AutoMeter®
TEST EQUIPMENT



Professional 220 VAC

BusPro-620s & BusPro-662

AGM Optimized

Instruction Manual

This charger is an automated 12-Volt Battery Charging System that will charge and maintain up to six batteries at a time. The charger delivers a voltage recommended by battery manufacturers for the longest life and greatest performance of your batteries.

CONGRATULATIONS!

You have made a purchase of Auto Meter's BusPro charger designed to charge 12 Volt batteries. The system is fully automated with LED's indicating unattended viewing status.

BusPro-620s

Charges ..... 12 Volt Batteries
Input..... 220 VAC @ 2.5 Amps
Charging output mode ..... 5 Amps Max.
Maintenance output mode .....0 to 2.5 Amp variation as needed
Leads..... 6 ft. 18 GA.
Size ..... 26" W 8" H 3.25" D
Weight ..... 31 lbs.
Optional AC-8 Jumper Leads ..... Set of six

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SAFETY INSTRUCTIONS

WARNING:
Lead Acid Batteries are Dangerous! During use and charging they may generate EXPLOSIVE Hydrogen Gas. This means YOU MUST carefully read all of the safety and operating instructions before using the charger. Be sure you understand all of the safety instructions in this manual and on the charger before attempting to connect, charge, or work with a lead acid battery.

GENERAL SAFETY RULES FOR SAFE OPERATION

Batteries are dangerous. Auto Meter provides the following ***Warnings*** for your safety:

1. Use the BusPro-620s charger only on 12 Volt LEAD ACID. Use the BusPro-662 on 12 Volt LEAD ACID, AGM batteries. DO NOT attempt to use on other types of batteries (Dry Cell, Nickel Cadmium, Nickel Metal Hydride, etc.) commonly found in small home appliances. This may cause the batteries to burst, resulting in damage or injury to person and/or property.
2. DO NOT use the charger on batteries that are in use or that are installed. Remove batteries from the vehicle and take to a properly installed charger location.
3. DO NOT use attachments with the charger that are not approved or sold by Auto Meter. Non-approved attachments may result in injury, electric shock, or fire and voids the warranty.
4. When disconnecting the power cord from the wall, grasp the plug and pull. Never pull the cord, it may damage the plug and/or the cord.
5. Place the power cords in a location where they will not be stepped on, tripped over, or subjected to stress or abuse of any kind.
6. Never operate the charger if any portion of its housing, cords or attachments appear to be damaged in any way. If damage has occurred, have it inspected and serviced by Auto Meter.
7. If the charger has been dropped, received a sharp blow, or abused in any way, have it inspected and repaired by Auto Meter if necessary.
8. Do not use an extension cord to operate the charger. An inadequate extension cord could result in fire or explosion due to a large number of batteries being charged and will not provide the AC amperage rating needed by the charger.
9. Each charger Station has its own AC fuse. Other than this fuse replacement, Auto Meter should be contacted for trouble shooting and instructions on how to repair or replace parts and charging stations. Any unauthorized repair, tampering or incorrect assembly may result in fire or electric shock and voids the warranty. Check with Auto Meter for instructions.
10. To prevent injury during cleaning or maintenance, disconnect all batteries and move them away from the unit. Unplug the charger from the wall outlet (grasping the plug). Use a slightly dampened cloth to clean the housing and lead sets. Do not use solvents or soaps.

11. **NEVER** attempt to charge a frozen battery. Allow the battery to return to room temperature before connection.
12. ALWAYS use the charger in an open and well-ventilated area. The area should be dry and free of trash, debris and combustibles.
13. ***WARNING!*** Explosive Hydrogen gas may be present around batteries.
14. Do not use the charger in direct sunlight or adverse weather conditions such as rain or snow.
15. Mount the charger on a secure wall location at least two feet above the batteries being charged. This prevents acid drips and spills from landing on the charger during battery filling or specific gravity testing. This also prevents battery fumes from reaching the charger.
16. Do not place small objects or tools on the top edge of the mounted charger unit.
17. NEVER use the charger in or on any boat or watercraft. You must remove the battery from the boat or watercraft and charge the battery at the properly installed location of the charger unit.
18. DO NOT install the charger where it will be exposed to moisture, inclement weather nor around combustibles, flammable liquids or vapors and trash.

SAFETY INSTRUCTIONS Cont.

