

CT1000 AND CT2000

CHARGEPOINT NETWORKED CHARGING STATIONS



The CT1000 and CT2000 families of ChargePoint™ Networked Charging Stations, manufactured by Coulomb Technologies, are specifically designed for the North American market. The CT1000 family of charging stations supports Level 1 (120V @ 16A) charging. The CT2000 family of charging stations supports both Level 1 and Level 2 (208/240V @ 30A) charging.

The ChargePoint Networked Charging Stations combined with the ChargePoint Network Operating System (NOS) form a smart charging infrastructure for plug-in electric vehicles called the ChargePointSM Network. Each local group of charging stations automatically forms a robust self-healing Radio Frequency (RF) mesh network managed by a single gateway charging station—a version of the networked charging stations incorporating an embedded CDMA or GSM cellular modem in addition to RF mesh network functionality. Up to 100 charging stations can communicate to and be managed by a single gateway charging station. The gateway charging station, in turn, utilizes the local cellular network to communicate with the ChargePoint NOS, which runs on a remote secure hosted server managed by Coulomb Technologies. The ChargePoint NOS provides multiple web-based portals for drivers, charging station owners, installers, fleet operators, and utility companies.

Coulomb's ChargePoint NOS communicates with and individually controls the networked charging stations in order to provide authentication, management, and real-time control. The ability to individually control each charging station in real time allows the ChargePoint Network to be open to all drivers of plug-in vehicles. Drivers have the option of paying for a single charging session by placing a toll free call to the 24/7 number on each charging station or they can become a ChargePoint Network subscriber by going to www.mychargepoint.net and choosing a monthly subscription plan that fits their lifestyle. Other future payment options include using any smart (RFID) credit/debit card to authorize a session or using a standard credit or debit card at a remote payment station (RPS) to pay for charging sessions. The ChargePoint Network has been designed with an open, standards-based architecture. Drivers who are members of other charging systems will be able to use their authorization smart cards at any ChargePoint networked charging station just like they can roam between cell phone networks.

ChargePoint Networked Charging Stations perform bi-directional energy metering via an embedded utility grade electronic meter. The ability to precisely measure and report electricity use enables a sustainable, flexible business model that meets the needs of drivers, corporations, fleet operators, utility companies and municipalities. This revenue generating business model includes flexible subscriber payment methods like “free” charging, pay per use, by subscription, and by kWh (where allowed).

NETWORKING CAPABILITIES AND BENEFITS

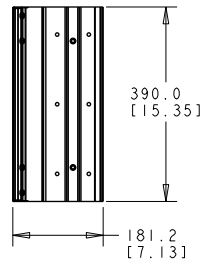
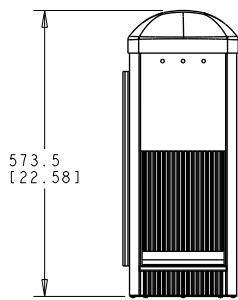
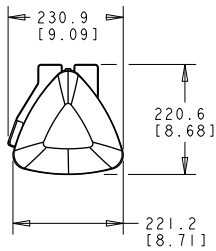
ChargePoint Networked Charging Stations provide unique benefits when compared to non-networked charging stations. Those benefits include:

- A charging infrastructure open to all drivers without requiring subscriptions
- A revenue stream to pay for electricity, capital equipment and maintenance
- Ability for drivers to find unoccupied charging stations via web-enabled cell phones
- Notification by SMS text or email when charging is complete
- Authenticated access to eliminate energy theft
- Authorized energizing for safety
- Remote monitoring and diagnostics for superior quality of service
- Smart Grid integration for utility load management with future V2G capabilities
- Green House Gas savings calculation per driver and per fleet
- Fleet vehicle management

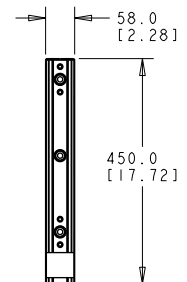
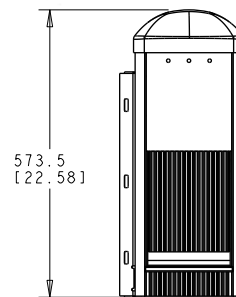
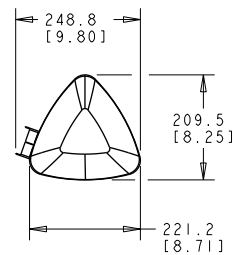


MECHANICAL DRAWINGS CT1000 FAMILY

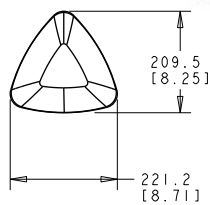
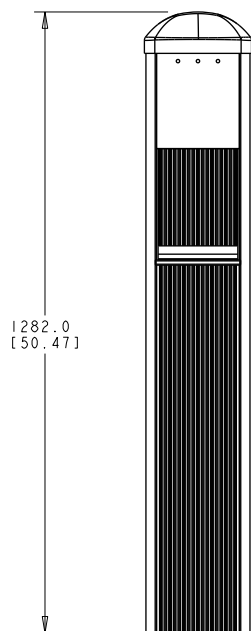
WALL MOUNT (CT1003)



