
For assistance with the steps provided in this manual, please contact us at info@libertyplugins.com. For changes needed to account information or administrative questions, please submit a request to customer service at customerservice@libertyplugins.com.



Liberty Access Technologies

HYDRA-RXS 2/4 Installer's Manual

Version 4.4
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1. Introduction

Name: HYDRA-RXS 2/4 Installer's Manual

Version Number: 4.4

Purpose:

The HYDRA-RXS 2/4 Installer's Manual provides comprehensive information on the proper installation and basic functional testing of the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System. It serves as a guide for licensed electricians who are responsible for installing the system in compliance with national and local electrical codes.

Scope of Activities:

This document covers the installation and basic functional testing procedures for the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System. It includes detailed instructions on locating and mounting the HYDRA Control Unit and Keypad, installing conductors, making service connections, and performing initial functional testing.

Intended Audience:

The intended audience for this manual is licensed electricians who will be installing the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System. It assumes a certain level of electrical expertise and familiarity with electrical codes and standards.

Expected Evolution of the Document:

As new updates or revisions are made to the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System, the Installer's Manual may undergo changes to reflect the latest information and installation procedures. It is essential to consult the most up-to-date version of the manual to ensure accurate and safe installation practices.

Security and Privacy Considerations:

The HYDRA-RXS 2/4 Installer's Manual does not explicitly mention security or privacy considerations associated with its use. However, given that the system involves high-power charging control for plug-in vehicles, it is crucial to follow all safety guidelines and ensure that only licensed electricians handle the installation process. Additionally, any personal data or sensitive information related to the charging system users should be handled in accordance with applicable privacy laws and regulations.

This User Manual (UM) provides the information necessary for licensed electricians to effectively use the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System.

IMPORTANT :

Attention: Read this entire manual prior to installation.

Do not drill into the enclosure with the black plate installed – Metal shavings will damage components and void all warranties.

Avoid penetrations on top of the enclosure and securely seal all connections to prevent water infiltration.



Avoid installations with continuous exposure to direct sun.

If electromagnetic interference (EMI) or poor power quality (“noise”) causes erroneous meter readings on your site, Liberty Access Technologies can provide shielding and/or line filters to reduce interference from these conditions. Be sure to contact your representative.

SAFETY NOTICE



Before providing any power to this product, read this document completely.

The following symbols are designed to draw your attention to especially important information:

NOTE	Notes provide helpful information and guidance to facilitate your installation process.
	The CAUTION symbol emphasizes information needed to minimize the risk of harm and/or equipment malfunction.
	The DANGER symbol emphasizes information to minimize the risk of electrical shock.

The HYDRA-R and RX products are designed exclusively to control **electric vehicle (EV) charging equipment (“EVSE”)** safety-certified by Underwriters Laboratory (UL), Intertek (ETL) or other nationally recognized testing laboratory (NRTL) - do not use this product with any other type of electrical device.

CAUTION: please read each section down below.

- 1)  : This product contains high voltage components; allow only licensed electricians to service this product.
- 2) All supply power must be turned off prior to opening the front cover for any service.
- 3)  : Use this product only with electric vehicle service equipment (EVSE) that have be certified by a nationally recognized testing laboratory (e.g. UL, ETL, CE) rated for no more than 240 Volts. DO NOT EXCEED THE 40A RATING OF THE HYDRA-RX INTERNAL RELAYS (Relay Meter Modules, “RMM”) UNDER ANY CIRCUMSTANCES.
- 4) Do not operate this product until all EV charging units are installed in accordance with manufacturer specifications and all local and national electric codes and standards.

