

TRA25-03 - Level 2 Charging Station - Technical Specifications, Network Services + Installation

		Energy Network Services		EV Gateway		Evolution Charge		Fractal EV		Foreseeson Technology Inc.		Guillevin International	
Line Item	Specifications	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information
Technical Specifications													
1	The charging station is compatible with at least one of the electric buses outlined in the TRA 23-02 document - please specify which model/s	Yes	Interoperability testing either completed or planned for many of the mentioned vehicles on the list that accept AC charging. (Complete for IC Bus Electric CE Series ; Planned for BYD/RIDE Achiever Blue Bird Vision Electric BYD/Ride Creator Blue Bird All American BYD/Ride Dreamer; No AC available Micro Bird G5 Thomas Built Saf-T-Liner)	Yes	Manufacturer Name: Tellus Power Green & LiteOn Model 1) EVG-SC80A 2) EVG-IC80A 3) TP-EVVA-80A	Yes	Compatible with all buses with J1772 port	Yes		Yes	CP6000 uses a SAE J1772 connector and therefore is compatible with the following vehicles according to their spec sheets: Micro Bird G5 LionC. The Bluebird Type C/D Jouley and IC Bus mention J1772 charging but we will need more information from the manufacturer to determine full compatibility. ChargePoint has successfully conducted testing at ChargePoint's interoperability lab in Campbell CA with Blue Bird IC Bus and Lion. ChargePoint's hardware and software tested successfully with the Thomas Built Jouley at the Daimler HQ electric island.	Yes	CP6000 uses a SAE J1772 connector and therefore is compatible with the following vehicles according to their spec sheets: Micro Bird G5 LionC. The Bluebird Type C/D Jouley and IC Bus mention J1772 charging but we will need more information from the manufacturer to determine full compatibility. ChargePoint has successfully conducted testing at ChargePoint's interoperability lab in Campbell CA with Blue Bird IC Bus and Lion. ChargePoint's hardware and software tested successfully with the Thomas Built Jouley at the Daimler HQ electric island.
2	Input Power Supply – 208V/240V 60Hz single phase	Yes		Yes		Yes		Yes		Yes		Yes	CP6000 supports 208/240V 60 Hz 1-phase AC input.
3	Minimum charging power of 19.2kW - please specify charging output capability	Yes		Yes		Yes	19.2kW	Yes		Yes	CP6000 can provide 19.2 kW – 80 A @ 240 V – using a 100 A circuit breaker.	Yes	CP6000 can provide 19.2 kW – 80 A @ 240 V – using a 100 A circuit breaker.
4	Wall-mounted with mounting hardware provided	Yes		Yes		Yes		Yes		Yes	CP6000 has a wall mount option and includes all necessary mounting hardware.	Yes	CP6000 has a wall mount option and includes all necessary mounting hardware.
5	Capable of use 24 hours a day every day of the year in an Operating Temperature of 22F to 122F (-30C to +50C) and Operating Humidity of up to 95% @ 50C (122F) non-condensing	Yes	Operating Temperature: -40C to +50C 98% Humidity (non-condensing)	Yes		Yes	As per the specs sheet	Yes		Yes	CP6000 can be used 24 hours a day and is rated with an operating temperature of -40 to 122 F. Please note an exception specific to operating humidity as the CP6000 is rated up to 85% at 122 F. Non-operating humidity tolerance up to 95% at 122 F.	Yes	CP6000 can be used 24 hours a day and is rated with an operating temperature of -40 to 122 F. Please note an exception specific to operating humidity as the CP6000 is rated up to 85% at 122 F. Non-operating humidity tolerance up to 95% at 122 F.
6	Weatherproof to minimum of NEMA 3	Yes	NEMA 4	Yes		Yes	NEMA Type3R	Yes		Yes	CP6000 is weatherproof rated to NEMA Type 3R.	Yes	CP6000 is weatherproof rated to NEMA Type 3R.
7	Connector compliance with Society of Automotive Engineers (SAE) Combined Charging System 1 (CCS1)	Yes	Comply with J1772	Yes		No	Not applicable to Level 2 chargers	No	FractalEV provides L2 Chargers only.	No	No. This is not possible for any AC Level 2 charger. The CP6000 is an AC charging station and as such utilizes SAE J1772 connector type. CCS Type 1 is used for DC fast charging.	No	No. This is not possible for any AC Level 2 charger. The CP6000 is an AC charging station and as such utilizes SAE J1772 connector type. CCS Type 1 is used for DC fast charging.