PERSONAL SAFETY PRECAUTIONS



1. Wear protective goggles or a full-face shield
2. Wear protective clothing. Leave no exposed skin.
3. Have plenty of fresh water and hand soap available for use if acid should contact your eyes, skin or clothing.
4. Have someone close by in the event you need emergency assistance when working with a battery.
5. Remove all metal objects (pens, tools, jewelry, etc.) from your body. These items can create a direct short between the battery terminals and can cause serious burns.
6. DO NOT carry tools or metal objects within the vicinity of a battery. These items can fall on the battery terminals creating a high current short. This could result in a fire, burns, explosion, etc.
7. DO NOT touch your face, eyes or other body parts with out first washing your hands. Battery acid can burn and irritate eye and skin tissue.
8. DO NOT allow any source of ignition in the area of a battery. Keep all flame and spark producing devices out of the area and NEVER SMOKE near a battery.
9. Use the one hand rule! Keep one hand in your pocket whenever you make an electrical connection. This reduces the risk of electrical shock to the user.

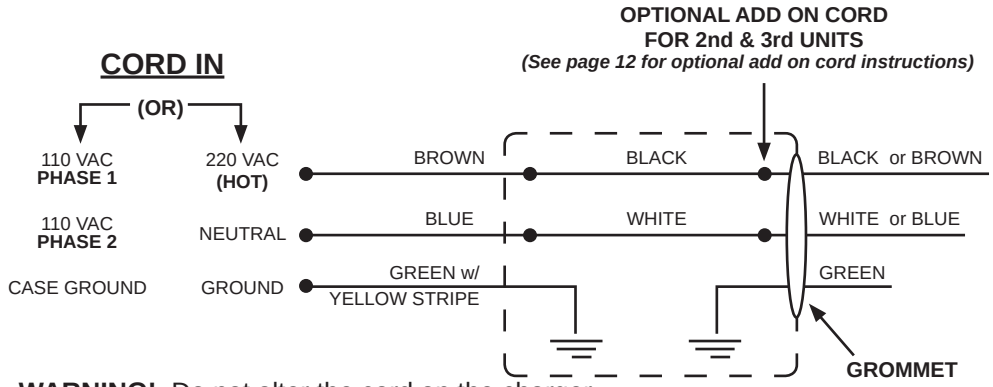
1 SETTING UP THE *BusPro Charger*

The charger has two mounting keyholes. YOU MUST mount the charger to a wall that provides a secure surface. This will keep it out of the way and prevent damage due to accidents. If needed, you may leave the two screws slightly extended from the wall to allow easy removal through the keyhole slots.

Caution: In determining placement of the charger check the following:

- Make sure the batteries can be placed at least two feet away. For example, If the batteries are placed on the floor make sure the charger is mounted securely at least ***two feet*** above, but no more than the working length of the leads.
- Make sure the room has plenty of ventilation.
- Make sure no sparks or flames can occur near the charging area.
- Mount the charger away from vehicle repair or service area.
- Never start or run an engine near the batteries being charged. It takes very little to ignite explosive gases given off by a lead-acid battery. ***Remember:*** You may be charging several batteries at a time. This compounds the need for a strict safety program.

The charger comes without a plug. The user is responsible for proper installation of the appropriate plug for the 220 VAC receptacle to be used. Have a qualified electrician install it for you. The charger is designed to work with various 220 VAC receptacles. Whether you have a single 220 VAC hot wire or two 110 VAC hot wires the charger will work with both. You cannot damage the charger by hooking it up to a 110 VAC supply, but it will not perform. The following is given for the benefit of the installer:



WARNING! Do not alter the cord on the charger. Any alterations will void the warranty.

See Page 9 for hooking up 3 charger units togeter.

2 INSPECTING THE BATTERY

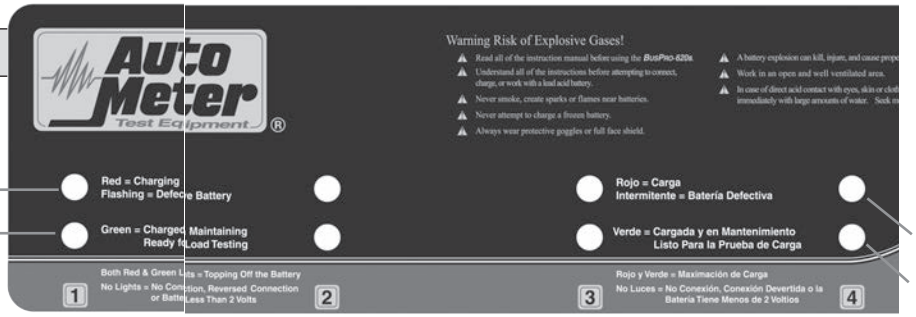
Remove and Inspect the battery before connecting it to a charger. A clean battery and battery terminals insure proper operation of the charger and the vehicle charging system.

