



**Cadex UCC6**

## **Universal Conditioning Chargers**

*The reliability and longevity of a battery hinges on the quality of the charger. Choosing a well-engineered charger will return the investment in longer lasting and better performing batteries.*

# When it comes to battery expertise ... you can count on Cadex

*The Cadex Universal Conditioning Chargers (UCC) offer refinements usually not found on competitive chargers. The rugged design stands up to the critical demands of industrial users. Intelligent adapters allow service of nickel-cadmium, nickel-metal-hydrate and lithium-ion batteries on the same platform. A conditioning button conditions and calibrates batteries on demand, and a reverse-pulse charging prolongs battery life.*



**Cadex UCC1**

This compact single-bay battery charger assures freshly charged batteries in the office and on travel. The UCC1 comes with a 60-watt universal AC power supply for all global voltages.

**Part Number** 11-300-0110

The two-bay charger is designed for desktop, wall mount or vehicle use. The AC version comes with a 60-watt universal power supply. When used in a vehicle, a DC-DC converter regulates the 12VDC input voltage to assure proper charging.

**Part Number** of AC version 11-300-0200

**Part Number** of vehicular version 11-300-0210



**Cadex UCC2**

The six-bay charger is suited for desktop or wall mount and features an internal 100-watt universal power supply with detachable cord.

**Part Number** 11-300-0600



**Cadex UCC6**

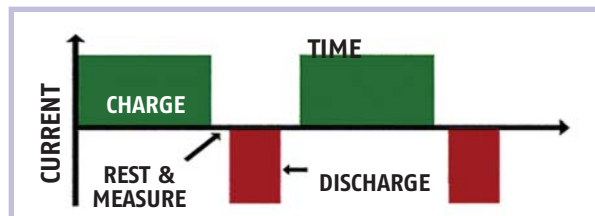
## Advanced charge algorithm assures quick and reliable charge

The Cadex UCC Series chargers use advanced charge techniques to provide a complete and safe charge even under adverse conditions.

**Cold charging** – When charging at cold temperatures, the UCC charger applies a gentle trickle charge to warm up the battery, then switches to fast-charge at operating temperature. A charge time-out prevents a prolonged charge if the temperature does not rise.

**Hot charging** – Should the temperature of a nickel-based battery reach the upper threshold level, the UCC allows the pack to cool before resuming at half the previous charge current. If the temperature threshold is reached again, the current is lowered further to reduce heat related battery damage.

## Reverse-Pulse-Charge



The UCC charger intersperses discharge pulses between charge pulses to improve charge acceptance on nickel-based batteries. This method promotes the recombination of oxygen and hydrogen gases generated during charge. This results in faster charge times, better battery performance, reduced memory and longer service life.

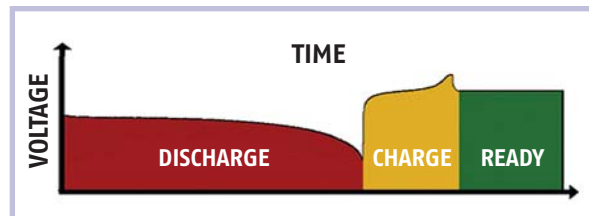
## Intelligent battery adapters

The adapters contain a battery code that configures the charger to the correct battery parameter. This allows maximum flexibility in charger configuration. Nickel-cadmium, nickel-metal-hydride and lithium-ion batteries can be serviced side-by-side.

## Accurate full-charge termination

Full-charge detection of nickel-based batteries occurs on negative voltage slope, rate-of-temperature increase and/or a rapid temperature change ( $dT/dt$ ). Lithium-ion terminates the charge on voltage plateau and current saturation.

## Conditioning discharge



A condition button allows discharge on demand to reverse memory and regain lost performance. Nickel-cadmium batteries require monthly service; nickel-metal-hydride should be discharged once every three months. The condition cycle also calibrates batteries with fuel gauge.

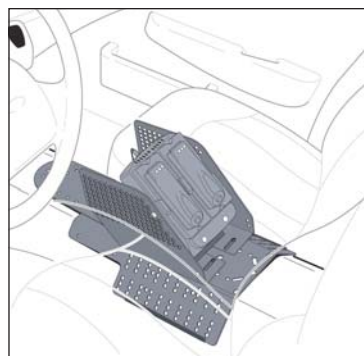
## Reactivating lithium-ion batteries

The UCC wakes up seemingly dead lithium-ion packs by applying charge pulses to reactivate the safety circuit. A full charge commences when the battery reaches a safe charging voltage.