8	CSA cUL or other recognized certification approved for use in Canada	Yes	cUL listed	Yes		Yes		Yes		Yes	CP6000 is UL and cUL listed; complies with UL 2594 UL 2231-1 UL 2231-2and NEC	Yes	CP6000 is UL and cUL listed; complies with UL 2594 UL 2231-1 UL 2231-2and NEC Article 625
9	Charging station cord is a minimum of 5m in length. Please indicate other options available.	Yes	24ft - Approximately 7m	Yes		Yes	5.5 meters standard and 7.5 meters option	Yes	Charging station cord is 21 feet	Yes	CP6000 is available in both 5.5 and 7 m cable lengths.	Yes	CP6000 is available in both 5.5 and 7 m cable lengths.
10	Over-current protection that prevents circuit breaker trips	Yes		Yes		Yes	OVP(Over Voltage Protection) OCP(Over Current Protection) OTP(Over Temperature Protection) UVP(Under Voltage Protection) SPD(Surge Protection Detection) Grounding Protection SCP(Short Circuit Protection) Control Pilot Fault Relay Welding Detection CCID Self-test	Yes		Yes	CP6000 is installed with a 100 A circuit breaker on the electrical panel for overcurrent protection. CP6000 is equipped with surge protection of 6 kV @ 3000A. In geographic areas subject to frequent thunderstorms supplemental surge protection at the service panel is recommended.	Yes	CP6000 is installed with a 100 A circuit breaker on the electrical panel for overcurrent protection. CP6000 is equipped with surge protection of 6 kV @ 3000A. In geographic areas subject to frequent thunderstorms supplemental surge protection at the service panel is recommended.
11	Display must be liquid crystal display (LCD) light-emitting diode (LED) or equivalent and shall be readable in direct sunlight and at night.	Yes	No LCD on the charger. LED lights present on the charger to indicate status.	Yes		Yes		Yes		Yes	CP6000 includes an 8" touchscreen display although can be special ordered without a display is desired.	Yes	CP6000 includes an 8" touchscreen display although can be special ordered without a display is desired.
12	Must automatically continue to provide a charge to the electric school bus if station loses network connectivity or if remote station management system is offline.	Yes		Yes		Yes		Yes		No	CP6000 ensures charging can be continued at a safe default rate if network connectivity is disrupted.	Yes	CP6000 ensures charging can be continued at a safe default rate if network connectivity is disrupted.
13	Charging station must provide local data storage in the event of a network communication failure. All data automatically uploaded when connectivity is restored. Must have sufficient storage to hold at least 30 days of offline data.	Yes		Yes		Yes		Yes		Yes	CP6000 stores charge session data for up to 90 days and will upload to the cloud when network connectivity is restored.	Yes	CP6000 stores charge session data for up to 90 days and will upload to the cloud when network connectivity is restored
NETWORK SERVICES													
1	Station is capable of OCPP 1.6J or later governing communication between the station and the proposed network	Yes	OCPP 1.6J and software is OCPP 2.0 Ready. Hardware upgrade to OCPP 2.0.1 when available.	Yes		Yes	OCPP1.6 J/OCPP2.0.1 Upgradeable	Yes		Yes		Yes	ChargePoint CP6000 utilizes OCPP 2.0.1.

2 The following information and controls (at a minimum) are available from the charging station to be integrated with the Purchaser’s charging management software: - Station identifier + location - Charging station status - Charging session start/stop times - Active charging time - kWh delivered - Charging station utilization/output (kW) - Error messages - Control functions Please indicate additional functionalities.	Yes		Yes	yes	Yes	Yes	ChargePoint charge management software can provide the listed functions and/or information. Control functions include the following allowing a user complete control to optimize fleet charging and electrical costs: •Access control •Dynamic power module allocation •Cable Sharing •Charge scheduling •Power Sharing Management: circuit panel and site levels •Plug and Charge •API •Fleet Integration (for telematics) For additional details please refer to Section 2.1 of the attached ChargePoint Solutions Overview.		
3 Supports remote firmware upgrades	Yes		Yes	yes	Yes	Yes	All ChargePoint products are networked via cellular connection and can be updated remotely.		