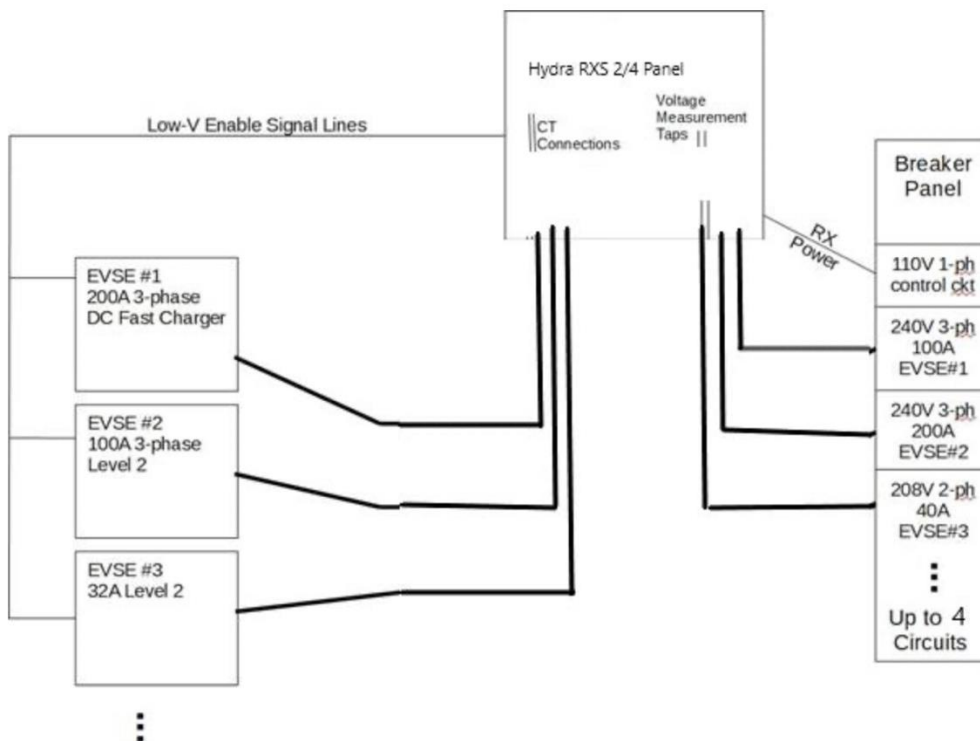


Figure 1: Hydra RXS 2/4 panel

The HYDRA-RXS 2/4 is a variant of Hydra-R that controls EV chargers whose output current may exceed 40A.

Instead of controlling the load with an internal contractor, the RX provides terminals for dry-switching contractors to signal to each EVSE when it is authorized to charge. By routing the high-capacity wire runs and contractor's externally from the HYDRA Control Unit the -RXS can support single or 3-phase loads, 110-480VAC at up to 200 Amps with the same functionality as the HYDRA-R.

The differences between the installation procedure for the HYDRA-R and -RXS are summarized as follows:

- The load lines must all pass through the Hydra RXS 2/4 Panel.
- The low-voltage wire runs from the auxiliary cabinet to the -RXS cabinet must be minimized and cannot exceed 100 feet.
- A low-voltage conduit must be run from the -RXS cabinet to each EVSE to enable signaling.

NOTE: HYDRA-R and -RX will not work properly when connected to EV charging units equipped with cold load pickup (CLP), a feature that randomizes the amount of time it takes an EVSE to resume charging following an electrical outage.

CLP must be disabled otherwise the HYDRA HCU will not operate properly. Check with your EV charger manufacturer to determine if your charger is equipped with this feature then contact us to discuss possible workarounds.

