



- *Input / output transformer isolated*
- *Eliminates ground potential problems*
- *Low voltage AC and DC inputs*
- *Optimal four stage charging*
- *State of charge / service LEDs*
- *Low standby battery drain*
- *Customizable charge algorithm*
- *Optional control / status signals*
- *Optional temperature compensation*
- *Vibration resistant*
- *Reverse polarity protected*
- *Over temperature protected*
- *Over current / voltage protected*
- *Waterproof / hermetically sealed*
- *Two year warranty*

## Description

The DPIC-WP series is a DC/DC battery charger line designed pursuant to customization and flexibility. With the ability to accept low voltage AC and DC inputs, diverse requirements ranging from marine to automotive can be met. The input and output are transformer isolated, eliminating ground loops and allowing battery charging at potentials not referenced to the input. With a wide operating temperature

range (-20°C to 50°C), the charger is especially suited for high end industrial applications. The DPIC-WP is factory programmable to accommodate several charging algorithms and an LED display to indicate status. The charger is controlled by an embedded microcontroller that contains software developed by and which is proprietary to Chargetek.

## Part number definitions

DPIC-WP model numbers are in the form DPIC-WXYZ-OWP, where W specifies the input voltage, X specifies the output voltage, YZ specifies the output current and O specifies options (consult factory for temperature compensation and status output option availability). The available standard product offerings are shown below. Special output configurations are available. Please contact us for any variations required.

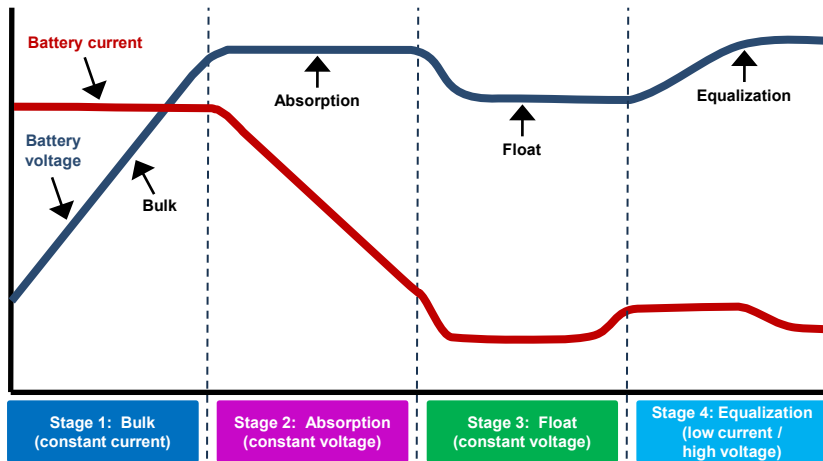
DPIC-FC part numbers are easily configured. For example, the DPIC-4307-FC has a 48V input (W=4), 36V battery voltage (X=3) and 7 amps charging current (YZ=07).

	DPIC input voltage range			
	12V (10V - 20V)	24V (17V - 42V)	36V (28V - 60V)	48V (34V - 80V)
Battery voltage				
12V	1120	2120	3120	4120
24V	1210	2210	3210	4210
36V	1307	2307	3307	4307
48V	1405	2405	3405	4405

# DPIC-WP Series Datasheet

## Charging specifications

Four stage charging curve



**Charging algorithm:** Supplies constant current to battery until absorption voltage is reached ( $V_{FSTERM}$ ). 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  $V_{FL}$ . At the user's discretion, an equalization mode can be initiated. The equalization voltage  $V_{EQ}$  is approximately 2.5V/cell and the battery current is limited to a small value. For more information, please refer to the information tab for the equalization and desulphation page at our website: [www.chargetek.com/equalization.html](http://www.chargetek.com/equalization.html)

### 12V battery bank

PARAMETER	DESCRIPTION / CONDITIONS	MIN	NOM	MAX	UNITS
$V_{FSTERM}$	Fast charge termination voltage, 25°C	14.3	14.4	14.5	VDC
$V_{FL}$	Float voltage, $I_{OUT} < I_{FS}$ , 25°C	13.4	13.5	13.6	VDC
$I_{FS}$	Fast charge current, $V_{BATTERY} = XY$ volts	20.0	21.0	22.0	Amps
$I_{ABTERM}$	Absorption mode charge termination current, transition from fast to absorption	2.5	3.0	3.5	Amps
$I_{FLTERM}$	Float charge termination current	0.3	0.4	0.5	Amps
$V_{EQ}$	Charge current less than 1A		15.6		volts
$I_{SBY}$	Standby current, AC off			1.0	ma