4 Supplier is responsible for enabling cellular connectivity to a data network prior to shipping the unit(s) - please indicate proposed network	Yes	Chargers are shipped with SIM cards for LTE connection	Yes	Our cellular provider gives the option to choose between multiple major cellular networks including Bell Rogers and Telus.	Yes	Telus Rogers Bell networks are all supported.	Yes All ChargePoint products utilize a private cellular network for security purposes; network activation is completed by ChargePoint or installer after commissioning. All ChargePoint stations are designed tested and confirmed to be seamlessly integrated with the ChargePoint charger management software.		
Installation (Optional)									
1 If providing installation services (optional) all work must be completed under appropriate permit and installation to meet Canadian electrical code requirements.	Yes	Yes ENS can provide installation of units and all electrical infrastructure required to charger across BC. Each site will require an assessment engineering discussion with BC Hydro prior to adding chargers to site.	OPTED OUT	Yes	yes we have certified red seal electricians on our install team	Yes	Foreseeson has agreements in place for the installation of EVSE equipment by certified electrical contractors in all parts of Canada.	Yes	ChargePoint partner program - certified installers available all across British Columbia
2 Supplier must perform the testing and commissioning of the charging station including the successful charge of an electric school bus using each port so that they are functional and ready for use.	Yes	Yes ENS can provide commissioning of units across BC. Depending on site locations & # of units call out times may vary based on region.		Yes	yes we have a comprehensive commissioning team	Yes	Testing and commissioning is included in our price.	Yes	CPSupport-activation covers the testing and activation of the software to ensure it works with the charger/buses. Doesn’t require a site visit because we offer smart chargers and all handled remotely ChargePoint charges an activation fee for the startup and initial programming of the charging stations. AC Station Activation & Configuration Service includes activation of cloud services and configuration of radio groups custom groups connections access control visibility control pricing reports and alerts. Site Validation is an on-site service which assesses and verifies that the stations and make-ready have been installed to ChargePoint specifications. ChargePoint will deploy an O&M partner to validate electrical capacity transformers panels breakers wiring cellular coverage against ChargePoint and local code requirements. Site-validation is required for the optional Assure warranty to take effect.

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		Hypercharge Networks CORP		InCharge Energy		Nuvve		PD McLaren Trd.		Polara Energy		Siemens Canada		Wesco Distribution Canada	
Line Item	Specifications	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information	Yes/No	Additional Information
Technical Specifications															
1	The charging station is compatible with at least one of the electric buses outlined in the TRA 23-02 document - please specify which model/s	Yes	Charging Hardware offered is compatible with all models in the TRA 23-02 document.	Yes	Yes all but the Jouley.	Yes	Our Level 2 chargers can charge all three models listed Vision Electric Type D Blue Bird Vision Type C and Micro Bird Type A.	Yes	Our charging solution is capable of charging all models of electric bus as provided in this solicitation.	Yes	All listed Level 2 chargers are compatible with all the buses listed in the TRA 24-02 Document	Yes	Interoperability testing either completed or planned for many of the mentioned vehicles on the list that accept AC charging.	Yes	All models
2	Input Power Supply – 208V/240V 60Hz single phase	Yes	208V/240V 60Hz Single Phase	Yes		Yes		Yes	208V±15%; 240V±15% 60Hz Please note that to achieve 80A output we use 240v Single Phase power.	Yes	All chargers accept standard 208/240V single-phase AC input typical for depot charging.	Yes		Yes	
3	Minimum charging power of 19.2kW - please specify charging output capability	Yes	19.2kW 80A	Yes		Yes	19.2kW is maximum charging power may be limited by local infrastructure constraints e.g. 208 volts instead of 240.	Yes	Charger output capability of 19.2kW	Yes	AUTEL and Siemens chargers are 19.2kW rated and meet or exceed this requirement.	Yes	(Complete for IC Bus Electric CE Series ; Planned for BYD/RIDE Achiever Blue Bird Vision Electric BYD/Ride Creator Blue Bird All American BYD/Ride Dreamer; No AC available Micro Bird G5 Thomas Built Saf-T-Liner)	Yes	19.2kW
4	Wall-mounted with mounting hardware provided	Yes	Yes	Yes		Yes		Yes	We offer wall mounted and pedestal mounted options for our Level 2 charging stations.	Yes	All models are wall-mountable and shipped with full mounting hardware.	Yes	120/208V 120/240V AC 60Hz	Yes	
5	Capable of use 24 hours a day every day of the year in an Operating Temperature of 22F to 122F (-30C to +50C) and Operating Humidity of up to 95% @ 50C (122F) non-condensing	Yes	Yes	Yes		Yes		Yes	Operating Temperature range of -40F to +131F	Yes	Confirmed in AUTEL and Siemens datasheets. Suitable for year-round operation.	Yes		Yes	
6	Weatherproof to minimum of NEMA 3	Yes	Yes	Yes		Yes		Yes	Fully NEMA3R certified	Yes	All chargers are rated NEMA 3R or higher for outdoor deployment.	Yes		Yes	
7	Connector compliance with Society of Automotive Engineers (SAE) Combined Charging System 1 (CCS1)	Yes	Yes	No	No charging standard is J-1772.	Yes		Yes	Yes our charger uses a J1772 in accordance with the SAE standards.	No	Level 2 chargers use J1772 not CCS1 which is standard for Level 2 AC charging.	Yes	Operating Temperature: -40C to +50C 98% Humidity (non-condensing)	No	SAE/CCS1 only relevant to level 3
