

# Instruction manual



**FONTE / CARREGADOR**

**90A**  
**12V BAT.**



The installation of this product must be made by a qualified professional.



[www.taramps.com.br](http://www.taramps.com.br)

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## Warranty term

TARAMPS, located at Rua Abílio Daguano, 274 Res. Manoel Martins - Alfredo Marcondes - SP, ZIP 19.180-000, warrants this product against design, manufacturing, assembly and/or joint and several defects due to design flaws that make it unsuitable or inappropriate for its intended use, for a period of 12 months from the date of purchase. In the event of a defect within the warranty period, TARAMPS' liability is limited to repairing or replacing the device manufactured by It.

### **This warranty does not include:**

- Products that were damaged by incorrect installation, water infiltration, tampering by unauthorized individuals.
- Scratched or torn warranty seal;
- Cases in which the product is not used under regular conditions;
- Defects caused by accessories, modifications or equipment attached to the product;
- The product presents damage resulting from drops, impacts or the action of agents of nature (floods, lightning, etc.);
- Costs of removal and reinstallation of the equipment, as well as its transport to the technical assistance location;
- Damages of any kind, resulting from problems with the product, as well as losses caused by discontinuation of use.

## Technical assistance

For international support, check on our website:

[www.taramps.com.br/en/rede-de-assistencias-tecnicas](http://www.taramps.com.br/en/rede-de-assistencias-tecnicas) or contact direct the factory support:

Phones: +55 18 3266-4050 / +55 18 99749-3391

E-mail: [service@taramps.com.br](mailto:service@taramps.com.br)

# Introduction

Congratulations on your purchase of a Taramps product. Designed in a modern laboratory, with the highest technology and highly qualified professionals. This manual explains all features, operations, and guidelines to answer questions that may arise during your installation. Please take the time to read it carefully to ensure proper installation and use of all the benefits this product can offer. If there is any question after reading this manual, contact our technical support at the phone number +55(18)-3266-4050 or through our website [www.taramps.com.br](http://www.taramps.com.br).

## Presentation

The PRO CHARGER 90A power supply / charger features high technology and smart and efficient features for RECHARGING batteries and/or POWERING a car sound system. Highlighting:

- Automatic detection of the load characteristics connected to its output. In case it has batteries, the device analyzes their characteristics and conditions and recharges them seeking the best performance. If the battery charge level is critical, the power supply automatically adjusts the output current, smartly charging the batteries.
- When charging the batteries, the power supply periodically oscillates between voltages 14.4V / 13.8V / 12.6V; doing the battery float and equalize cycles. This process decreases the internal heat of the batteries, improving charge retention efficiency.
- When used only as a power supply (without batteries) the power supply output can be set as 12.6V, 13.8V or 14.4V.
- During battery recharge, if the audio system is turned on, the power supply automatically identifies and adjusts its output to 14.4V. If no more output variations are identified, the source returns to the smart charging system or float.
- Output short circuit protection. **WARNING: NEVER REVERSE POLARITY.**

## Important recommendations

- 1- The PRO CHARGER 90A has an "automatic bivolt" system - it automatically recognizes the voltage of the AC mains and adjusts itself to it. For the power supply to have the expected performance, voltage must be above 90V (127VAC) or above 190V (220VAC).
- 2- Install the power supply in a firm and ventilated place. Never install it on the sides of speakers boxes, due to vibration.
- 3- The power supply has no user-serviceable internal parts. Do not open it, risk of electric shock.
- 4- If the power supply is not going to be used for a long period, we recommend disconnect it from the AC mains.
- 5- Do not install the power supply in a place with direct exposure to sunlight.
- 6- The installation location and type of use may influence the product's performance. Closed places, with low air circulation and/or places with incidence of other heat sources, may interfere with the product's efficiency. However, the product has intelligent sensors that manage temperature and cooling conditions and change its power to ensure robust operation, preserving the durability of internal components. If the installation is in environments with such characteristics, it is recommended to use the product with a power gap of at least 30%, and, if necessary, increase the quantity.

## Safety warnings

As you read this manual, pay attention to the safety warning symbols.



### CAUTION

The "Caution" symbol is intended to alert the user to important instructions. Failure to follow instructions could result in risk to the user or damage to the product.