- Check for dirty or loose terminals.
- Check for any cracks or distortion in the battery case.
- Make sure the battery is the correct group size and capacity for the vehicle.
- Make sure the battery is clean between battery posts to avoid self discharge.
- Check the electrolyte level.

Inspecting the electrical system If the battery and terminals have a white or bluish crust on them, the charging system may be having problems. Use one of Auto Meter's BVA Analyzers to test the charging and starting system. These problems should be corrected before the battery is installed.

3 READING THE INDICATOR LIGHTS

The Professional BusPro charger has two lights for each charging station.



No Light = Check the following:

- Connections reversed. Make sure the red spring clip is connected to the positive (+) battery post and the black spring clip is connected to the negative (-) battery post.
- Bad connection at one or both battery posts.
- No AC power.
- The battery voltage is below 1 volt.

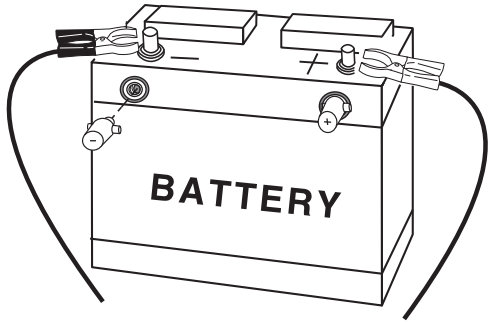
Red light = Charging - The Professional charger is delivering up to a 5 Amp charge.

Red Light Flashing = Defective Battery: The charger is designed to detect either a sulfated battery or a bad cell. Make sure the battery posts and clamps are clean. If the red light continues to flash the battery should be replaced.

4 HOOKING UP THE CLAMPS

Each charging station has a lead set with a red positive (+) and a black negative (-) clamp. If the charger has been installed correctly, at least two feet above the work station, the clamps should lie on a clean dry surface.

- Connect the RED clamp to the positive (+) terminal post. Turn or wiggle the clip on the battery post to insure a good connection.
- Connect the BLACK clamp to the negative (-) battery post.



NOTE: Side mounted and threaded steel post batteries will require Lead Post Adapters. Using steel bolts and connecting clamps to threaded steel posts is not safe, and will inhibit accurate results.

Red & Green light = Finishing Full Charge. "Ready for Load Test": The battery is at least 70% charged and ready to load test and return to service. Continued charging will take the battery to full charge.

Note: Some batteries will pass and accept a charge, but will not be able to pass a load test. All batteries should be load-tested after charging.

Green light = Charged and Maintaining: The charger is safely adjusting the voltage/current relationship to maintain the battery at a full charge. The battery can be load tested. If the battery voltage drops below 12.5 volts, the charger shifts automatically into (Red Light) Charging Mode.

5 DISCONNECTING THE *BusPro Charger*

The charger is safely maintaining the battery at a full charge when the green light is on. Simply remove the clamps and set them on the working surface clear from the other batteries and clamps. You can now load-test the battery.

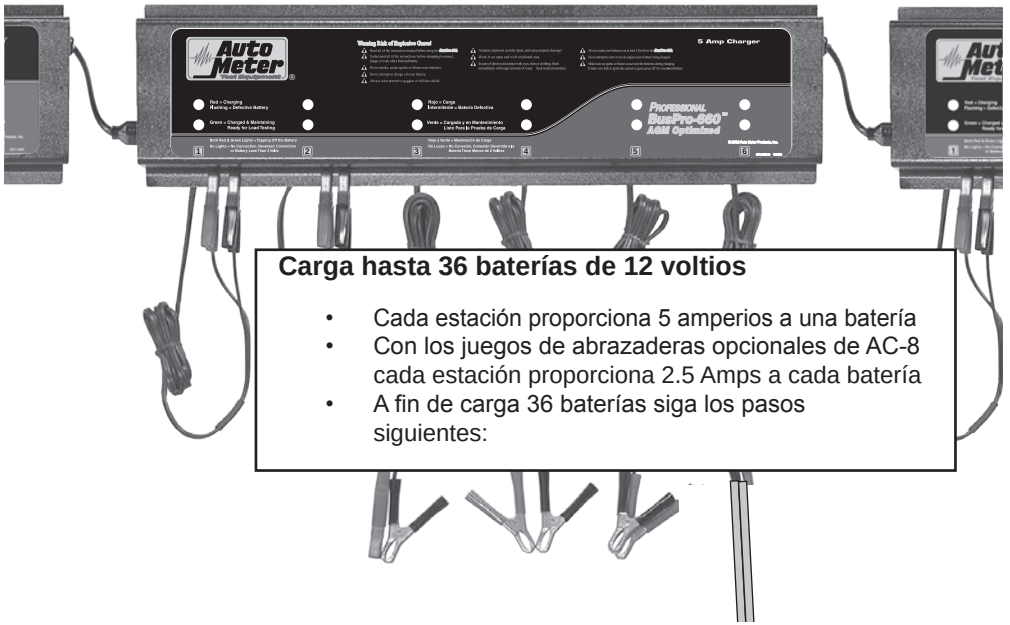
Note: When the clamps are accidentally disconnected while charging is in effect the charger will shut the individual station off. Both indicator lights will go out. Simply reconnect the battery.

