4 5 6 7 8 9 10

Schedule

Click the [Manage](#) text for a specific AVR Elite device to define specific times of each day to automatically turn on and off power for each output zone individually. The Schedule box under Setup System must be checked for any defined schedule to apply.

To create a scheduled power on or off click the desired day, then type in the hour and minutes (24 hour format) or use the up/down arrows to scroll to the desired value. Check the box associated with each zone you wish to have power enabled at its outlets at that time.

WARNING: Leaving a zone's box unchecked for a specific time will turn power off for all the zone's outlets at that time.

Click the [Save Schedule on the Device](#) text bar when the required schedules have been entered.

Schedule Management

Device Schedule

Location

Torus Power

Description

Offices

Device ID

04916229e22b

MAC

04:91:62:29:e2:2b

Address

System

ON

Power

Device

1/28/2020 11:18:36 AM

Time

Save Schedule on the Device

Read Schedule from the Device




		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Hours	Minutes	A	B	C	D	R		
8	00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Report

Click the [Send](#) text for a specific AVR Elite device to email system event details for the specified time period. It can be sent as a CSV format file or a fixed format pdf file. The CSV format file can be imported into a spreadsheet software program such as Microsoft Excel so it can be manipulated to filter/present the information in the desired format. The pdf format file has information presented in a fixed report format. The file is sent to the email address entered in the Dealer Information section.

Reports



Report Recorded Data

Location

Description

Torus Power Offices

Device ID

04916229e22b

▼

MAC Address

04:91:62:29:e2:2b

Model Name

North American 120

Start Date

29/12/2019

Finish Date

21/01/2020

Send Raw Data CSV Format


Send Power Quality PDF Report

Personal Information

The Personal Information home screen shows the User's contact information submitted during the Torus Power Connect registration.

The User can use the [Change Password](#) text bar at any time to submit a new Torus Power Connect login password.

Personal Info



Personal Information

First Name *

Last Name *

Address and Phone

Street Address *

City/Town *

Province/State *

Postal/Zip Code *

Country *

Phone Number *

[Save Changes](#)

Change Password

Current password *

New password *

Confirm new password *

[Change Password](#)

Personal Information

View and edit your personal contact information for your registered Torus Power Connect account.

Use the Change Password text bar at any time to submit a new login password.

A User can only access their information and get control and status for the AVR ELITE unit(s) assigned to them.