

## SINGLE, DUAL AND TRIPLE OUTPUT MODELS

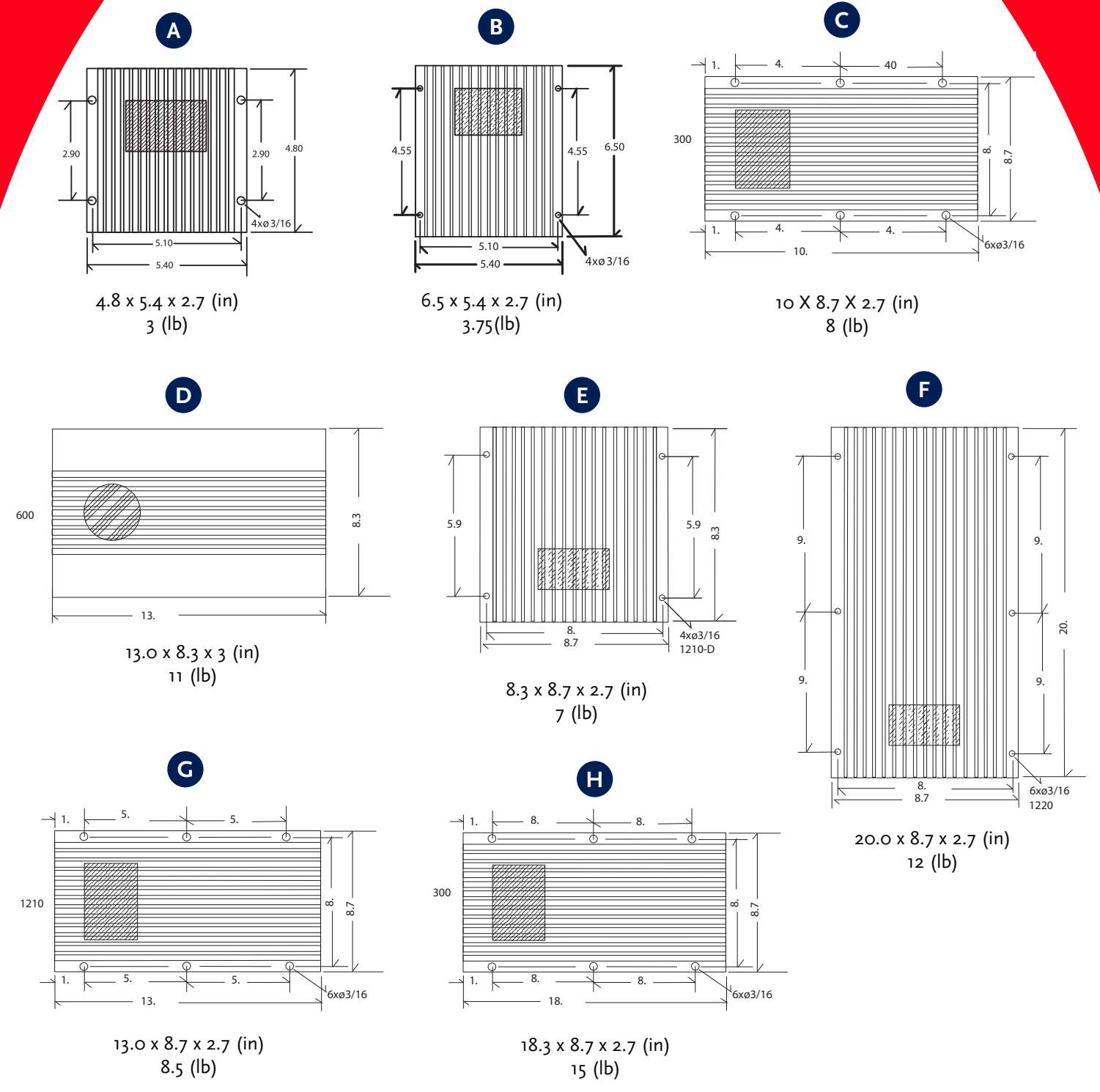
The ion-X Battery Charger incorporates a patented energy conversion technology that rapidly charges the battery while extending battery life. Utilizing an intelligent microprocessor, the charger allows a high rate of charge to the battery without overheating the battery, thereby significantly reducing charge time. The ion-X Adaptive Battery Charger prevents loss of electrolyte, gassing, sulfate build-up on battery plates and over-charging, all of which contribute to longer, healthier battery life.

### Pulse and Adaptive Charging Technology

As electrical loads increase, the preservation of battery life becomes a higher priority. Only 30% of the batteries sold today complete their 48-month lifespan, the majority of the failures due to sulfation. The ion-X Battery Charger thoroughly eliminates sulfation through its breakthrough proprietary algorithm.

The ion-X Battery Chargers use a patent pending pulse charging method that applies alternating pulses of positive and negative current to the battery. After each pulse, the ion-X's breakthrough microprocessor calculates the appropriate amount of current amplitude and pulse width required by the battery based on constant measurements of voltage within the battery; the ion-X Battery Charger learns about the battery as it charges. By determining the battery's

specific charge needs, the ion-X Battery Charger can adjust the charge regime accordingly. The charger can effectively charge a wide range of batteries and battery sizes, without any overcharging or loss of dielectric. The negative pulse function removes sulfur contamination on the battery plates, thereby extending battery life as the ion-X Battery Charger efficiently charges the battery.