8	CSA cUL or other recognized certification approved for use in Canada	Yes	Yes	Yes	All of our chargers are UL certified.	Yes		Yes	In full compliance with: UL 2231-1 UL 2231-2 UL2594 NEC Article	Yes	All listed units carry cUL or CSA certification as required.	Yes	NEMA 4	Yes	
9	Charging station cord is a minimum of 5m in length. Please indicate other options available.	Yes	Yes	Yes	25ft cable available	Yes		Yes	7.5m cable length is standard. We also offer a 5m cable.	Yes	All listed models come with 7.6m (25ft) cables; longer options available.	Yes	Comply with J1772	Yes	7.6 m
10	Over-current protection that prevents circuit breaker trips	Yes	Yes	No		Yes		Yes	Over-Current Over-Voltage Under-Voltage Integrated Surge Protection all included	Yes	Integrated in onboard protection circuits; compliant with UL standards.	Yes	cUL listed	Yes	
11	Display must be liquid crystal display (LCD) light-emitting diode (LED) or equivalent and shall be readable in direct sunlight and at night.	Yes	Yes	Yes		Yes		Yes	Our L2 units offer a readable display.	Yes	All units have readable LED/LCD displays for outdoor conditions.	Yes	24ft - Approximately 7m	No	Pro version has display that is compatible with requirements..
12	Must automatically continue to provide a charge to the electric school bus if station loses network connectivity or if remote station management system is offline.	Yes	Yes	Yes		Yes		Yes	Our units will continue to charge in absence of network connection	Yes	All units operate independently from CMS if needed with fail-safe fallback mode.	Yes		Yes	
13	Charging station must provide local data storage in the event of a network communication failure. All data automatically uploaded when connectivity is restored. Must have sufficient storage to hold at least 30 days of offline data.	Yes	Yes	Yes	Our proprietary InControl software	Yes	Limited data points will be stored on the device.	Yes	Yes	Yes	Local data buffering and automatic syncing are built-in to CMS (Cléo/Gen-E).	Yes	No LCD on the charger.	Yes	
NETWORK SERVICES															
1	Station is capable of OCPP 1.6J or later governing communication between the station and the proposed network	Yes	OCPP 1.6J and soon to be OCPP 2.0	Yes	All industry standard OCPP 1.6-J chargers can communicate with our software. Depending on the age of the equipment InCharge may still be able to connect to the charger network and capture charger session data that we can incorporate into dashboards and reports that are visible in the InControl software platform.	Yes	Station is OCPP 1.6J ready however uses proprietary Nuvve protocol by default.	Yes	We are fully OCPP 1.6J compliant.	Yes	All Level 2 chargers provided are OCPP 1.6J-compliant supporting integration with open protocol CMS platforms like Polara's proprietary software Cleo.	Yes	OCPP 1.6J and software is OCPP 2.0 Ready.	Yes	OCPP 1.6J

2	The following information and controls (at a minimum) are available from the charging station to be integrated with the Purchaser’s charging management software: - Station identifier + location - Charging station status - Charging session start/stop times - Active charging time - kWh delivered - Charging station utilization/output (kW) - Error messages - Control functions Please indicate additional functionalities.	Yes	Yes and described in additional supplemental documentation.	Yes	InCharge has built its own dealership management platform (InControl) designed to increase uptime and lower the cost to operate a fleet. The software is built with industry-leading security and reliability. It features multi-factor authentication and end-to-end encryption. The platform is designed for scalability of fleets facilities and vehicles with a GraphQL API that increases performance reliability and customization. InControl manages charging stations’ access control usage data remote management network operations and advanced load management capabilities. The software reduces operating costs with remote service offerings over-the-air updates and energy management functions. Users can track service warranty and preventative maintenance. Additionally the software provides load management to reduce fleet total cost of operations (TCO) peak energy demand and can generate revenue from incentives and LCFS credits. It is OCPP compatible and interoperability tested with 10 different EV charging OEMs. InControl ensures a comprehensive delivery of services for users with features including but not limited to live session and charger data site yard layout energy and uptime reports real-time updates on charging activity state of charge & charging speed tracking access controls PIN/RFID load management policies automatic alerts of service events and support ticket creation and tracking. Importantly InControl also provides full ownership and control to our customers of their own data generated with an open API to allow integrations into other software platforms such as fleet or building management software accounting platforms or other. No other company	Yes	Yes	Yes we offer these capabilities as part of our charger management software Camber Core. Camber Core is also known as Valence. These names are interchangeable and describe the same product.	Yes	The CMS dashboard includes full reporting capabilities with optional modules for smart energy management load balancing and site analytics.	Yes	Hardware upgrade to OCPP 2.0.1 when available.	Yes	Please refer to spec sheet for information you may be interested in.	
