

# V-Charger

## V-Series USB Dual Port 2.0 Charger

### Product Highlights:

- ♦ Dual USB Charging Ports
- ♦ 3.15 Amps for Faster Charging
- ♦ 10,000 Operating Cycles per Port
- ♦ IP64 Sealing Protection
- ♦ 12-24 V Operating Voltage
- ♦ Protection for Internal Components

### Typical Applications:

- ♦ On/Off-Highway Equipment
- ♦ Golf Carts
- ♦ Lawn & Garden Equipment
- ♦ Marine
- ♦ Military

### Resources:

Download 3D CAD Files



Watch Product Video



*\* bottom door left open for illustration purposes*

Carling Technologies USB V-Charger is designed to charge tablets, e-readers, mobile and gaming devices, digital cameras, as well as other compatible electronic devices.

Providing a total current of 3.15 amps, the V-Charger delivers fast charging times even in extreme temperatures from  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ . This innovative product safeguards its electronics with integrated over-current and thermal overload protection, as well as optional load dump circuitry, assuring prolonged safe and reliable operation. The center LED indicates charging is in progress. Snap-in mounting for an industry standard 1.450" x .830" panel cutout makes installation easy.

\* Additionally, the V-Charger's double torsion spring-loaded access doors automatically close and provide effortless IP64 sealing protection with precision-fit silicone rubber seals.



**Carling Technologies™**

Innovative Designs. Powerful Solutions.

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**Available Through**



# V-Charger

## DESIGN FEATURES

### DUAL USB 2.0 PORTS

Total current of 3.15 amps, facilitating faster charges

### SPRING LOADED DOORS

Stylish, wing-shaped double doors automatically close to cover and seal each port when not in use

### LED

Green LED brightens to indicate charging is in progress



### SEALING PROTECTION

Silicone rubber seal perfectly mates with door indent to provide IP64 level of sealing protection

### PANEL SEAL

Prevents water ingress beneath panel to protect critical connections

### MOUNTING

Fits industry standard panel opening size of 1.450" x .830"



*"For Carling Technologies's new V-Charger, we designed and developed a charger with two USB charging ports to deliver superior performance and reliability in the most severe environments. The electrical protection, sealing against water and dust, and high number of charging cycles really set this new product apart."*  
- Brian Ries, Project Engineer

## Electrical

USB Type	2.0
Number of USB Ports	2
Operating Voltage	12V/24V DC power systems (9 to 29 VDC)
Output Voltage	5 VDC ± 5%
Max Output Current	3.15A DC Total
LED Indicator	Green LED brightens when charging is in progress.
Compatibility	Charges mobile devices including iPad, iPhone, iPod, HTC, Galaxy, Blackberry, MP3 Players, Digital Cameras and PDA's
Life	10,000 operating cycles per port minimum
Terminals	Copper/silver plating 1/4" (6.3 mm) Quick Connect terminations
Reverse Polarity	Operational with correct polarity after reverse polarity exposure
ESD	15kV air, 8 kV touch
Overcurrent Protection	Short Circuit
Thermal Overload Protection	Operation will cease if internal temperature reaches 125°C. Charging will resume after sufficient heat loss

## Physical

Panel Opening	1.450" x .830"
Panel Thickness	.030 - .156 inches
Panel Mounting Method	Front Panel Insertion
Seals	Silicone and Poron
Depth Behind Panel	See Figures 1 and 2
Connection	VC1, VC2
Weight	55g (0.12 lbs)
Styling	Curved USB port doors
Port Protection	Twin, self-closing doors

## Environmental

Sealing	IP64 for front panel components when USB Ports are covered
Operating Temperature	-40° to +60°C at 3.15A -40° to +70°C at 2.4A -40° to +80°C at 2.1A
Vibration 1 Test	Mil-Std 202G, Method 204D, Condition A. 0.06DA or 10G, 10-500 Hz
Shock Test	Mil-Std 202G, Method 213B, Condition K @ 30-G. No loss of circuit during test.
Chemical Splash	Brush method with USB doors closed: diesel, gasoline, brake fluid, Windex, Armor All
Thermal Shock	MIL-Std 202F, Method 107D, Test Condition A, -55° to +85°C. Test Criteria: Remains functional without damage
Moisture Resistance	Mil-Std 202G, Method 106G. Test Criteria: Remains functional without damage
Thermal Cycling	25 Cycles -40° to +85°C, 2 hours for each temperature every cycle
Salt Spray	Mil-Std 202G, Method 101E, Test Condition A
Dust	Mil-Std 841C Method 510.2 Air Velocity 300 ± 200 Ft/min, test duration: 16 Hr

