# TPRO320-2 Datasheet


- *Optimal three stage charging*
- *State of charge / Amp / AC LEDs*
- *Low standby battery drain*
- *Customizable charge algorithm*
- *Triple - isolated banks*
- *State of charge current sharing*
- *Vibration resistant*
- *Reverse polarity protected*
- *Over temperature protected*
- *Over current / voltage protected*
- *Waterproof / hermetically sealed*
- *UL/CSA 1236 certified*
- *Two year warranty*

## Description

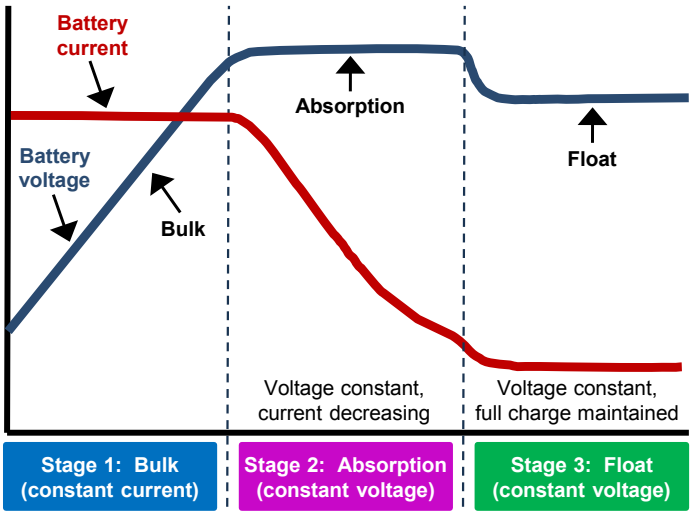
The TPRO320-2 is a rugged, waterproof and sophisiticated three stage lead-acid battery charger with three isolated banks. With a wide operating temperature range (-20°C to 50°C) and UL/CSA 1236 certification, this product is especially suited for high end industrial and marine applications. The TPRO320-2 is factory programmable to accommodate several charging algorithms and an LED display to indicate status. Total output current is 20 amps and distributed among the three banks, depending on state of charge as 0/0/20, 0/20/0, 20/0/0,10/10/10 or any other ratio summing to 20 amps. Output current and battery voltage are controlled precisely to insure a complete recharge. The charger may be left connected indefinitely to the battery, maintaining full charge at all times.

## Charging specifications

| PARAMETER | DESCRIPTION / CONDITIONS | MIN | NOM | MAX | UNITS |
|---|---|---|---|---|---|
| $V_{FSTERM}$ | Fast charge termination voltage, 25C | 14.4 | 14.6 | 14.8 | VDC |
| $V_{FL}$ | Float voltage, $I_{OUT}$ < 1.0 A, 25C | 13.4 | 13.6 | 13.7 | VDC |
| $I_{FS}$ | Fast charge current, $V_{BATTERY}$ = 24V | 20.0 | 21.0 | 22.0 | Amps |
| $I_{ABTERM}$ | Absorption mode charge termination current,transition from fast to absorption | 5.5 | 6.0 | 6.5 | Amps |
| $I_{FLTERM}$ | Float charge termination current | 4.5 | 5.0 | 5.5 | Amps |
| $I_{SBY}$ | Standby current, AC off | | | 0.5 | ma |

**Charging algorithm:** Supplies constant current to battery until $V_{FSTERM}$. Transition to absorption mode follows and regulates battery voltage at $V_{FSTERM}$ until current decreases to $I_{ABTERM}$. Float mode follows and regulates battery voltage at $V_{FL}$.

**Three stage charging curve**




409 Calle San Pablo, Unit 104, Camarillo, CA 93012 Phone: (866) 482-7930 Fax: (805) 482-7936 www.chargetek.com

## Input specifications

| PARAMETER | DESCRIPTION / CONDITIONS | MIN | NOM | MAX | UNITS |
|---|---|---|---|---|---|
| AC voltage | 47 - 63Hz | 180 | 220 | 264 | VAC |
| Input current | 180VAC, 15VDC output | | 3.0 | | Amps |

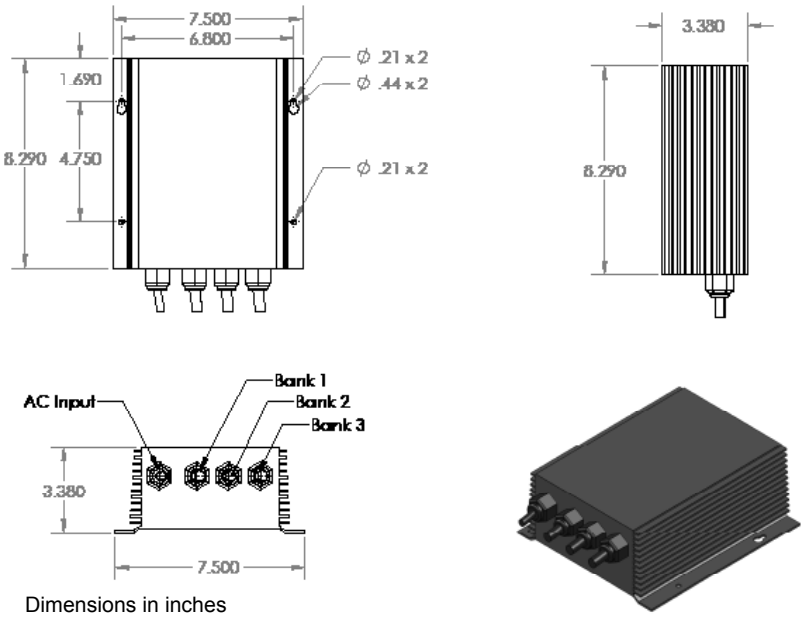
## Environmental specifications

| PARAMETER | DESCRIPTION / CONDITIONS |
|---|---|
| Storage temperature | -40°C - 80°C |
| Operating temperature | -20°C - 50°C |
| Relative humidity | 0 - 95% relative humidity (non-condensing) |
| Input to output / chassis voltage isolation | 2KV (leakage current less than 1mA) |
| Output to chassis voltage isolation | 50V (can be increased / consult factory) |

## LED indicators

| PARAMETER | DESCRIPTION | RED | YELLOW | GREEN |
|---|---|---|---|---|
| State of charge | Indicates battery charging status | Bulk | Absorption | Float |
| Charging current in amps | Indicates battery charging current | 14 - 20 | 7 - 14 | 0 - 7 |
| Input AC power | Indicates AC power good | | | On |
| Battery connected | Indicates battery connected properly | | | On |

## Outline and mounting




Dimensions in inches

**NOTE:** Chargetek products are not authorized for use as components in life support systems, hazardous environments, nuclear control systems or other similar applications without the express written consent of the President of Chargetek , Inc. The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

409 Calle San Pablo, Unit 104, Camarillo, CA 93012 Phone: (866) 482-7930 Fax: (805) 482-7936 www.chargetek.com