

12V lead-acid starting battery charger & maintainer

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Warranty: This product is covered by a **1-year limited warranty** from the date of purchase. The warranty covers defects in materials and workmanship under normal use. It does not cover damage resulting from improper installation, misuse, unauthorized modifications, or exposure to extreme environmental conditions. If a defect is found within the warranty period, the product will be repaired or replaced at no charge, subject to the terms and conditions of the warranty. Proof of purchase is required for warranty service.

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House2Start 12V U.P.C 198715723045



WARNING: This product can expose you to chemicals which are known to the state of California to cause cancer and birth defects or reproductive harm. For more information go to www.p65warnings.ca.gov.

IMPORTANT SAFETY WARNINGS

Read and Understand: Before installing or using this product, carefully read and understand the installation guide. It contains vital safety information. Failure to follow these instructions can result in serious injury or property damage.

Risks During Installation and Use:

- **Eye & Physical Injury:** Always wear personal protective equipment (PPE), including eye protection and clothing that covers arms and legs. Sharp tools used during installation can cause injury, and vehicle batteries may explode or leak acid, leading to severe eye or skin damage. In case of contact with battery acid, immediately flush the area with clean water and seek medical attention.
- **Electrical Shock & Sparks:** Exercise caution to avoid generating sparks or cutting live wires during installation. Sparks near lead-acid batteries can ignite explosive hydrogen gas. Use insulated tools and always disconnect the vehicle's battery, solar power, shore power, or other power sources before installation or maintenance.
- **Explosion Risk:** Using incompatible or damaged batteries may result in an explosion. Only use this product with the specified battery chemistries and voltages. Never attempt to charge frozen batteries.
- **Explosive Gases:** Lead-acid batteries emit explosive gases during normal operation. Follow all safety guidelines provided by the battery manufacturer.
- **Fire Hazard:** This power conversion product may heat up under heavy load. Ensure proper ventilation—do not cover it or install it near flammable materials or fuels.

ALWAYS disconnect the vehicle's battery systems, solar power, shore power, or other power systems before installing or maintaining the product.

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN DEATH OR SERIOUS INJURY.

PRODUCT DESCRIPTION

House2Start keeps a vehicle's starter battery charged during storage or low use, preventing deep discharge and ensuring reliable starts. It installs permanently with no user intervention and runs off the vehicle's 12V house battery, whether LiFePO₄ or lead acid (SLA, AGM, flooded).

A solar charger or shore powered charger must be correctly configured to charge the house battery. House2Start turns on and off in response to house battery charge cycle. House2Start activates at 13.6V, when the house battery charger enters bulk charging (14.2–14.5V), stays on in float mode (13.5–13.8V), and turns off if the house battery drops below 13.1V. Lead acid batteries drop below 13.1V when the charger turns off, while LiFePO₄ continues until around 60% state-of-charge.

Its internal high-efficiency switched-mode boost converter powers a 4-stage smart charger optimized for 12V flooded lead-acid starter batteries. The stages are trickle charge for deeply discharged batteries, bulk mode (up to 2A until 14.4V), absorption mode (holding 14.4V until current drops to 300mA), and float mode (13.5V). Charge voltages are temperature compensated at -20 mV/°C.

House2Start cycles daily with the house battery charger. If left on for 40 continuous hours, it resets itself to ensure the starter battery receives constant-voltage “absorption” charging for longevity. House2Start is independent of the vehicle's alternator output and does not allow current flow into the house battery. The House2Start charger is non-isolated and requires a shared ground connection between the house and starter batteries.

Safety features include reverse polarity protection, low and high voltage shutoffs, lightning protection, thermal cutoff, and a multi-color status LED. The pre-attached 18” wires simplifies installation. It has a flame-retardant ABS enclosure, epoxy-coated electronics, and marine-grade wiring for harsh conditions.

The product is lead-free, RoHS compliant, and every unit is 100% functional tested prior to shipping.