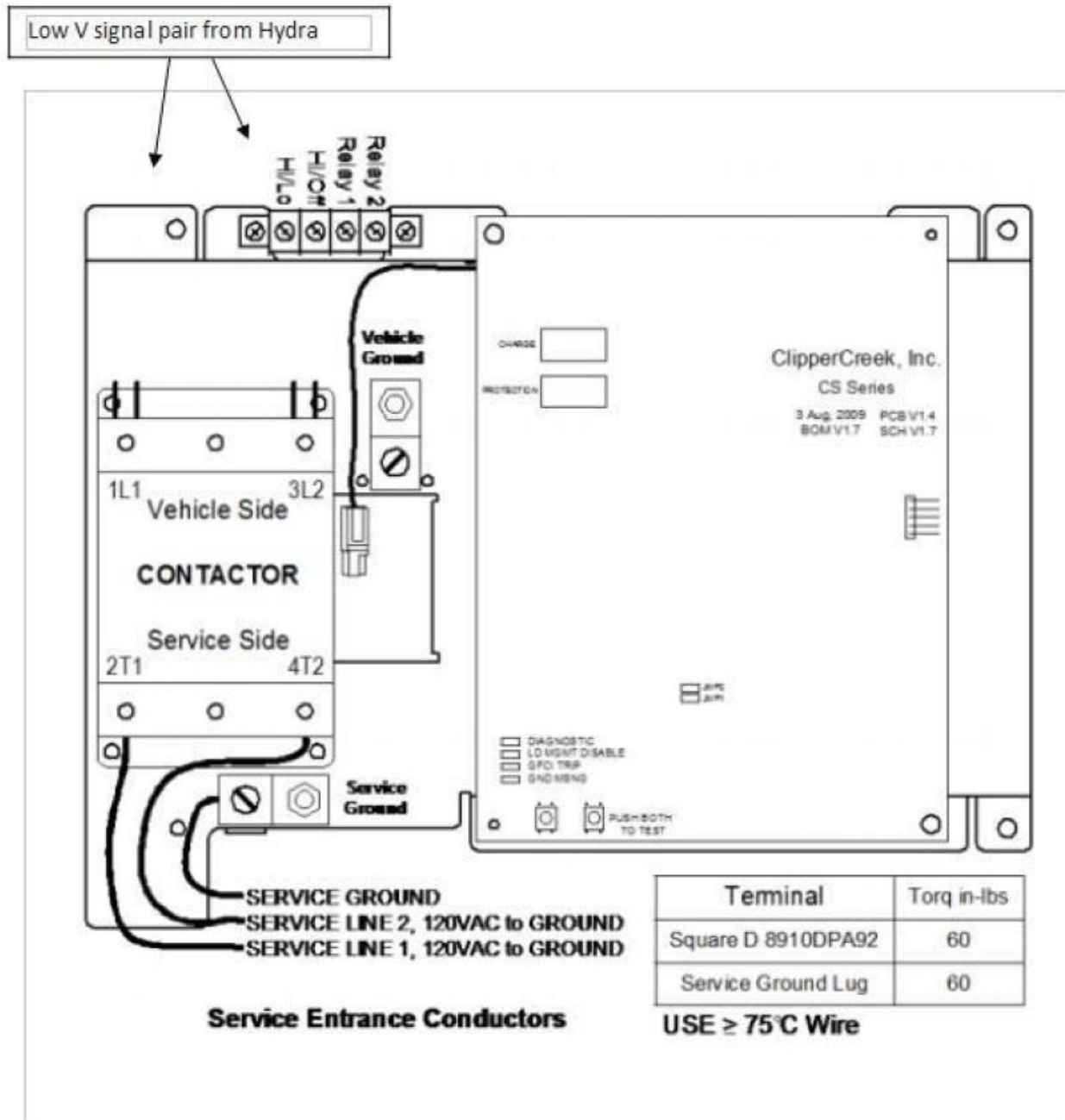


Figure 2: Low V signal pair from Hydra

SERVICE ENTRANCE CONDUCTORS:**SPECIFICATIONS**

- Each HYDRA-RXS 2/4 unit can support up to ten (10) 120/240VAC, “Level 2” EVSE



: DO NOT EXCEED THE 40A MAXIMUM RATING OF THE HYDRA-RXS 2/4 INTERNAL RELAYS UNDER ANY CIRCUMSTANCES.

- The HYDRA-RXS 2/4 controller board requires one 120VAC Single Phase, 60 Hz circuit (Any breaker 5 Amp or greater is acceptable).

NOTE: To ensure proper function of the HYDRA Control Unit, the 120VAC internal controller circuit must be connected to the same electrical panel source as the 120/240VAC circuits supplying the Relay Meter Modules. All supply lines must share one Neutral connection.

- The outdoor-rated keypad units can be installed up to **500-feet** from the HYDRA-RXS 2/4 unit, using **any waterproof**, direct-burial copper cables. **Connect 4 conductors per keypad. For runs longer than 100 feet, one pair of conductors should be a twisted pair.**

The HYDRA Control Unit (HCU) measures 36-inches, by 30-inches, by 8 ¾-inches (Figure 1, following page) and weighs approximately 100 lbs with all ten (10) RMMs installed.

The HCU should be mounted using at least ¼-inch grade 5 steel or stainless-steel fasteners, and/or using mounting foot kits supplied by Liberty PlugIns. The optional mounting foot kit increases depth to approximately 9-inches.

Communications between the HCU and Liberty PlugIns Back Office is accomplished using either a cellular modem with exterior antenna or by connecting an Ethernet cable. **The desired communication method must be chosen prior to ordering equipment. Equipment must be factory-configured for the desired communications method.**

The HCU complies with NEMA/EEMAC Type 4, 12, & 13 and is 14-gauge steel.