HDM Systems Corporation  
500 Lincoln Street  
Allston, MA 02134

617.562.4054 tel  
617.562.4013 fax  
www.hdmsys.com



## Features:

- > Appropriate for lead acid, gel cell and AGM batteries
- > Single and dual output options available
- > No noise output
- > Corrosion proof hardware
- > Ignition proof
- > Short circuit and over-voltage protection

- > Hard wiring option available
- > Manufacturer's 2 Year Limited Warranty
- > Prevents battery over-charging

Microprocessor controlled:

- > Current limiting
- > Automatic termination
- > Automatic maintenance mode

**Charge Status Indicator:** Once installation is complete, the user may monitor the charger's LED indicator light to ensure proper charger operation. The table at right matches LED indicator light colors to the battery's charge level.

LED Color	Charge Status
● Solid Green	100%
● Flashing Green	80%-100%
● Flashing Orange	50%-80%
● Flashing Red	Less than 50%

The ion-X Battery Charger is also equipped with a **Battery Status Indicator**, which provides the battery's remaining power based on its voltage measured at rest.

For the convenience of monitoring Charge and Battery Status, the unit may also include the easy-to-install **Remote LED Indicator** (OPTIONAL). This feature would allow you to check on the boat's battery status, while charging and while at rest, from a visible area of the vessel.

LED Color	Battery Status
● Solid Green	Greater than 85%
● Solid Orange	50%-85%
● Solid Red	25%-50%
● Off	Less than 25%

## SINGLE OUTPUT MODELS

Specifications	150W		300W	600W	General Information:
<b>MODEL NUMBER</b>	1205E <sup>Λ</sup>	1210E <sup>Λ</sup>	1220E	1250E*	
<b>AC input voltage</b>	115V or 230V	115V or 230V	115V or 230V	115V or 230V	
<b>Output current</b>	5A	10A	20A	50A	
<b>Output voltage</b>	12V	12V	12V	12V	
<b>Output fuse</b>	10A	20A	40A	100A	
<b>Case</b>	A	B	C	D	
<b>Temperature compensation</b>	No	Yes	Yes	Yes	
<b>MODEL NUMBER</b>	2403E <sup>Λ</sup>	2405E <sup>Λ</sup>	2410E	2425E*	
<b>AC input voltage</b>	115V or 230V	115V or 230V	115V or 230V	115V or 230V	
<b>Output current</b>	3A	5A	10A	25A	
<b>Output voltage</b>	24V	24V	24V	24V	
<b>Output fuse</b>	6A	10A	20A	50A	
<b>Case</b>	A	B	C	D	
<b>Temperature compensation</b>	No	Yes	Yes	Yes	
<b>MODEL NUMBER</b>			4805E	4810E*	
<b>AC input voltage</b>			115V or 230V	115V or 230V	
<b>Output current</b>			5A	10A	
<b>Output voltage</b>			48V	48V	
<b>Output fuse</b>			10A	20A	
<b>Case</b>			C	D	
<b>Temperature compensation</b>			Yes	Yes	

\* Indicates non-waterproof, fan-cooling units    Λ Indicates open-frame units available

## DUAL OUTPUT MODELS

Specifications	150W	225W	300W	600W		
<b>MODEL NUMBER</b>	1205/05E	1205/10E	1210/10E	1215/15E	1220/20E	1220/2410E
<b>AC input voltage</b>	115V or 230V	115V or 230V	115V or 230V	115V or 230V	115V or 230V	115V or 230V
<b>Output current</b>	5A/5A	5A/10A	10A/10A	15A/15A	20A/20A	20A/10A
<b>Output voltage</b>	12V	12V	12V	12V	12V	12V
<b>Output fuse</b>	10A/10A	10A/20A	20A/20A	30A/30A	40A/40A	40A/20A
<b>Case</b>	E	E	E	F	F	F
<b>Temperature compensation</b>	No/No	No/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
<b>MODEL NUMBER</b>			2405/05E			2410/10E
<b>AC input voltage</b>			115V or 230V			115V or 230V
<b>Output current</b>			5A/5A			10A/10A
<b>Output voltage</b>			24V			24V
<b>Output fuse</b>			10A/10A			20A/20A
<b>Case</b>			E			F
<b>Temperature compensation</b>			No/No			Yes/Yes

## TRIPLE OUTPUT MODELS

Specifications	300W	375W	450W		525W	600W
<b>MODEL NUMBER</b>	1210/05/05E	1210/10/05E	1210/10/10E	1220/05/05E	1220/10/05E	1220/10/10E
<b>AC input voltage</b>	115V or 230V	115V or 230V	115V or 203V	115V or 230V	115V or 230V	115V or 230V
<b>Output current</b>	10A/5A/5A	10A/10A/5A	10A/10A/10A	20A/5A/5A	20A/10A/5A	20A/10A/10A
<b>Output voltage</b>	12V	12V	12V	12V	12V	12V
<b>Output fuse</b>	20A/10A/10A	20A/20A/10A	20A/20A/20A	40A/10A/10A	40A/20A/10A	40A/20A/20A
<b>Case</b>	G	G	G	H	H	H
<b>Temperature compensation</b>	Yes/No/No	Yes/Yes/No	Yes/Yes/Yes	Yes/No/No	Yes/Yes/No	Yes/Yes/Yes
<b>MODEL NUMBER</b>			2405/05/05E			
<b>AC input voltage</b>			115V or 203V			
<b>Output current</b>			5A/5A/5A			
<b>Output voltage</b>			24V			
<b>Output fuse</b>			10A/10A/10A			
<b>Case</b>			G			
<b>Temperature compensation</b>			No/No/No			