INSTALLATION INSTRUCTIONS

CRITICAL SAFETY: Before installation, disconnect all solar panels, shore power, and any other external charging sources as well as the negative ground connection on both the starter and house batteries. Failing to do so may result in injury or vehicle damage.

ELECTRICAL CONNECTIONS: House2Start requires three wire connections. Make the connections in the indicated order:

First connection, Blue: Connect to positive terminal of the engine starting battery or an “always on” connection point provided by the vehicle manufacturer.

Second connection, Yellow: Connect to positive terminal of the house battery or via distribution panel.

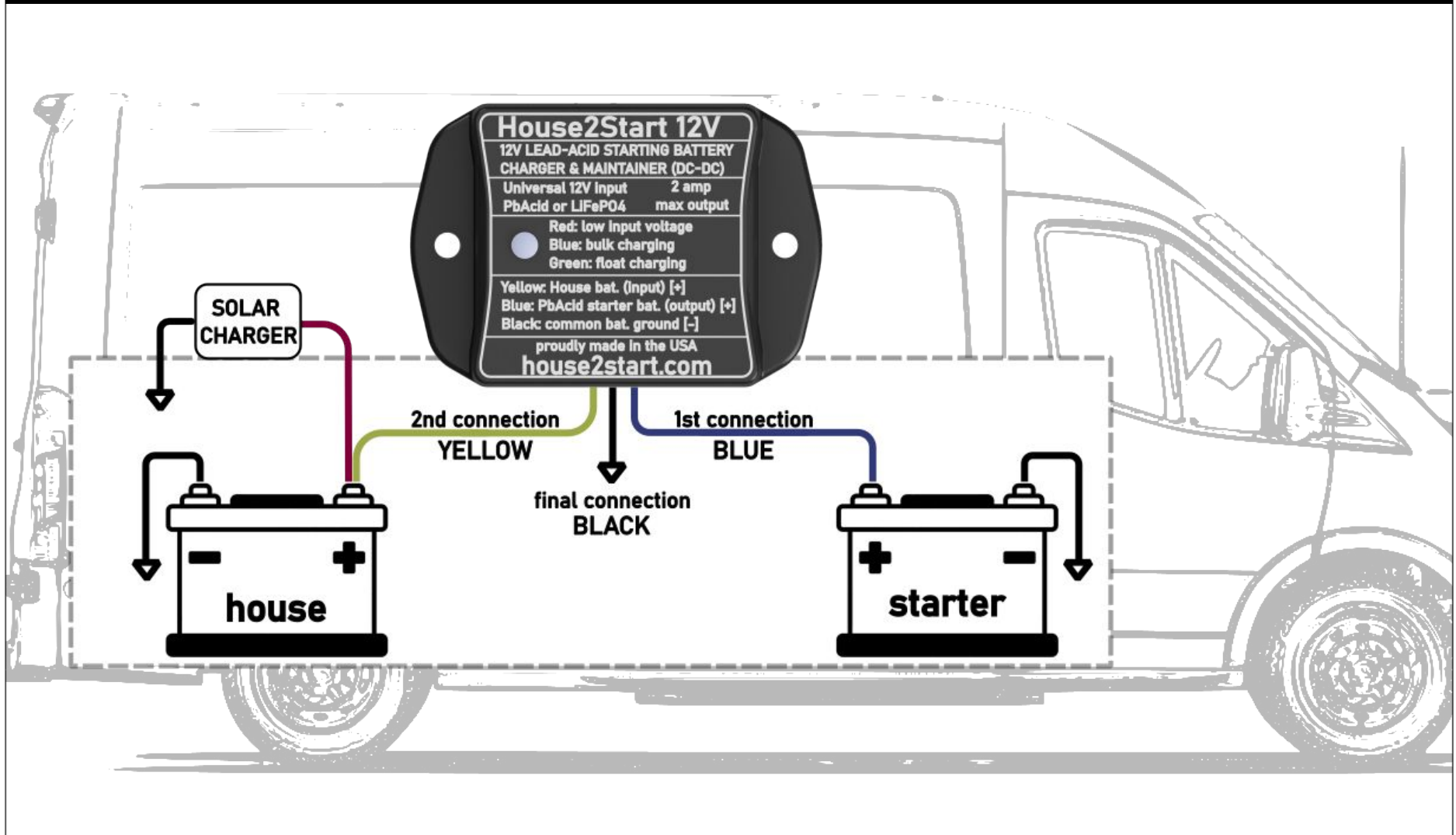
Final connection, Black: Connect to vehicle chassis ground. Both the house and starter batteries grounded to the chassis for proper function. Reliable low-resistance ground connections are essential for proper functioning of House2Start.

