

OTHER POWER PROTECTION PRODUCTS

TRANSFORMER BASED FILTER (TBF™) SERIES

Considered to be one of the most significant developments in the power protection industry. TBF™ Filters contain innovative technology that combines Surge Suppression and Noise Isolation which filters the noise on the ground to less than 0.5 Volts (US Patent # 6229682). Exclusive "POVP" Prolonged Over Voltage Protector (US Patent # 6560086) disconnects the output power if voltage exceeds 155 volts. Exclusive Smart Technology (US Patent #5721661) protects microprocessor based equipment against reverse polarity or no ground. The patented TBF™ filters prevent 90% of the power problems experienced by your POS system, computer, copier and facsimile machine.

MEGA CONDITIONERS

The most advanced electronic power conditioner on the market for half the price and a quarter of the weight of an isolation transformer. The Mega Conditioner offers ultra power filtration and conditioning of normal and common mode noise which accounts for 90% of power-related problems experienced by copiers, mailing systems, large format printers and other office equipment.

UNINTERRUPTIBLE POWER SUPPLIES - UPS SERIES

Smart Power Systems' Uninterruptible Power Supplies (UPS) integrated TBF™ Technology provide on-line power conditioning.

WARRANTY

All AVR Plus units are guaranteed free of defects in material or workmanship for 2 years. See our website for more details - www.smartpowersystems.com

\$25,000 Connected Equipment Warranty

If the AVR Plus unit fails during the warranty period and this failure allows a surge to pass through and damage the connected equipment, Smart Power Systems will pay for the repair or replacement of the connected equipment of the original purchaser. See our website for more details - www.smartpowersystems.com

IMPORTANT - RMA (Return Material Authorization)

If for any reason you need to return the **AVR Plus** unit to the manufacturer, you should obtain an RMA (Return Material Authorization) number before returning the unit. To request an RMA number please call 1-800-772-7633 or visit the website at www.smartpowersystems.com/rma.htm

INSIDE THE BOX

- ▶ AVR Unit
- ▶ User's Manual
- ▶ CAT.5 Patch Cord

SmartPower[™]
.....SYSTEMS

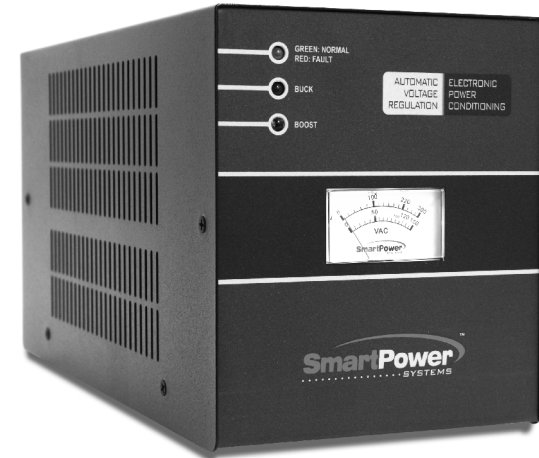
A POWER QUALITY COMPANY

7409 Railhead Ln. - Houston, Texas 77086 - Tel: (713)464-8000 - Fax: (713)984-0841
E-mail: support@smartpowersystems.com - www.smartpowersystems.com **1-800-882-8285**

USER'S GUIDE

AVR Plus

AUTOMATIC VOLTAGE REGULATOR



Models:

**AVR10-120TBF, AVR15-120TBF, AVR15-220TBF, AVR20-120TBF,
AVR15-240/208TBF, AVR20-230TBF Plus, AVR20-240TBF**

Thank you for purchasing this AVR Plus. Smart Power Systems is dedicated to developing and manufacturing the highest performance power protection and filtration devices for your electronic equipment. Proper use of this device will provide the protection needed for your connected equipment.

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IMPORTANT SAFETY INSTRUCTIONS

WARNING

SAVE THESE INSTRUCTIONS: This manual contains important instructions that should be followed during installation and maintenance of the AVR. • Install this unit in a controlled environment.

CAUTION

Risk of electric shock, do not remove cover. For service call Smart Power Systems at 800-772-7633.

- Avoid exposing the AVR Plus to direct sunlight, stoves or any other heat source.
- To prevent overheating, make sure that the ventilation openings of the unit are not covered.
- Keep unit away from moisture and dust.