Taramps reserves the right to change the content of this manual without prior notice or obligation to apply the modifications to previously produced units.

## AC mains connections

**OUTLET:** The wall power outlet must be sized to resist the maximum current drawn by the power supply.

We recommend that the electrical installation be carried out by a qualified professional.

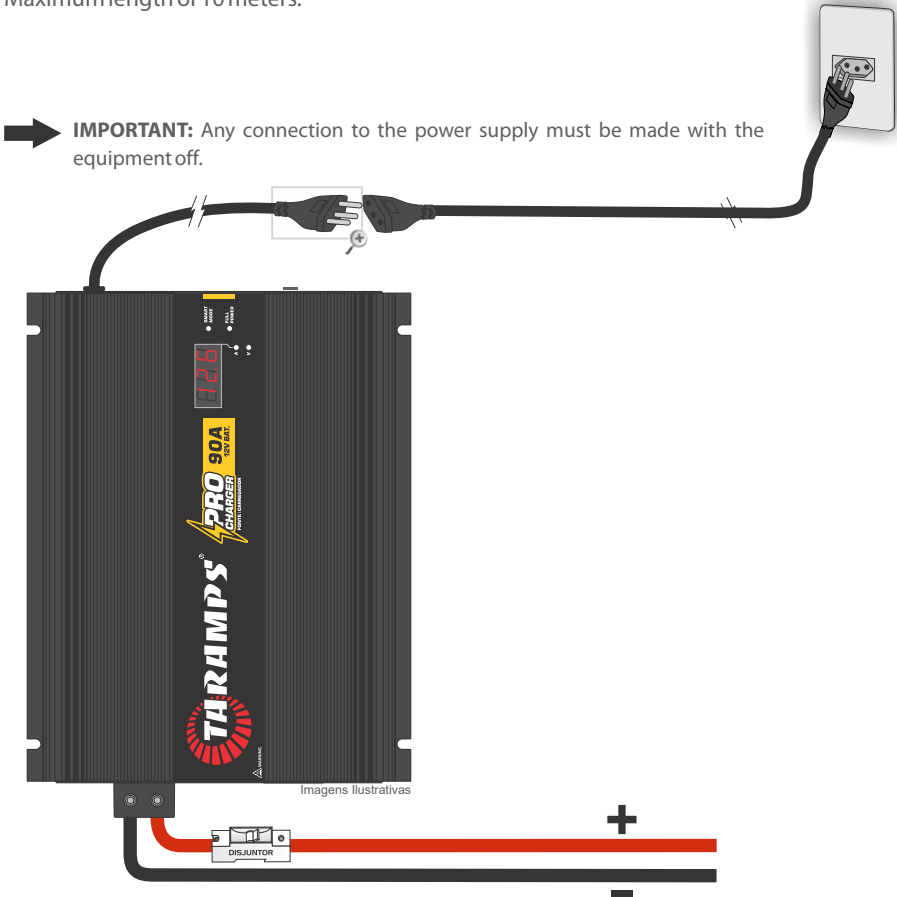
**EXTENSION CORD:** (Optional, not included with the product).

Do not use extension cords with gauges smaller than the recommended:

127V: \_\_\_\_\_4mm<sup>2</sup> (11 AWG)

220V: \_\_\_\_\_2,5mm<sup>2</sup> (13 AWG)

Maximum length of 10 meters.



### **⚠ CAUTION**

#### **BATTERY CABLES:**

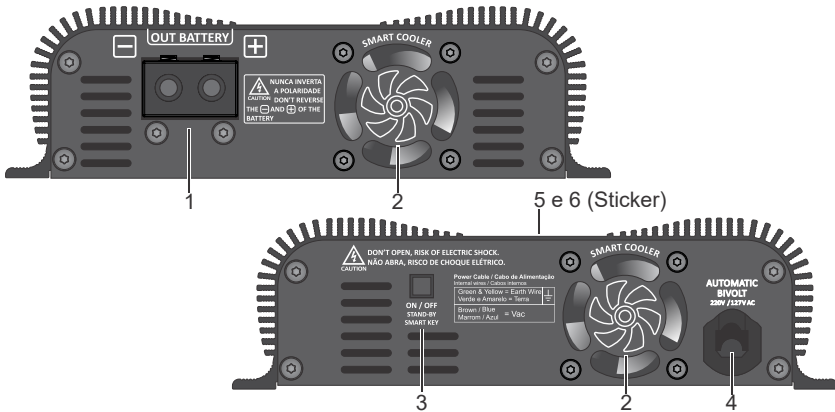
Do not use cables with gauges smaller than recommended:

It is indispensable to install a circuit breaker near the power supply.