Use 16AWG or larger stranded copper or tinned-copper wire, with tinned-copper recommended for marine applications. For best protection, use adhesive lined crimp terminals (blue color for 16AWG).

LOCATION: Install House2Start in a location with similar temperatures to the starter battery for accurate charger voltage temperature compensation. Minimize wire length to the house battery to ensure accurate turn on and off voltage behavior. Do not install or operate near combustible fuels. Install in well ventilated location, do not cover the module, and never mount or operate House2Start on top of either battery.

MOUNTING: Mount using the 2.50” spaced flange holes with two #8 or M4 screws.

INSTALLATION DIAGRAM



ALWAYS disconnect the vehicle's battery systems, solar power, shore power, or other power systems before installing or maintaining the product.

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN DEATH OR SERIOUS INJURY.

OPERATION & TROUBLESHOOTING

Once installed, House2Start operates automatically, activating when the house battery voltage exceeds 13.6V, typically when a solar or shore-powered charger is active. The charger de-activates when the house battery voltage falls below 13.1V.

Multi-color LED Indicators:

RED: Charger is off, house battery is below the 13.1V turn-on threshold.

BLUE: Charger is in trickle, bulk or absorption mode.

GREEN: Charger is in float charge mode.

OFF: Possible causes include:

- 1) Incorrect installation (wires reversed, poor contact, bad or no common ground between batteries).
- 2) House battery is completely discharged (i.e. below 2V).
- 3) Input exceeds over-voltage protection limit (15 V)
- 4) Starter battery voltage exceeds 16V.
- 5) Module is off due to extreme temperature.
- 6) Module is resetting after 40 hours of continuous charging and will turn back on in 1-2 minutes.
- 7) Internal (non-replaceable) input fuse blown.

TROUBLESHOOTING

LED off: incorrect wiring polarity or faulty wiring connection(s); house battery discharged

LED always RED: house battery never reaches 13.6V; missing or faulty house battery charger; blue and yellow wires reversed

LED flashing rapidly one or many colors: poor or no ground connections (H2S and/or batteries)

PRODUCT SPECIFICATIONS

Model number	House2Start-12
Compatible input (house or leisure) battery chemistry	12 V flooded, sealed, AGM lead acid, and 12 V LiFePO4
Compatible output (starter) battery chemistry	12 V flooded lead acid
Charger activation voltage (rising)	13.6 V
Charger de-activation voltage (falling)	13.1 V
Max charging current	2 A
Over-charge voltage, nominal @ 25 °C	14.4 V
Float mode voltage, nominal @ 25 °C	13.5 V
Temperature compensation	-20 mV/°C
High temperature shutdown	50 °C
Low temperature shutdown	0 °C
Absolute maximum input voltage, exceeding this voltage will damage device permanently and void warranty	20.0 V
Internal fuses, input and output	3.5A fast blow (not replaceable)
Charge profile automatic reset timer	After 40 hours of continuous charging
Dimensions	3.05 x 2.10 x 0.96 inches
Mounting holes	2x 0.188 inch spaced 2.5 inches for #8 or M4 screws
Weight	< 100 grams per unit
Warranty	1 year