

## PHASE THREE SERIES BATTERY CHARGER

Phase Three “smart” battery charging technology is available in a wide range of power levels, allowing you to select the right size, features, and flexibility required for your deployment. Ideal for virtually any application, these chargers provide quick recharge of auxiliary batteries in vehicles parked in the station house or power continuous loads and maintain peak charge in large battery systems in remote communication sites, industrial generators, and marine applications. These chargers interact with batteries to go through the optimum three stage charge process, providing the fast recovery and ideal conditioning, maximizing battery performance, and extending battery life.



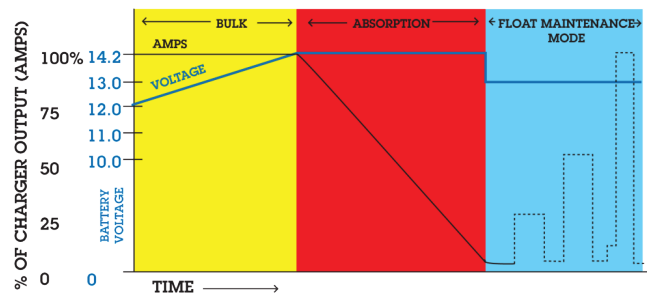
### KEY FEATURES

- “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) and 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
- Rugged stainless steel case with a durable white powder coat finish with drip shield and polyurethane coated internal circuitry
- Protection for all models: input/output fuses, current limiting, thermal protection, forced air cooling, drip shield
- Numerous safety and EMC compliances
- Two-year parts and labor warranty

### PRODUCT MODELS

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

### TYPICAL CHARGE CURVE



### OPTIONAL ACCESSORIES

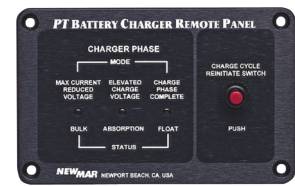


DC Energy Monitor (DCE)



Temperature Compensation Sensor (TCS-12/24)

Temperature compensation: -5 mV per cell per °C.  
Sensor supplied with 25' cable and plug-in connector.



Remote Indicator Panel (RP)

LED's indicate charger output stage. Button allows manual reinitialization of three stage charge cycle. 25' cable and plug-in connector included.  
Panel dimensions: 3" H x 4.75" W

## PHASE THREE SERIES BATTERY CHARGER

### ELECTRICAL SPECIFICATIONS

	PT-7	PT-14W	PT-25W	PT-40U	PT-80	PT-24-8W	PT-24-13W	PT-24-20U	PT-24-45U	PT-24-60W	PT-24-95U
<b>Input VAC (50–60 Hz)</b>	88–132 or 176–264	85–264	88–132 or 176–264	90–264	90–264	85–264	88–132 or 176–264	90–264	90–264	90–264	90–264
<b>Input Amps @ Full Load</b>											
@ 115 VAC	2	2.8	6.5	6.8	12	2.8	6.5	6.8	12	22	26
@ 230 VAC	1	1.4	4	3.4	7	1.4	4	3.4	7	12	14
<b>P.F. Rating</b>	>0.65	0.93 @ 230 V 0.98 @ 115 V	0.7	0.95 @ 230 V 0.98 @ 115 V	0.95 @ 230 V 0.98 @ 115 V	0.93 @ 230 V 0.98 @ 115 V	0.7	0.95 @ 230 V 0.98 @ 115 V	0.95 @ 230 V 0.98 @ 115 V	0.95 @ 230 V 0.98 @ 115 V	0.95 @ 230 V 0.98 @ 115 V
<b>Max Output Amps</b>	7	14	25	40	80	8	13	20	45	60	95
<b>Output Banks</b>	2	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
<b>Operating Temperature Rating Reference</b>	T-1	T-2	T-4	T-5	T-7	T-2	T-9	T-5	T-8	T-8	T-8
<b>Case Size Reference</b>	A-1	A-2	A-2	A-3	A-5	A-2	A-2	A-3	A-5	A-6	A-6
<b>Weight (lb/kg)</b>	3.2/1.5	8/4	8.2/4	11/5	15.2/7	8/4	8.2/4	11/5	12.2/6	24.1/11	24.5/11
<b>Optional Temperature 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	TCS-12/24	TCS-12/24
<b>Remote Panel Model</b>	N/A	RP	RP	RP	RP	RP	RP	RP	RP	RP	RP
<b>Equalize Option</b>	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
<b>Output Indicator Reference</b>	M-1	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3
<b>Compliance References</b>	CG, CE	CG, CE	CG	CG, CE	CG, CE	CG, CE	CG	CG, CE	EN, CE	EN, CE	EN, CE

### 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.

	12 Volt Models		24 Volt Models	
	Charge @ 50% load	Charge @ 0.5 A load	Charge @ 50% load	Charge @ 0.5 A load
<b>Gel-Cell</b>	14.0 VDC	13.6 VDC	28.0 VDC	27.2 VDC
<b>Flooded/AGM</b>	14.2 VDC	13.4 VDC	28.4 VDC	26.8 VDC

### Compliance References

Numerous other Safety and EMC compliances may also apply. Contact factory if further compliance information is required.

Description	
<b>CG</b>	USCG CFR 183.410 (Ignition protected)
<b>EN</b>	EN 60335-1, EN 60335-2-29
<b>CE</b>	Carries the CE Mark

### Case Size

Dimensions (H x W x D)	
<b>A-1</b>	10.5 x 5.0 x 2.8 in (267 x 127 x 71 mm)
<b>A-2</b>	12.5 x 7.7 x 4.3 in (318 x 196 x 109 mm)
<b>A-3</b>	13.85 x 9.5 x 4.8 in (352 x 241 x 122 mm) <sup>1</sup>
<b>A-4</b>	13.8 x 9.8 x 5.0 in (350 x 249 x 127 mm) <sup>2</sup>
<b>A-5</b>	14.8 x 9.6 x 5.6 in (376 x 244 x 142 mm) <sup>3</sup>
<b>A-6</b>	17.5 x 12.0 x 7.2 in (445 x 305 x 183 mm) <sup>4</sup>

With dripshield installed:

<sup>1</sup>Add .75" (19 mm) to height and 1.35" (34 mm) to depth

<sup>2</sup>Add 1.27" (32 mm) to height and 1.1" (28 mm) to depth

<sup>3</sup>Add 1" (25.4 mm) to height and .5" (12.7 mm) to depth

<sup>4</sup>Add 2" (50.8 mm) to height and 1" (25.4 mm) to depth

### Temperature Ratings References

Description	
<b>T-1</b>	-10–45°C; derate linearly from 100% @ 0°C to 80% @ -10°C
<b>T-2</b>	-10–60°C; derate linearly from 100% @ 40°C to 60% @ 60°C
<b>T-4</b>	-10–60°C; derate linearly from 100% @ 40°C to 60% @ 60°C
<b>T-5</b>	-20–60°C; derate linearly from 100% @ 50°C to 60% @ 60°C
<b>T-6</b>	-20–50°C; full output
<b>T-7</b>	-20–70°C; derate linearly from 100% @ 45°C to 50% @ 70°C
<b>T-8</b>	-20–70°C; derate linearly from 100% @ 50°C to 50% @ 70°C
<b>T-9</b>	-20–70°C; derate linearly from 100% @ 50°C to 60% @ 70°C

### Output Indicator References

Description	
<b>M-1</b>	Total output ammeter
<b>M-3</b>	Total output ammeter and charger status L.E.D.'s