## Battery fault detection

The UCC terminates service and alerts the user with a red fail light if the battery fails to follow the predicted voltage pattern during charge. This feature protects the battery and charger.

## Mounting brackets provide secure mounting in vehicles



The UCC2 can also be used for in-vehicle operation. The charge current automatically adjusts to temperature conditions to prevent battery damage. Should the car battery reach a low voltage, the charger automatically shuts off. The UCC

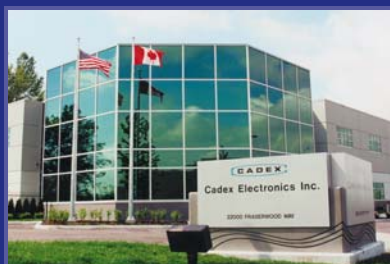
meets automotive shock and vibration standards.

Cadex offers several mounting options to allow horizontal or vertical mounting in vehicles. Typical charger locations are the transmission hub, firewall, trunk floor and the wall in a truck. The installation is quick and simple.

# Product Specifications

## Product Specifications

	<b>Cadex UCC1</b>	<b>Cadex UCC2</b>	<b>Cadex UCC6</b>	
<b>Battery bays</b>	Serves one battery. One adapter required.	Simultaneous service of two batteries. Two adapters required.	Simultaneous service of six batteries. Six adapters required.	
<b>Battery types</b>	Serves nickel-cadmium, nickel-metal-hydrate, lithium-ion side-by-side.			
<b>Battery interface</b>	Factory installed adapters; code in adapter configures each bay to the correct battery type; serves nickel and lithium-based batteries on same platform. Battery adapters must be ordered separately. Custom adapters are available on request.			
<b>Voltage range</b>	3 to 12 nickel-based cells (3.6-14.4V); 1 to 4 lithium-based cells (3.6-14.4V)			
<b>Battery size</b>	700 mAh to 8 Ah			
<b>Charge time</b>	Nickel-based chemistries: 90 minutes; longer on larger batteries Lithium-based chemistries: 3h; longer on larger batteries			
<b>Discharge power</b>	3.5 watts maximum per bay, conditions and calibrates battery			
<b>Discharge time</b>	2-3 hours based on battery size			
<b>Electrical</b>	60W external AC power supply (90-250 VAC, 47-63 Hz)	12VDC (10.5-15VDC) or optional 60W external AC power supply. (90-250 VAC, 47-63 Hz)	Internal 100W power supply; detachable power cord (90-250 VAC, 47-63 Hz)	
<b>Approvals</b>	Meets SAE J1455 automotive standards. Compliant to MIL-STD 810D-E for shock and vibration  Tested and approved by ITS to comply with CSA C22.2 No. 950-95, UL 1950 and EN60950: 2000 international safety standards. Compliance with FCC part 15, Class A, EN55022 Level A, EN50082-1: 1997 and is CE marked.			
<b>Environmental</b>	Operating 5C to 40°C (41 to 104°F); Storage -40 to 85°C (-40 to 185°F)			
<b>Physical</b>	Length Width Height Weight	242 mm (9.5") 102 mm (4.0") 62 mm (2.44") 0.4 kg (0.88 lb)	242 mm (9.5") 165 mm (6.5") 62mm (2.44") 0.7 kg (1.54 lb)	242 mm (9.5") 445 mm (17.5") 89 mm (2.44") 3.25 kg (7.16 lb)
<b>Mounting</b>	Tabletop and wall mount	Tabletop, wall and vehicle mounting; bracket extra	Tabletop and wall mount	
<b>Warranty</b>	Cadex warrants the analyzer against defective materials and workmanship for a period of one (1) year from the original purchase date.			



## Customer Satisfaction

When purchasing a Cadex product, you are assured of advanced design, superior quality and competitive pricing. Cadex combines engineering strength with 25 years of manufacturing excellence.

*Cadex is located on the banks of the scenic Fraser River near Vancouver, Canada*



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