Cable: 16mm<sup>2</sup> (5AWG)

Circuit Breaker: 100A

# Functions, inputs & outputs



**1 - OUT BATTERY:** To connect the positive (+) and negative (-) cables to the battery or 12V devices. (See recommended gauges on page 10).

**IMPORTANT:** Never reverse polarity. Connect the battery(ies) and audio system with the power supply off.

**CAUTION** Before making any connections to the battery(ies), make sure you have the correct polarities.

**2 - SMART COOLER:** An intelligent system that controls the operation of coolers and ventilation, varying their speed according to temperature and output current. This system ensures a useful life for the coolers and provides a quieter ambient as the coolers only come into operation only if necessary.

Note. If the power supply is turned off (but kept connected to the outlet) and its temperature is high, the SMART COOLER can be activated at low speed for up to 20 minutes.

**CAUTION** The fans and ventilation openings are responsible for cooling the power supply, so it cannot be obstructed.

**3 - SMART KEY (ON/OFF):** This button turns the power supply on and off. With the power supply turned off, a quick press (1 second) turns the power supply on.

With the power supply on, a long press (2 seconds) turns the power supply off. A quick press change the output voltage: 12.6 ➔ 13.8 ➔ 14.4 ➔ 12.6V... (Without batteries).

Note. If the power supply is disconnected from the outlet while being turned on, when reconnecting it to the outlet, the power supply will be turned on. Through this key it is possible to set the operation mode with fixed voltage of the power supply.

See operating mode on page 13.

**4 - POWER INPUT:** The PRO CHARGER 90A is automatic bivolt (127V / 220V).





Check the recommended power input specifications on page 10.

**5 - VOLTMETER/AMMETER:** Display the output voltage and current, alternating between them. In the event of a sudden change in the voltage, the display blink. With the power supply OFF, this display can be ON during 5 seconds. There may be up 5% error on voltage reads and 20% on current reads.

**6 - SMART LED:** Power supply functions indicator LEDs.

## LED indicators & protection system

**ILLUMINATED LOGO:** Lights up when the power supply is on and informs when the protections are activated:

Smart LEDs	Conditions
 LEDs Flashing 2x	Critical battery level detected (<6V) connected to the power supply output.
 LEDs flashing 3x	Battery at high level detected (>16V) connected to the power supply output.
 LEDs flashing 6x per second and continuously	Short circuit detected at the power supply output. The power supply automatically check the output every 5 seconds.
 LEDs flashing, 1 second on and 1 second off	High temperature protection actuation. The power supply shuts off the output and waits for the internal temperature to decrease.



**LED SMART MODE:** Show that the power supply is in SMART MODE.

When blinking fast, batteries are recharging, and when this led is on the batteries recharge is completed.

If the LED is blinking slowly, the battery has been disconnected or the health of the battery may be compromised.



**LED FULL POWER:** Is on when in power supply mode, or when is recharging and identifies the need of full power on this output.

## Battery recharges and amplifier powering

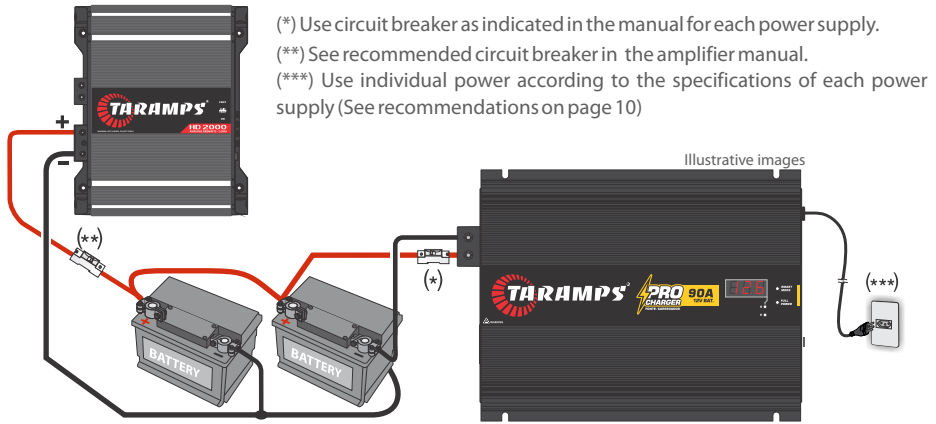
In this case, in addition to recharging the batteries, the **PRO CHARGER 90A** power supply acts as an auxiliary to the batteries in powering the amplifiers.

