



- **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 TPRO320-1 is a rugged, waterproof and sophisticated 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 TPRO320-1 is factory programmable to accommodate several charging algorithms and an LED display to indicate

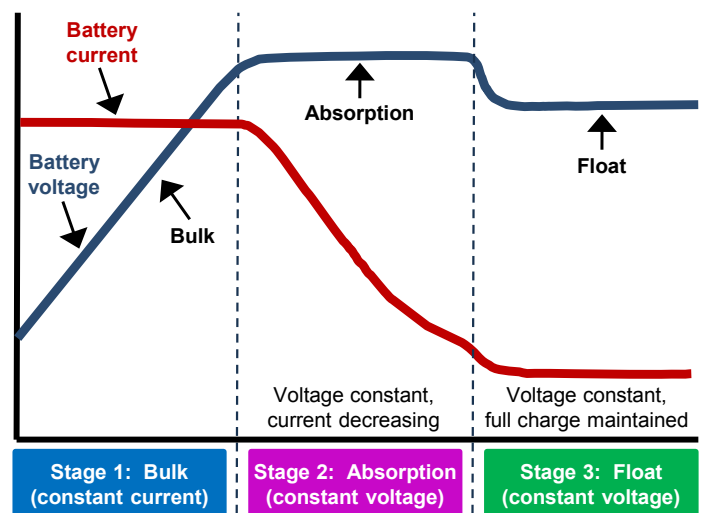
status. Total output current is 20 amps and distributed among the three banks, depending on state of charge as 0/0/20, 0/20/0, 20/0/0, 10/10/10 or any other ratio summing to 20 amps. Output current and battery voltage are controlled precisely to insure a complete recharge. The charger may be left connected 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 $I_{AB-TERM}$. Float mode follows and regulates battery voltage at V_{FL} .

Three stage charging curve



TPRO320-1 Datasheet

Input specifications

PARAMETER	DESCRIPTION / CONDITIONS	MIN	NOM	MAX	UNITS
AC voltage	47 - 63Hz	90	110	132	VAC
Input current	90VAC, 15VDC output		6.0		Amps

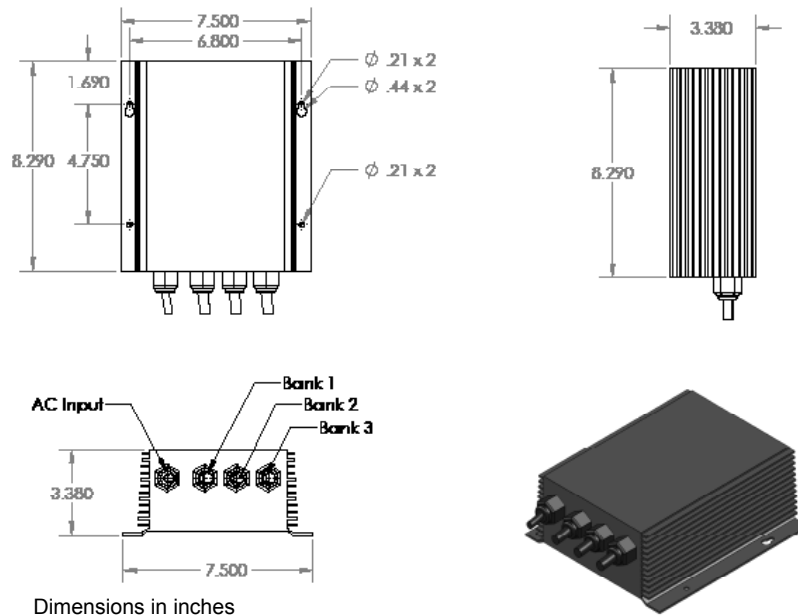
Environmental specifications

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



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.