Note: The charger is designed to send a 5 amp charge only when the circuitry determines the clamps have been attached correctly and the battery is in need of charging. Under normal operation the clamps will not cause any sparks if the black (-) and red (+) come in contact or if any clip comes in contact with another.

Caution: ***BATTERIES ARE DANGEROUS!*** Be sure to practice these proper safety rules when connecting and disconnecting batteries from the charger:

- Wear safety Glasses.
- Make sure no sparks occur such as an engine starting etc.
- Make sure no tools or metal objects are in the vicinity of the batteries
- Connect clips to a clean, properly inspected battery
- Do not disconnect a battery while charging. Wait for the green light (OK) or flashing red (Defective).
- Handle clips carefully and set them from safely aside other batteries and clamps.

POTENCIAL DE CARGA DEL BUSPRO



Carga hasta 36 baterías de 12 voltios

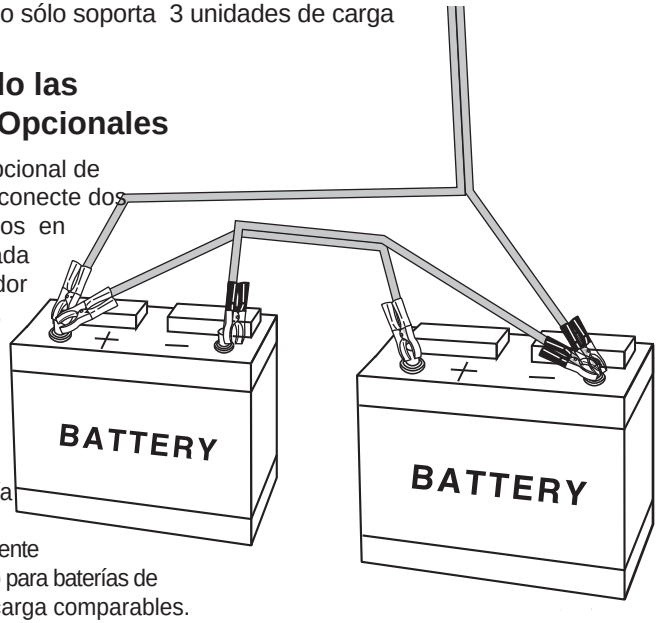
- Cada estación proporciona 5 amperios a una batería
- Con los juegos de abrazaderas opcionales de AC-8 cada estación proporciona 2.5 Amps a cada batería
- A fin de carga 36 baterías siga los pasos siguientes:

Paso 1 Como Conectar hasta 3 Cargadores BusPro

Pegue 3 unidades juntas conectando el enchufe del cordón AC a la siguiente unidad (Si necesita más cordón lea pág. 5). Asegúrese que la fuente de poder que alimenta el primer cargador sea adecuada. Un tomacorriente típico sólo soporta 3 unidades de carga

Paso 2 Usando las Abrazaderas Opcionales

Usando el juego opcional de abrazaderas AC-8 conecte dos baterías de 12 voltios en forma paralela a cada estación del cargador como es mostrado.



Nota: Si la luz roja destella desconecte una batería para determinar cual batería está defectuosa. Recomendado solamente para mantenimiento o para baterías de tamaño y estado de carga comparables.

