

# Battery Chargers - Phase Three Series



## Three Stage "Smart" Chargers

Phase Three "Smart" battery charging technology is now available in a wide range of power levels, allowing you to select the right size, features and flexibility you require for virtually any application from small recreational craft to large live-aboards, workboats and other commercial vessels. These chargers interact with batteries to put them through the optimum three stage charge process which provides for fastest recovery and ideal conditioning, maximizing battery performance and extending battery life.

A selector switch adjusts output voltage to adapt for gel-cell/flooded lead-acid/AGM battery types. An optional temperature compensation sensor also adjusts output for ideal voltage based on changes in the batteries' ambient temperature. All models are housed in a rugged stainless steel case with a durable white powder coat finish, and the internal circuitry is polyurethane coated for maximum corrosion resistance.

## Features

- "Smart" circuitry provides three stage charging—bulk, absorption, float.
- Wide model range covers battery system ratings from 14-950 amp-hours
- Gel-Cell/Flooded Lead-acid/AGM battery type switch selects optimum charge/float voltages.
- Multiple isolated output banks; ammeter indicates total output current. (except PT-7)
- Optional sensor adjusts output voltage based on battery temperature. (except PT-7)
- Current limiting-prevents damage from overloading.
- Charger status clearly displayed with L.E.D. and/or audible indicators or optional remote panel.
- Use as a power supply; can power loads without a battery in line.
- Built to last—rugged stainless steel case with a durable white powder coat finish with an optional drip shield and maritized internal circuitry.
- Numerous Safety and EMC Compliances
- Two year parts and labor warranty

## Models

12 Volt	24 Volt	32 Volt
PT-7	PT-24-8W	PT-32-25W
PT-14W	PT-24-13W	
PT-25W	PT-24-20W	
PT-40W	PT-24-45U	
PT-80	PT-24-60W	
	PT-24-95U	

See next page for detailed specifications.

## Optional Accessories

**Remote Indicator Panel**, Model: RP (Not available for all models - refer to Specifications on following page)

**DC Energy Monitor**, reads Volts, Amps, Amp Hours (See page 20 for details)

**Temperature Compensation Sensor**, Model: TCS-12/24 shown (see next page for applicable sensor depending on charger model)

## Phase Three Monitor/Control Unit For ABS Installation

This unit, when used in conjunction with certain PT Chargers\* creates a system which is fully compliant with American Bureau of Shipping (ABS) Battery Charging standards for commercial installations

\* For use with all models except PT-7, PT-24-60W, PT-24-95U, and PT-32-25.

## Incorporates

- Digital readout of float voltage to 1/10th volt
- Output float voltage adjustment pot; permits fine tuning from -4% to +5%
- AC circuit breaker; provides overcurrent protection and manual disconnect
- AC power ON indicator light
- 10' wiring harness for easy connection of PT Series charger

**Model:** PT-MCU

**Size (HxWxD):** 8.7"x4.6"x5.5"

**Weight:** 3.5 lbs.



DC Power Onboard

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## Specifications

	12 Volt Models					24 Volt Models						32 Volt
	PT-7	PT-14W	PT-25W	PT-40W	PT-80	PT-24-8W	PT-24-13W	PT-24-20W	PT-24-45U	PT-24-60W	PT-24-95U	PT-32-25W
<b>Input VAC (50-60 Hz.)</b>	88-132 or 176-264	85-264	90-132 or 180-264	85-135 or 170-270	90-264	85-264	90-132 or 180-264	85-135 or 170-270	90-264	207-253	90-264	104-126
<b>Input Amps @ Full Load @ 115 VAC</b>	2	2.8	6.5	8.5	12	2.8	6.5	8.5	12	NA	26	15
<b>@ 230 VAC</b>	1	1.4	4	4.3	7	1.4	4	4.3	7	13	14	N/A
<b>P.F. Rating</b>	>.65	.93@230V .98@115V	.7	.7	.95@230V .98@115V	.93@230V .98@115V	.7	.7	.95@230V .98@115V	.7	.95@230V .98@115V	.7
<b>Max Output Amps</b>	7	14	25	40	80	8	13	20	45	60	95	25
<b>Output Banks</b>	2	3	3	3	3	3	3	3	3	3	3	3
<b>Battery Capacity (Amp-Hours)</b>	14-70	28-140	50-250	80-400	160-800	16-80	26-130	40-200	90-450	120-600	180-950	50-250
<b>Operating Temp. Rating Reference</b>	T-1	T-2	T-4	T-5	T-7	T-2	T-3	T-5	T-8	T-6	T-8	T-6
<b>Case Size Ref.</b>	A-1	A-2	A-2	A-3	A-5	A-2	A-2	A-3	A-5	A-6	A-6	A-4
<b>Weight; Lbs./Kg.</b>	3.2/1.5	8/4	8.2/4	12/6	15.2/7	8/4	8.2/4	12/6	12.2/6	24.1/11	24.5/11	12.2/6
<b>Optional Temp. Sensor Model</b>	N/A	TCS-12/24	TCS-12/24	TCS-12/24	TCS-12/24	TCS-12/24	TCS-12/24	TCS-12/24	TCS-12/24	TP	TCS-12/24	TP
<b>Remote Panel Model</b>	N/A	RP	RP	RP	RP	RP	RP	RP	RP	N/A	RP	N/A
<b>Equalize Option</b>	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
<b>Output Indicator Ref.</b>	M-1	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-2	M-3
<b>Compliance Ref.</b>	CG, CE	CG, CE	CG	CG, CE	CE	CG, CE	CG	CG, CE	EN, CE	EN, CE	EN, CE	EN, CE

