



Littelfuse®



Carling Technologies®

A Littelfuse® Brand

CV-Charger

Single-Port and Dual-Port 2.0 and 3.1 USB Chargers

PRODUCT WEBPAGE

Request sample, Configure part



The single-port and dual-port 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 spring-loaded access doors that automatically close to safeguard its electronics, assuring prolonged safe and reliable operation. The center LED indicates charging is in progress.

4.5A

Fast Charging

9-32V

Operating Voltage

IP64 or IP65

Sealing Protection

Typical Applications

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

Tech Specs

Physical

USB Type	2.0 for type A (4 pins) 3.1 for type C (16 pins)
Number of USB Ports	1 or 2
Life Cycles	5,000 cycles for USB port 30,000 cycles for door
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	Single-Port: 33 grams [.072 lbs] Dual-Port: 44.45 grams [.097 lbs]
Size	L 47.73 x W 25.9 x H 64.2 mm

Electrical

Operating Voltage	9-32V DC
Max. Output Power	22.5W for SCP protocol for each port, 18W for other protocol for each USB port
Max. Output Current	4.5A
Charging Protocol	BC1.2, Apple, Samsung, Qualcomm QC2.0/QC3.0, MTK PE1.1/2.0, Huawei FCP/SCP, Samsung AFC PD3.0 only for port C
LED Indicator	Green LED brightens when charging is in progress.
Reverse Polarity	ISO 16750-2: 2012 4.7; Apply power supply with -28 V 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 500V DC for 60s, resistance value >10MΩ
Radiated Immunity-ALSE	ISO 11452-2: 2004; Absorbed-lined chamber enclosure field strength 30V/m, frequency 400MHz~2000MHz
Bulk Current Injection	ISO 11452-4: 2011; Level 60mA, frequency from 0.5MHz to 400MHz, Probe position 150mm/450mm/750mm
Conducted Transients	ISO 7637-2: 2004; All test pulse in Annex A Table A1 and A2, 2a/3a/3b/4

Environmental

Sealing Protection (when doors closed)	IEC 60529: 2013; IP64 or IP65 (Optional), for above-panel components of the actual switch only
Operating Temperature	- 40 °C to + 85 °C
Storage Temperature	ISO 16750-4: 2010; - 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/s2 (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/s2 (50~500Hz). Apply 100 m/s2 at resonance point for 1h
Vibration, Sinusoidal	IEC 60068-2-6: 2007; Sweep 10Hz~500Hz with amplitude 0.75mm (10~58.1Hz), 100m/s2 (58.1~200Hz) for 4h at Z axis and 2h at X/Y axis
Mechanical Shock	IEC 60068-2-27: 2008; Acceleration: 500m/s2, dwell 11ms. 3 pulse per axial, Total 18 times
Mechanical Bump	IEC 60068-2-27: 2009; Acceleration: 400m/s2, 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 Mark	2014/30/EU EN 50498:2010
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Ordering Scheme

Sample Part Number **CHG - A 2 A - 001**

Selection 1 2 3 4 5 6

1. SERIES

CHG CV-Charger

2. POWER

A 18W

3. PORT TYPE

- 1 Single-Port: A (2.0 USB)
- 2 Single-Port: C (3.1 USB)
- 3 Dual-Port: Port A (2.0 USB) + Port C (3.1 USB)
- 4 Dual-Port: Port A (2.0 USB) + Port A (2.0 USB)
- 5 Dual-Port: Port C (3.1 USB) + Port C (3.1 USB)

4. INDICATOR LIGHT COLOR

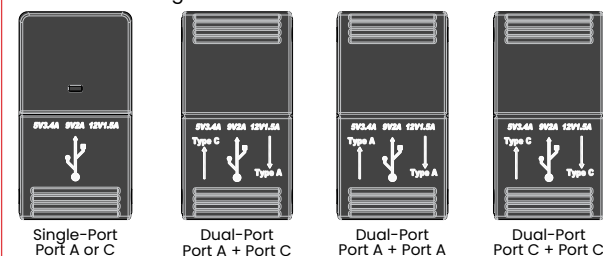
A Green

5. SEALING

	Sealing	Gasket
BLANK	IP64	No
1	IP65	No
2	IP64	Yes
3	IP65	Yes

6. LEGEND

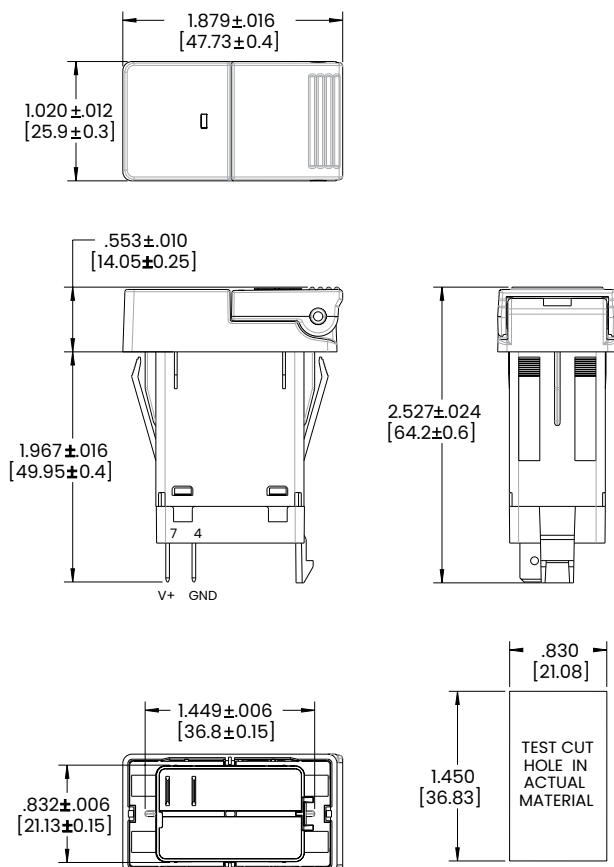
- 000** No Legend
- 001** Standard Legend



Dimensional Specs

inches [millimeters]

Single Port



Dual Port