What To Expect From Your *BusPro Charger*

The Professional charger is equipped with sophisticated circuitry that will:

- **Check Each Battery's Condition** The charger will indicate bad batteries that are sulfated or have bad cells. This allows the battery to be replaced without unnecessary charging.
- **Fully Charge Six 12 volt Batteries** (5 Amps. each). With the optional Jumper Lead Kit the charger can charge up to twelve batteries at 2.5 Amps each.
- **Maintain Each Battery** The charger provides a separate charging station for each battery. With the optional kit, each station can maintain two batteries.
- **Provide Worry Free Attention** The charger has safe circuitry that automatically adjusts the volt/current relationship in order to maintain the battery at full charge. If the voltage drops below 12.5 volts, the charger will automatically charge the battery with up to 5 Amps. When the battery reaches the threshold again the unit goes into maintenance mode.
- **Maximize Battery Life** The charger is designed to maximize the life of a serviceable lead acid battery. A serviceable battery is a battery that is not defective or damaged. THE BUSPRO 662 IS FULLY COMPATABLE WITH AGM BATTERIES. DO NOT USE WITH DRY CELL, NICKEL CADMIUM, and NICKEL METAL HYDRIDE OR SIMILAR BATTERIES.
- **Increase Multiple Battery Charging Capability** The charger provides the opportunity to charge more batteries with less time spent charging defective batteries that need to be replaced.
- **Provide Valuable Protection** The charger maintains batteries while they are uninstalled. Maintaining a battery increases its life and protects its capacity.
- **Maintain Batteries Not In Use.** Some examples are automobiles under long term repair, farm machinery and fleet vehicles in repair or storage. The charger is ideal for rental equipment not in use or for charging and maintaining batteries for replacement. The charger can be used to re-charge, check and maintain all starting and deep cycle batteries. Each charger can charge, check and maintain up to six batteries. With the optional Jumper Lead Kit twelve batteries can be charged or maintained.
- **Provide Easy Care** The charger is designed for easy care and maintenance. Occasional cleaning of the leads and housing will help keep the unit looking new, and give you many years of satisfaction. CLEANING PROCEDURE: Unplug the charger and use a slightly dampened cloth to clean the housing and lead sets. DO NOT use solvents or soaps.
- **Provide Long Lasting Performance** The charger has been designed and manufactured to provide superior performance. Quality is built in and assured with circuit burn-in, computerized testing and inspection.
- **Fuse Protected** Each charging station is protected by a replaceable AC fuse.

WARRANTY AND SERVICE INFORMATION

Warranty and service claims sent to the Auto Meter service department must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original retail purchaser and is non-transferable. Damage incurred during return shipments is not covered under this warranty. It is the responsibility of the shipper (the original retail purchaser returning the charger) to package the charger/tester properly to prevent any damage during return shipment. Repair costs for such damages will be charged back to the shipper (original retail purchaser returning charger). Protect the product with plenty of packing/cushioning such as crumpled up newspaper.

LIMITED WARRANTY (12 MONTHS FROM DATE OF PURCHASE)

Auto Meter warrants to the original retail purchaser that this product will be free from defects in material or workmanship for a period of twelve (12) months from the date of original retail purchase. When Auto Meter determines a product failed due to defects in material or workmanship within this 12 month warranty period, the product will be repaired or replaced for the original retail purchaser only. This warranty is limited to the repair or replacement of parts in the charger and the necessary labor by Auto Meter to effect the repair or replacement of the charger. In no event shall Auto Meter be responsible for special, incidental or consequential damages or costs incurred due to the failure of the product such as: improper use, accident, water damage, abuse, unauthorized repairs or alterations, but not limited to these acts, voids this warranty. Auto Meter disclaims any liability or consequential damages due to breach of any written or implied warranty of the BusPro-620s Charger, or any attempted service done by anyone other than Auto Meter.

ADD ON CORD INSTRUCTIONS

OPTIONAL ADD ON CORD FOR 2nd and 3rd UNITS

- Remove Cover
- Drill 13mm hole through circle on decal at the opposite end from the cord. Insert supplied grommet (zip tied to black and white wires) into hole. Route new cord through grommet. Connect hot wire **(220 VAC hot or 110 VAC Phase 1)** from new cord to black wire inside unit, connect **(neutral or 110 VAC Phase 2)** wire from new cord to white wire inside unit. Connect wires with appropriate size wire nuts and tape, connect ground to transformer mounting stud.

NOTE: Wiring in a cord for a 2nd unit must be performed by a qualified electrician.

WARNING!

For proper venting be sure to mount your charger vertically to a wall. The unit may overheat if set flat on a counter. With all stations in operation the case may become very hot to the touch when vertical ventilation is inhibited.