POLE MOUNT (CT1002)



BOLLARD (CT1001)



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CHARGEPOINT NETWORKED CHARGING STATION INSTALLATION OPTIONS

Both the CT1000 and CT2000 ChargePoint Networked Charging Stations are available in three mounting configurations:

BOLLARD



POLE MOUNT



WALL MOUNT



	CT1000 FAMILY	PRELIMINARY SPECIFICATIONS CT2000 FAMILY
Charging Connection	NEMA 5-20	NEMA 5-20 and SAE J1772™ Document (plug on 5m cable)
AC Charging Power Output	1.9kW (120V @ 16A) Level 1	7.2kW (240V @ 30A) - Level 2 and 1.9kW (120V @ 16A) - Level 1
AC Power Input; Connections	120V 16A Single Phase; Line, Neutral, and Earth	208/240V 30A; Line1, Line2 and 120V 16A; Line, Neutral, Earth (5 wire)
Recommended Service Panel Breaker	20A breaker on dedicated circuit	40A dual breaker and 20A single breaker on dedicated circuits
Recommended Service Panel GFCI	None. Do not provide GFCI at service panel as it can conflict with integral GFCI.	
Integral Hardware GFCI	5mA CCID with self test and auto retry (15 min delay, 3 tries)	Level 2, 20mA and Level 1, 5mA CCID with self test and auto retry (15 min delay, 3 tries)
Automatic Plug-Out Detection	Programmable arm and trip current thresholds (patent pending)	
Power Measurement	1% @ 5 min interval; ANSI C12 capable (special order)	
Local Area Network	2.4GHz 802.15.4 dynamic mesh network	
Wide Area Network	Commercial CDMA or GPRS cellular data network	
Network Communication Protocol	TCP/IP	
Network Security	HTTPS; 128-bit AES Encryption	
Maximum Charging Stations per 802.15.4 Radio Group	100 Each charging station must be within 150 feet of at least one other station	
Smart Card Reader	ISO 15693 compliant	
Standby Power	5W typ.	
Outdoor Rated	NEMA 3R per NEMA 250-1997	
Safety Compliance	NRTL Tested; GFCI per UL 2231-1 and -2; Meets UL 2202; NEC Article 625 Compliant	
Surge Protection	6kV @ 3,000A In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.	
EMI Compliance	FCC Part 15 Level A	
Operating Temperature	-30° C to +50° C	
Operating Humidity	Up to 95%	
Voltage and Current Rating	120VAC @ 16A	208/240VAC @ 30A and 120VAC @ 16A
Terminal Block Temperature Rating	100° C	
Approximate Shipping Weights	Bollard (CT1001) 50lb / 23kg Pole Mount (CT1002) 30lb / 14kg Wall Mount (CT1003) 33lb / 15kg	Bollard (CT2001) 60lb / 27kg Pole Mount (CT2002) 40lb / 19kg Wall Mount (CT2003) 43lb / 20kg

City of San Francisco



Element Lexington, Starwood Hotels & Resort Worldwide, Inc.



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FEATURES

- Smart Card: open, standards-based RFID provides authorized network access control preventing electricity theft, enhancing safety, and minimizing liability
- Automatic SMS Text and/or Email notification: alerts drivers of events and issues
- High Availability: real-time remote control monitoring and management features, minimizes station downtime and enables start/stop charging sessions with lock/unlock door
- 24/7 ChargePoint Network Customer Support: via toll free telephone number
- Advanced Level 1 Safety Features: power not energized until:
 1. User is authorized
 2. Plug is fully inserted
 3. Door is relocked
- Locking Door (Level 1): retains the charging cord to prevent theft, with auto unlock in case of power outage
- Auto Plug-out Detect (Level 1): automatically detects if charging cord has been un-plugged at the vehicle, de-energizes outlet and optionally notifies driver (patent pending)
- GFCI: integral hardware ground-fault protection circuitry with auto retry minimizes nuisance GFCI trips
- Fast Over-Current Detect at Charging Station: minimizes nuisance breaker trips at service panel
- Bi-Directional, Utility-Grade Power Measurement: integral power metering circuitry provides accurate measurement of energy delivered for charging and allows calculation of Green House Gas savings
- Wide Area Network Connection - CDMA or GSM: only one gateway charging station with cellular modem required per local group of charging stations
- HTTPS and 128-bit AES Encryption: ensures secure network communications
- Integrated RFID Reader: recognizes and identifies ChargePoint Network Smart Cards, RFID credit cards and authorization smart cards from other charging systems
- Future Proofed: all firmware can be upgraded remotely via the network as new capabilities and functionality become available
- Electric Utility Demand-Side Management: communication via HTTPS secure link to utility and third party "Smart Grid" management systems provides real-time load shedding of any group of charging stations
- Vacuum Fluorescent Display: bright and easy to read