### 24V battery bank

PARAMETER	DESCRIPTION / CONDITIONS	MIN	NOM	MAX	UNITS
$V_{FSTERM}$	Fast charge termination voltage, 25°C	28.6	28.8	29.0	VDC
$V_{FL}$	Float voltage, $I_{OUT} < I_{FS}$ , 25°C	26.8	27.0	27.2	VDC
$I_{FS}$	Fast charge current, $V_{BATTERY} = XY$ volts	9.0	10.0	11.0	Amps
$I_{ABTERM}$	Absorption mode charge termination current, transition from fast to absorption	2.5	3.0	3.5	Amps
$I_{FLTERM}$	Float charge termination current	1.2	1.5	1.8	Amps
$V_{EQ}$	Charge current less than 1A		31.2		volts
$I_{SBY}$	Standby current, AC off			1.0	ma

### 36V battery bank

PARAMETER	DESCRIPTION / CONDITIONS	MIN	NOM	MAX	UNITS
$V_{FSTERM}$	Fast charge termination voltage, 25°C	42.9	43.2	43.4	VDC
$V_{FL}$	Float voltage, $I_{OUT} < I_{FS}$ , 25°C	40.2	40.5	40.7	VDC
$I_{FS}$	Fast charge current, $V_{BATTERY} = XY$ volts	6.5	7.0	7.5	Amps
$I_{ABTERM}$	Absorption mode charge termination current, transition from fast to absorption	1.7	2.0	2.3	Amps
$I_{FLTERM}$	Float charge termination current	0.8	1.0	1.2	Amps
$V_{EQ}$	Charge current less than 1A		46.8		volts
$I_{SBY}$	Standby current, AC off			1.0	ma

### 48V battery bank

PARAMETER	DESCRIPTION / CONDITIONS	MIN	NOM	MAX	UNITS
$V_{FSTERM}$	Fast charge termination voltage, 25°C	57.8	58.0	58.2	VDC
$V_{FL}$	Float voltage, $I_{OUT} < I_{FS}$ , 25°C	53.8	54.0	54.2	VDC
$I_{FS}$	Fast charge current, $V_{BATTERY} = XY$ volts	4.5	5.0	5.5	Amps
$I_{ABTERM}$	Absorption mode charge termination current, transition from fast to absorption	1.3	1.5	1.8	Amps
$I_{FLTERM}$	Float charge termination current	0.6	0.8	1.0	Amps
$V_{EQ}$	Charge current less than 1A		62.4		volts
$I_{SBY}$	Standby current, AC off			1.0	ma

# DPIC-WP Series Datasheet

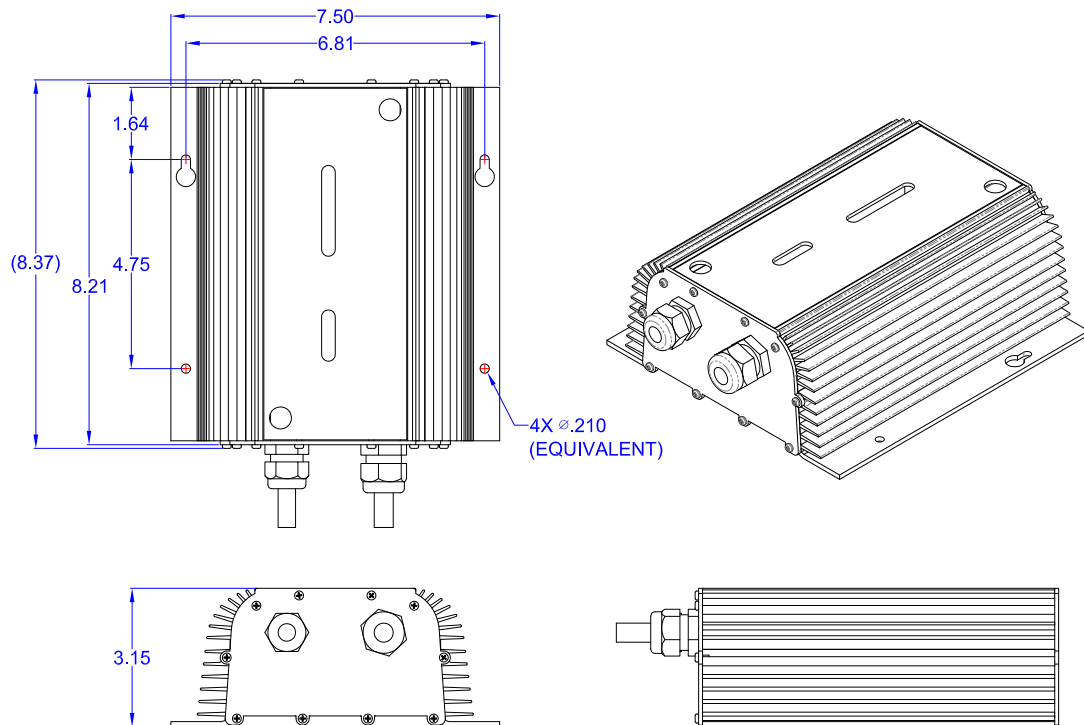
## Environmental specifications

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

## LED indicators

PARAMETER	DESCRIPTION	RED	GREEN
Charging mode	Indicates state of charge	Charging	Float
Service indicator	Indicates a charger failure	Fault	

## 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.