**Case Size:**

Ref	Inches			Centimeters		
	H	W	D	H	W	D
A-1	10.5	5.0	2.8	26.7	12.7	7.1
A-2	12.5	7.7	4.3	31.8	19.6	10.9
A-3	13.85 <sup>*</sup>	9.5	4.8 <sup>*</sup>	35.2 <sup>*</sup>	24.1	12.2 <sup>*</sup>
A-4	13.8 <sup>A</sup>	9.8	5 <sup>A</sup>	35 <sup>A</sup>	24.9	12.7 <sup>A</sup>
A-5	14.8 <sup>B</sup>	9.6	5.6 <sup>B</sup>	37.6 <sup>B</sup>	24.4	14.2 <sup>B</sup>
A-6	17.5 <sup>C</sup>	12	7.2 <sup>C</sup>	44.5 <sup>C</sup>	30.5	18.3 <sup>C</sup>

*\* Add .75" (1.9 cm) to height and 1.35" (3.4 cm) to depth  
<sup>A</sup> Add 1.27" (3.2 cm) to height and 1.1" (2.8 cm) to depth  
<sup>B</sup> Add 1" (2.54 cm) to height and .5" (1.27 cm) to depth  
<sup>C</sup> Add 2" (5.08 cm) to height and 1" (2.54 cm) to depth*

## Compliance References\*:

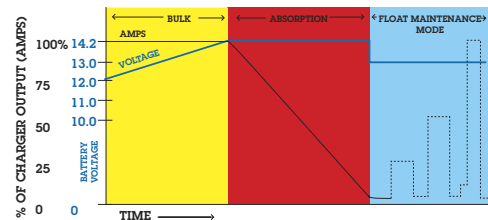
See matrix for applicable models  
**CG** USCG CFR 183.410 (Ignition protected)  
**EN** EN 60335-1, EN 60335-2-29

**CE** Carries the CE Mark  
 \* Numerous other Safety and EMC compliances may also apply. Contact factory if further compliance information is required.

## Output Indicator References:

**M-1** Charge/Float L.E.D.  
**M-2** Total output ammeter and charger status L.E.D.'s/Alarms  
**M-3** Total output ammeter and power-on L.E.D.

## Typical Charge Curve



## Temperature Rating References:

**T-1** -10°C to +45°C; Derate linearly from 100% @ 0°C to 80% @ -10°C  
**T-2** -10°C to +60°C; Derate linearly from 100% @ 40°C to 60% @ 60°C  
**T-3** -10°C to +60°C; Derate linearly from 100% @ 50°C to 60% @ 60°C  
**T-4** -10°C to +60°C; Derate linearly from 100% @ 40°C to 60% @ 60°C  
**T-5** -40°C to +60°C; Derate linearly from 100% @ 50°C to 75% @ 60°C  
**T-6** -20°C to +50°C; Full output  
**T-7** -20°C to +70°C; Derate linearly from 100% @ 45°C to 50% @ 70°C  
**T-8** -20°C to +70°C; Derate linearly from 100% @ 50°C to 50% @ 70°C

## Nominal Output Voltages at Gel/Flooded Switch Settings

(without Temperature Compensation option installed or at 22.2°C (72°F) with Temperature Compensation option installed.)

Setting	12 Volt Models		24 Volt Models		32 Volt Model	
	Charge @ 50 % load	Float @ .5 amp load	Charge @ 50 % load	Float @ .5 amp load	Charge @ 50 % load	Float @ .5 amp load
Gel-Cell	14.0 VDC	13.6 VDC	28.0 VDC	27.2 VDC	37.3	36.2
Flooded/AGM	14.2 VDC	13.4 VDC	28.4 VDC	26.8 VDC	37.8	35.7

**Temperature Compensation:** - 5 mV per cell per °C. Sensor supplied with 25' cable (40' cable optional) and plug-in connector

**Protection (all models):** Input/Output Fuses, Current Limiting, Thermal Protection, Forced Air Cooling, Drip Shield

**Remote Panel, Model RP:** LED's indicate charger output stage. Manual reset button reinitializes three stage charge cycle. Supplied with 25' cable and plug-in connector. Panel dimensions: 3" H x 4.75" W



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