

# Carling Retail USB Chargers

## USB 2.0 and 3.1



CTUSB001



CTUSB002



### Features and Benefits

- The CV-Charger is equipped with single-port 3.1 and 2.0 USB charging capabilities, allowing for fast and efficient charging of various devices
- Available in both Type A and C ports
- Designed for above-panel installation, can be easily integrated into the dashboard or control panel of vehicles and equipment.
- Rated with an IP64 sealing, providing protection against dust and water
- Agency Approvals: CE 2014/30/EU - EN 50498:2010

### Applications

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

### Description

The USB CV Charger is designed to charge electronic devices compatible with 2.0 or 3.1 USB types. The CV Charger delivers fast charging times even in extreme temperatures from -40°C to +85°C. This innovative product features a spring-loaded access door that automatically closes to safeguard its electronics, assuring prolonged safe and reliable operation. The center LED indicates charging is in progress.

### Web Resources

Download 2D print, installation guide and technical resources at: [littelfuse.com/Carling-Retail-Chargers](http://littelfuse.com/Carling-Retail-Chargers)

### Ordering Information

- Max Output: 3.6A, 18W
- Operating Voltage 9-32V DC
- 0.83" x 1.45" [21.08 x 36.83mm] Panel Cutout
- 1/4" [6.35mm] Tab Terminals
- Green Charging Indicator Light

CARDED PART NUMBER	BULK PART NUMBER	DESCRIPTION
CTUSB001-BP	CTUSB001	Type C USB 3.1
CTUSB002-BP	CTUSB002	Type A USB 2.0

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## USB 2.0 and 3.1

### Performance Data

ELECTRICAL	
USB Type	2.0 for type A (4 pins) 3.1 for type C (16 pins)
Number of USB Ports	1
Operating Voltage	9-32V DC
Max Output	3.6A, 18W
Charging Protocol	BC1.2, Apple, Samsung, Qualcomm QC2.0/ QC3.0, MTK PE1.1, Huawei FCP/SCP, Samsung AFC for single port A
LED Indicator	Green LED brightens when charging is in progress
Reverse Polarity	ISO 16750-2: 2012 4.7; Apply power supply with -28V DC for 60s
ESD	ISO 10605: 2008; ±15kV air discharges, ±8kV contact discharges
Electrical Endurance	5000 cycles USB plug push in pull out with charging
Over Voltage	ISO 16750-2: 2012 4.3; Power up with 36V DC for 60 min at 65 °C
Withstand Voltage	ISO 16750-2: 2012 4.11; Apply 500VRMS with a duration of 60s
Insulation Resistance	ISO 16750-2: 2012 4.12; Measure with 500VDC for 60s, resistance value >10MΩ

PHYSICAL	
Mounting Method	Snap
Panel Opening	.83" x 1.45"; 21.08mm x 36.83mm
Panel Thickness	0.76mm to 3.96mm
Connectors	Carling VC2, VC1 housing Two pin connectors
Mating Terminal	Tyco/AMP .25 QC faston series for VC2 housing, Delphi GT 630 series for VC1
Weight	196 grams [.43 lbs]
Size	L47.73 X W25.9 X H64.2mm

MECHANICAL	
Life Cycles	5000 cycles for USB port; 30,000 cycles for door

ENVIRONMENTAL	
Ingress Protection (when door closed)	IEC 60529: 2013; IP64, for above-panel components of the actual switch only
Operating Temperature	-40°C to +85°C
Storage Temperature	- 50 °C to + 95 °C
Thermal, Hot Soak	IEC 60068-2-2: 2007; Test Bb, +85 °C for 24 hours
Thermal, Cold Soak	IEC 60068-2-1: 2007; Test Ab, -40 °C for 24 hours
Thermal Shock	IEC 60068-2-14: 2009; Test Na -40 °C to +85 °C, soak for 1hrs at each extreme and transfer within 3min, repeat 10 cycles
Thermal Cycling	IEC 60068-2-14: 2009; Test Nb, -40 °C to 85 °C, dwell for 2h at each extremes with transfer rate 3 °C/min, 2 cycles
Humidity, Soak	IEC 60068-2-78: 2012; Test Cab, +40 °C at 93±3% RH for 4 days
Damp Heat Cyclic	IEC 60068-2-30: 2005; Test Db Method 1, 25 °C to 55 °C cycling change with 93± 3% RH for 6 cycles, totally 144h
Salt Spray	IEC 60068-2-11:1981; Salt mist with 35°C, totally 48h
Chemical Resistance (Resistance to Solvents)	ISO 16750-5: 2010; Brushing engine oil, hydraulic oil, diesel fuel, urea at 85°C for 22hrs. Dipping battery fluid for 22hrs and alcohol for 10min at 25°C
Vibration, Random	IEC 60068-2-64: 2008; Range:10~2000Hz. Acceleration 57.088m/s <sup>2</sup> (RMS), Duration 8h per axial
Vibration, Resonance	IEC 60068-2-6: 2007; Sweep 10Hz~500Hz per axis with amplitude 0.5mm (10~50Hz) and 19.6m/s <sup>2</sup> (50~500Hz). Apply 100 m/s <sup>2</sup> at resonance point for 1h
Vibration, Sinusoidal	IEC 60068-2-6: 2007; Sweep 10Hz~500Hz with amplitude 0.75mm (10~58.1Hz), 100m/s <sup>2</sup> (58.1~200Hz) for 4h at Z axis and 2h at X/Y axis
Mechanical Shock	IEC 60068-2-27: 2008; Acceleration: 500m/s <sup>2</sup> , dwell 11ms. 3 pulse per axial, Total 18 times
Mechanical Bump	IEC 60068-2-27: 2009; Acceleration: 400m/s <sup>2</sup> , dwell 6ms. 100 pulse per axial, total 600 times
Drop test	IEC 60068-2-31: 2008; Test Ec Free Fall -Procedure 1 drop in each direction of the 3 axis (6 total drops) from 1000mm

AGENCY CERTIFICATIONS	
CE	2014/30/EU EN 50498:2010