



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 providing quick recharge of auxiliary batteries in vehicles parked in the station house, to powering continuous loads and maintaining peak charge in battery systems in mobile as well as industrial generator applications. 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 (except PT-7), 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 LED 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 drip shield and polyurethane coated internal circuitry
- Numerous safety and EMC compliances
- Two year parts and labor warranty

### Temperature Compensation:

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

### Protection (all models):

Input/Output Fuses, Current Limiting, Thermal Protection, Forced Air Cooling, Drip Shield

### Optional Remote Panel, Model RP:

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

### Options:

#### Remote Panel, model RP, for use with all models except PT-7

LED's indicate charger output stage. Manual reinitialization of three stage charge cycle. 25' of cable provided. Panel dimensions: 3" H x 4.75" W



#### Temperature Compensation Sensor, model TCS-12/24

-5 mV per cell °C. 25' of cable provided (40' cable optional)



|   | 12 Volt Models       |                          |                      |                          |                        | 24 Volt Models           |                      |                          |               |           |                          |
|---|----------------------|--------------------------|----------------------|--------------------------|------------------------|--------------------------|----------------------|--------------------------|---------------|-----------|--------------------------|
|   | 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<br>176-264 | 85-64                    | 90-132 or<br>180-264 | 90-264                   | 90-264                 | 85-264                   | 90- 32 or<br>180-264 | 90-264                   | 90-264        | 207-253   | 90-264                   |
| <b>Input Amps @ Full Load @ 115 VAC</b> | 2                    | 2.8                      | 6.5                  | 6.8                      | 12                     | 2.8                      | 6.5                  | 6.8                      | 12            | NA        | 26                       |
| <b>@ 230 VAC</b>                        | 1                    | 1.4                      | 4                    | 3.4                      | 7                      | 1.4                      | 4                    | 3.4                      | 7             | 13        | 14                       |
| <b>P.F. Rating</b>                      | >.65                 | .93 @ 230V<br>.98 @ 115V | .7                   | .95 @ 230V<br>.98 @ 115V | .95 @ 230V<br>.98@115V | .93 @ 230V<br>.98 @ 115V | .7                   | .95 @ 230V<br>.98 @ 115V | .95 @<br>230V | .7        | .95 @ 230V<br>.98 @ 115V |
| <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 Temp.</b>                  | T-1                  | T-2                      | T-4                  | T-5                      | T-7                    | T-2                      | T-3                  | T-5                      | T-8           | T-6       | T-8                      |
| <b>Rating Reference</b>                 |                      |                          |                      |                          |                        |                          |                      |                          |               |           |                          |
| <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                      |
| <b>Weight; Lbs./Kg.</b>                 | 3.2/1.5              | 8/4                      | 8.2/4                | 11/6                     | 15.2/7                 | 8/4                      | 8.2/4                | 11/6                     | 12.2/6        | 24.1/11   | 24.5/11                  |
| <b>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                |
| <b>Remote Panel Model</b>               | N/A                  | RP                       | RP                   | RP                       | RP                     | RP                       | RP                   | RP                       | RP            | N/A       | RP                       |
| <b>Equalize Option</b>                  | No                   | Yes                      | Yes                  | No                       | Yes                    | Yes                      | Yes                  | Yes                      | No            | No        | Yes                      |
| <b>Output Indicator Ref.</b>            | M-1                  | 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                   |

### Temperature Rating References

| Ref. | Temperature      | Derate linearly from 100%   |
|------|------------------|-----------------------------|
| T-1  | -10° C to +45° C | 100% @ 0° C to 80% @ -10° C |
| T-2  | -10° C to +60° C | 100% @ 40° C to 60% @ 60° C |
| T-3  | -10° C to +60° C | 100% @ 50° C to 60% @ 60° C |
| T-4  | -10° C to +60° C | 100% @ 40° C to 60% @ 60° C |
| T-5  | -20° C to +60° C | 100% @ 50° C to 75% @ 60° C |
| T-6  | -20° C to +50° C | Full Output                 |
| T-7  | -20° C to +70° C | 100% @ 45° C to 50% @ 70° C |
| T-8  | -20° C to +70° C | 100% @ 50° C to 50% @ 70° C |

### 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* | 9.5 | 4.8* | 35.2*       | 24.1 | 12.2* |
| A-4 | 13.8A  | 9.8 | 5A   | 35A         | 24.9 | 12.7A |
| A-5 | 14.8B  | 9.6 | 5.6B | 37.6B       | 24.4 | 14.2B |
| A-6 | 17.5C  | 12  | 7.2C | 44.5C       | 30.5 | 18.3C |

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

### Output Indicator References

**M-1:** Total output ammeter  
**M-2:** Charge/Float LED  
**M-3:** Total Output Ammeter and charger status LED's/  
 Alarms

### Compliance References\*

See matrix for applicable models

**UL:** UL 1950 (Per DNB report)  
**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.

### 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       |                        |
|-------------|----------------------|------------------------|----------------------|------------------------|
|             | Charge @<br>50% load | Float @ .5<br>amp load | Charge @<br>50% load | Float @ .5<br>amp load |
| Gel-Cell    | 14.0 VDC             | 13.6 VDC               | 28.0 VDC             | 27.2 VDC               |
| Flooded/AGM | 14.2 VDC             | 13.4 VDC               | 28.4 VDC             | 26.8 VDC               |