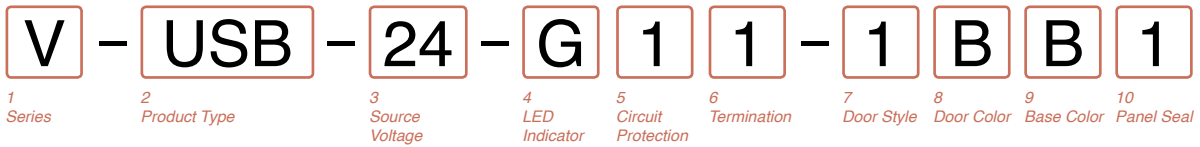
## Mechanical

Endurance	10,000 door cycles minimum
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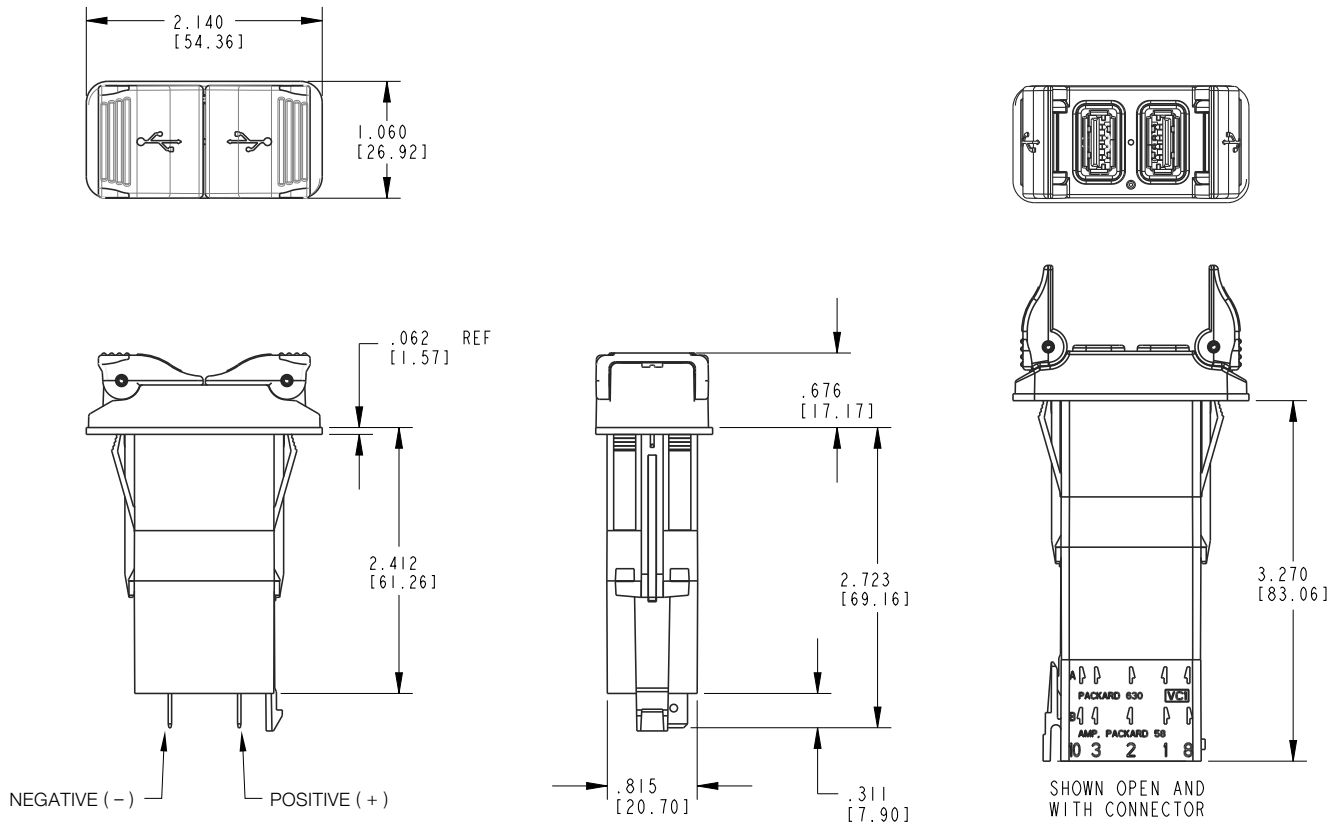
*"If I had a boat, golf cart, or tractor, it wouldn't even be a question for me, I would put the V-Charger in there. Knowing what went into the design and testing, it's an easy decision."*  
- Adam Lydecker, Design Engineer

## Ordering Scheme



<b>1 SERIES</b> <b>V</b>	<b>6 TERMINATION</b> <b>1</b> .250 Tab
<b>2 PRODUCT TYPE</b> <b>USB</b> Charger	<b>7 DOOR STYLE</b> <b>1</b> Curved
<b>3 SOURCE VOLTAGE</b> <b>24</b> 24 / 12 Volts DC	<b>8 DOOR COLOR</b> <b>B</b> Black
<b>4 LED INDICATOR (VOLTAGE MATCHES SOURCE)</b> <b>G</b> Green	<b>9 FRAME COLOR</b> <b>B</b> Black
<b>5 CIRCUIT PROTECTION</b> <b>1</b> Reverse Polarity, Thermal Overload & Overcurrent	<b>10 PANEL SEAL</b> <b>1</b> Yes

## Dimensional Specifications: in. [mm]



**Notes:**

- 1 Charger to install into 1.450" X 0.830" panel opening

**Available Through**



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