FEATURES

- Common Mode noise filtering: < 0.5 Volts
- Normal Mode noise filtering: <10 Volts
- Voltage regulation
- Over and under voltage protection
- Site wiring fault indicator
- Ground loop current protection

This AVR can be used with copiers, office equipment, computers and telecommunication systems.

DAMAGED UNIT ON ARRIVAL

Inspect AVR unit for any damage on arrival . If damage is found, please contact the shipping company to file insurance claim.

INSTALLATION & OPERATION

1. Check in specifications if the AVR unit has the same voltage rating as required.
2. Connect input power cable to wall outlet with correct voltage rating.
- 3."Power On" LED will turn on. AVR unit is running normal.
4. Connect power cable of the equipment that needs to be protected to AVR's output outlets.

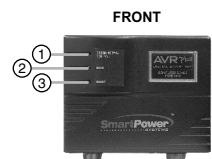
SPECIFICATIONS

MODEL	AVR10-120TBF	AVR15-120TBF	AVR20-120TBF	AVR15-220TBF	AVR15-240/208TBF	AVR20-230TBF Plus	AVR20-240TBF
Capacity (Amps)	10	15	20	15	15	20	
Input Voltage Range (VAC) / 50/60Hz	120±21%	99-145	99-128	220±15%	200-257	198-252	240+18%-12%
Output Voltage Regulation (VAC)	120±8.5%	120±6.5%		220±6%	208-3.4%+5.3%	230±3.9%	240±4%
Over Voltage Protection - Disconnects the output when exceeds: (VAC)	140-145			240-245	225-230	248-252	260-265
Spike Transient Let Through Voltage (Common Mode) (N-G)	<0.5V			<5% of input surge voltage			
Spike Transient Let Through Voltage (Normal Mode) (L-N)	<10V						
Input Plug	5-15P		5-20P	6-15P	6-15P	6-20P	
Receptacles	Two 5-15R	Two 5-15R	Two 5-20R	Two 6-15R	Two 6-15R	Two 6-20R	
Dimensions Inches (mm) DxWxH	7.9 x 5.4 x 4.5 (200 x 137 x 115)		13 x 5.5 x 6.6 (330 x 140 x 168)				
Net Weight (Lbs./Kgs.)	10 / 4.5	14.7 / 6.7	16.5 / 7.5	17.5 / 8	18 / 8.2	18.5 / 8.5	18 / 8.2
Shipping Weight (Lbs./Kgs.)	10.75 / 4.9	16.2 / 7.4	18 / 8.2	19 / 8.7	19.5 / 8.9	20 / 9.1	19.5 / 8.9
Operating Environment	Temperature: 0-40°C - Humidity: 0-90% (non condensing)						
WARRANTY	2 Years						

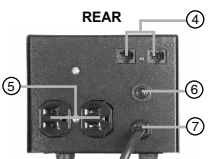
Specifications subjects to change without notice.

SYSTEM DESCRIPTION

10 Amp models

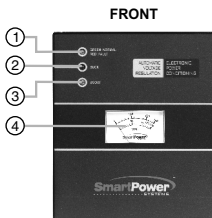


1. Green LED: Normal
Red LED: Fault
2. Buck
3. Boost

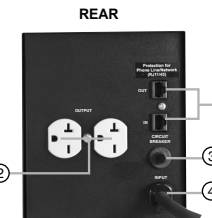


4. Network protection
5. Output Receptacle (available with 4)
6. Circuit Breaker
7. Input Cord

15 & 20 Amp models

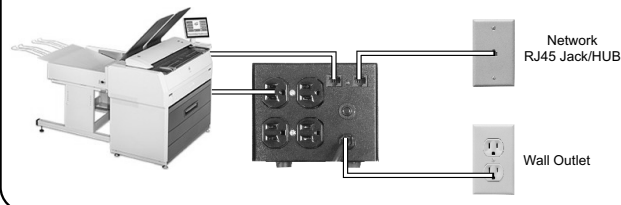


1. Green LED: Normal
Red LED: Fault
2. Buck
3. Boost
4. Volt Meter Output



1. Network Protector (RJ45)
2. Output Receptacles
3. Circuit Breaker
4. Input Power Cord

Protect Your Wide Format Printer



Notice for
AVR20-230TBF Plus
models

ATTENTION

AVR20-230TBF Plus model can be plugged into a 208V or 240V outlet. It automatically detects and converts the power voltage from 208V or 240V to 230V and also regulates it