V-Charger
V-SERIES DUAL PORT USB 2.0 CHARGERS

The 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°C to +80°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 up to IP65 sealing protection with precision-fit silicone rubber seals.

**Product Highlights:**
- Dual USB Charging Ports
- 3.15 Amps for Faster Charging
- 10,000 Operating Cycles per Port
- Up to IP65 Sealing Protection
- 12-24V Operating Voltage
- Protection for Internal Components
- Curved or Square Style Doors

**Typical Applications:**
- On/Off-Highway Equipment
- Golf Carts
- Lawn & Garden Equipment
- Marine
- Military

**Resources:**
- Configure a Complete Part
- Download CAD & Sales Drawing
- Watch Product Video
V-Charger

DESIGN FEATURES

**DUAL USB 2.0 PORTS**
Total current of 3.15 amps, facilitating faster charges

**SPRING LOADED DOORS**
Stylish, curved or square 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 up to IP65 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”
**Electrical**

- **USB Type**: 2.0
- **Number of USB Ports**: 2
- **Operating Voltage**: 12V/24V DC power systems (9 to 29 VDC)
- **Output Voltage**: 5.0 VDC
- **Max Output Current**: 3.15A DC Total
- **Current Draw (No Load)**: 12V: 1.5 mA, 24V: 3.5 mA
- **Compatibility**: Charges mobile devices including iPad, iPhone, iPod, HTC, Galaxy, Blackberry, MP3 Players, Digital Cameras and PDA’s
- **LED Indicator**: Green LED brightens when charging is in progress.
- **Receptacle Insertion 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
- **Output Protection**: Short Circuit and Overload Protection
- **Thermal Overload Protection**: Operation will cease if internal temperature reaches 125°C. Charging will resume after sufficient heat loss
- **ESD**: 15kV air, 8kV touch per ISO10605 for Operational; Packaging and Handling Tests
- **Load Dump Protection**: ISO 16750-2: 10 pulses to 174V at 1 minute intervals (Pulse 5a, Ri= 8 ohms)
- **Radiated Immunity**: ISO 11452-2, 200 MHz to 2.7 GHz
  - Field Strength for 200 MHz to 1 GHz: 60 V/m
  - Field Strength for 1 to 2.7 GHz: 50 V/m
  - Bulk Cable Injection ISO 11452-2, 1 to 400 MHz
  - Field Strength: 80 mA
- **Emissions**: FCC Part 15, Class B
  - Radiated, Conducted and Far Field Emissions data available.
  - Consult factory for details.

**Environmental**

- **Sealing**: IP65 for front panel components (with closed curved style doors)
- **Operating Temperature**:
  - -40° to +60°C at 3.15A
  - -40° to +70°C at 2.4A
  - -40° to +80°C at 2.1A
- **Vibration**: MIL-STD 202G, Method 204D, Test Condition A, 0.066A or 10G, 10-500 Hz
- **Shock**: MIL-STD 202G, Method 213B, Test Condition K @ 30-G. No loss of circuit during test.
- **Chemical Exposure**: Brush method with USB doors closed: diesel, gasoline, brake fluid, Windex, armor All
- **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
- **Blowing Dust**: MIL-STD 810G Method 510.5, Air Velocity: 1750 ± 250 ft/min, Test Duration: 12 hours

**Physical**

- **Materials**
  - Housing: Polycarbonate/PBT
  - Doors: Polyester
  - Light Pipe: Polycarbonate
  - Torsion Springs and Pins: Stainless Steel
  - Door Seal: Silicone
  - PCBA Gasket and Panel Gasket: Closed Cell Neoprene
  - Terminals: Silver plated Copper
  - Electronics: Two PCB Assemblies
  - Panel Opening: 1.450” x .830”
  - Panel Thickness: .030 - .156 inches
  - Panel Mounting Method: Front Panel Insertion
  - Installation Insertion Force: 12-28 lbs typical (dependent on panel design)
  - Panel Retention Force: Greater than 35 lbs (dependent on panel design)
  - Depth Behind Panel Connectors: VC1, VC2
  - Weight: Approximately 45g (1.6 oz)
  - Styling Options: Curved or square USB port doors
  - Port Protection: Twin, self-closing doors

*Manufacturer reserves the right to change product specification without prior notice.*
## Ordering Scheme

<table>
<thead>
<tr>
<th>1 SERIES</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 PRODUCT TYPE</td>
<td>USB</td>
</tr>
<tr>
<td>3 SOURCE VOLTAGE</td>
<td>24 / 12 Volts DC</td>
</tr>
<tr>
<td>4 LED INDICATOR (VOLTAGE MATCHES SOURCE)</td>
<td>G Green, 0 None</td>
</tr>
<tr>
<td>5 CIRCUIT PROTECTION</td>
<td>Reverse Polarity, Thermal Overload &amp; Overcurrent, Load Dump, Reverse Polarity, Thermal Overload &amp; Overcurrent</td>
</tr>
<tr>
<td>6 TERMINATION</td>
<td>.250 Tab</td>
</tr>
<tr>
<td>7 DOOR STYLE</td>
<td>Curved, Square</td>
</tr>
<tr>
<td>8 DOOR COLOR</td>
<td>B Black</td>
</tr>
<tr>
<td>9 FRAME COLOR</td>
<td>B Black</td>
</tr>
<tr>
<td>10 PANEL SEAL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Dimensional Specifications: in. [mm]

#### Curved Door Style Option

**Notes:**
1. Charger to install into 1.450" X 0.830" panel opening
Dimensional Specifications: in. [mm]

Square Door Style Option

Notes:
1. Charger to install into 1.450" X 0.830" panel opening
Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit www.carlingtech.com/findarep.

About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With four ISO registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit www.carlingtech.com/company-profile.

To view all of Carling’s environmental, quality, health & safety certifications please visit www.carlingtech.com/environmental-certifications
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