The Intelligent Charging System analyzes and monitors battery status and amplifier power/consumption.

The power supply can be used to recharge various types of 12V battery capacities. For the PRO CHARGER 90A version, the best performance is obtained for recharging batteries (or battery bank) between 60Ah and 1300Ah nominal capacity.

The power supply's SMART functions aim to optimize battery recharging by applying slow charging when needed and automatically switching between charge, float, and battery equalization modes. In addition, the power supply constantly monitors its output and identifies when an amplifier is consuming a high load, thus requiring the maximum power of the power supply.

## Example of use



## Operation mode:

**SMART MODE:** The power supply manages all the output voltage and current settings automatically.

- ▶ **TURN ON THE POWER SUPPLY:** The main analysis take place at this stage; Automatic battery analysis.
- ▶ **ANALYSIS OF BATTERY CONDITIONS:**
  - constant voltage (V) cycle load.
  - constant current (I) cycle load.
- ▶ **BATTERY:**
  - **Low Charge** → Cycles: I constant → V constant → Float / Equalization.
  - **Good Charge** → Cycles: V constant → Float / Equalization.
- ▶ **CAIXA BOB MODE - No battery:**
  - Once turned on and the battery NOT connected is identified, the power supply will indicate by the **FULL POWER LED** and will already have the **CAIXA BOB MODE** activated. The voltage can be changed by the **SMART KEY** (12.6V > 13.8V > 14.4V).
- ▶ **CAIXA BOB MODE - With battery:**
  - As soon as it is turned on and the connected battery is identified, the power supply will indicate by the flashing **SMART MODE LED** and the battery(ies) will be charging intelligently. When the power supply identifies a higher consumption, the function is changed to **FULL POWER MODE** and will already have **CAIXA BOB MODE** activated.

**FIXED VOLTAGE MODE:** It is possible to fix the power supply output voltage and disable the SMART functions. To do this, with the power supply turned off, press the SMART KEY for 15 seconds. LEDs logo illuminated will display the configuration. After that, every time you press (1S) the SMART KEY, the mode is changed following this sequence: SMART > 12.6V > 13.8V > 14.4V...

To save the configuration, press and hold the SMART KEY key for 2 seconds

## Technical features

Voltage Supply:	Bivolt Automatic (127 / 220VAC)
127VAC Voltage Range:	90 ~ 140V AC
220VAC Voltage Range:	190 ~ 250V AC
Rated Max. Output Current(*):	90A
Maximum Output Power:	1300W
Average Efficiency:	90%
Max. Consumption on 127VAC:	18A
Max. Consumption in 220VAC:	10A
Max. Input Power:	2000VA(***) or 1450W (FP: ~0.60 capacitive)
Consumption in Stand by (off, but connected to the outlet):	3W
Maximum Float at full load (90A @14.2V):	<2%
Input Fuse (internal):	20A
Output Voltages:	12,0V ~ 14.5V (**)
Dimensions(WxHxD):	182 x 52 x 256mm (7.17" x 2.05" x 10.1")
Weight:	1.86Kg (4.09lb)

•**Short Protection:** Temporarily shuts off the output if a short circuit is detected.

•**Thermal protection:** Reduces the output power if the internal temperature rises, automatically returning to full power as the temperature drops.

Note:

(\*) Rated output current, measured with resistive load, source output voltage = 12.6V and mains voltage = 127V / 220V.

(\*\*) Variable voltage depending on the operating mode, and may have values lower than 12V when in slow charge or thermal protection.

(\*\*\*) For use with generators, consider the power in VA.





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