3	Supports remote firmware upgrades	Yes	Hypercharge's Cloud Platform supports over the air updates to all charging hardware offered on the platform.	Yes		Yes	Yes we fully support Remote Firmware Updates.	Yes	Remote firmware updates are supported over OCPP via LTE or Ethernet to ensure all chargers remain compliant and secure.	Yes		Yes			
4	Supplier is responsible for enabling cellular connectivity to a data network prior to shipping the unit(s) - please indicate proposed network	Yes	Hypercharge pre-configure the charging station prior to shipping the unit and currently SIMs are with TELUS. Can offer customer's preferred carrier if adverse to TELUS.	Yes	We are working with roaming SIM Cards which choose the strongest network.	Yes	Additional equipment will be required for cellular connectivity. We can use any cellular provider used by the customer.	Yes	We utilizing an eSim capable of roaming between multiple networks for optimal coverage.	Yes	Polara pre-configures LTE connectivity using major Canadian carriers based on client preference or coverage area.	Yes	Chargers are shipped with SIM cards for LTE connection	Yes	Eaton charging network manager
Installation (Optional)															
1	If providing installation services (optional) all work must be completed under appropriate permit and installation to meet Canadian electrical code requirements.	OPTED OUT	Yes	To ensure complete execution of hardware and software offerings InCharge offers complete installation and commissioning assistance for all products. This includes site development engineering permitting and self-performance capabilities. Alternatively for our customers who are conducting their own make-ready infrastructure InCharge offers an installation service that completes the installation with a final installation / bolt down service that includes field commissioning to ensure the equipment is installed correctly and operational.	OPTED OUT	Yes	We can perform complete turnkey installation following a site visit to determine onsite conditions. We will perform all electrical work in accordance with Canada electrical codes and standards.	Yes	Polara works with certified local contractors and electricians to ensure compliance with all Canadian electrical code and permitting requirements.	OPTED OUT	Yes	Wesco can provide installation service and full turnkey solutions. Pricing can be provided at the time of request by the end users.			
2	Supplier must perform the testing and commissioning of the charging station including the successful charge of an electric school bus using each port so that they are functional and ready for use.		Yes	InCharge requires a commissioning appointment once stations are installed. During the appointment the stations are tested to ensure they are installed to specifications before the stations can be fully energized. If an issue is found during the commissioning appointment that will be provided to the customer so their installer can rectify the issue. Hardware is tested to be interoperable with OEM brands and models		Yes	We perform full testing and commissioning of a charging station when we provide turnkey installation work to deploy EV charging stations. Please see the optional line items in "Step 1 Schedule of Prices" which describe our commissioning pricing.	Yes	Commissioning includes verification of all ports with real-time charging of electric school buses to ensure readiness and operability across multiple OEMs.		Yes	Wesco can provide installation service and full turnkey solutions. Pricing can be provided at the time of request by the end users.			
				Design and engineering is targeted toward low-cost serviceability and future planning Software is integrated to service dispatch – allowing the technician to arrive with the right tools and parts to complete the job the first time On-staff service technicians assure that when your chargers are down InCharge is not calling on another company with other customers in-line ahead of you Software and hardware integration allows for optimizing performance and eliminating bugs. Parts inventory and commissioning services in regional facilities allow											