Figure 3: HCU Mounting example.

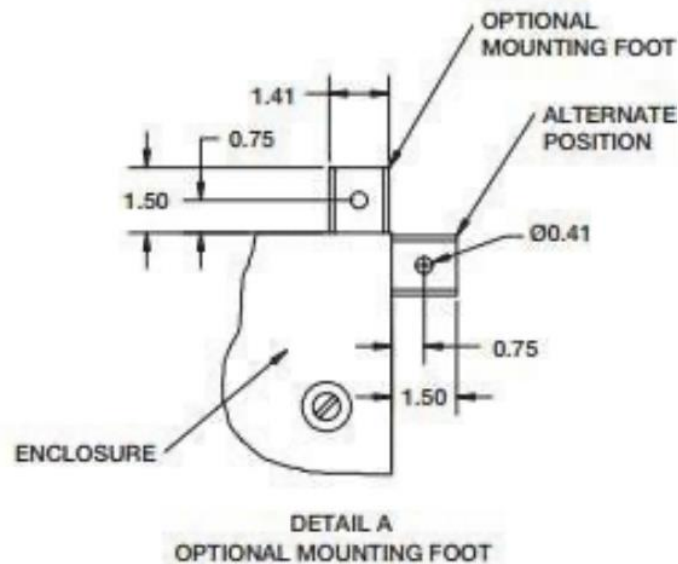


Figure 4: Optional Mounting foot diagram

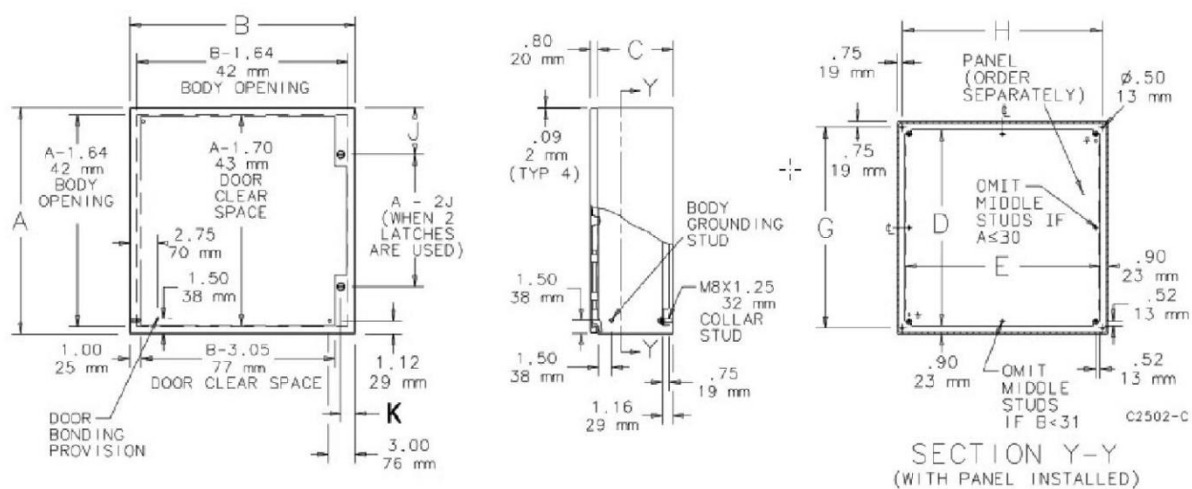


Figure 5: Section Y:Y with panel

LOCATING & MOUNTING THE HYDRA-RXS 2/4 CONTROL UNIT AND KEYPAD

- The HYDRA-RXS 2/4 panel **must** be mounted vertically in the enclosure provided

- The door can be configured to open to the left or right by removing the backplane and rotating 180 degrees
- The panel **must** have enough clearance to allow the door to open at least 90 degrees
- Avoid locations with constant, direct sunlight
- If using a cellular connection, the location must be evaluated for cellular coverage
- As with any electrical metering hardware, the shorter the wire run between the HYDRA-RXS 2/4 and the actual chargers, the more accurate the metering will be
- If possible, the feeder breakers should be mounted nearby, and the HYDRA-RXS 2/4 panel should be mounted near ground level to make maintenance more convenient
- The Keypad(s) should be mounted near the chargers themselves so that arriving drivers can easily find and use the keypad before or after plugging in their car
- If multiple EVSEs are spread far apart, it's a good idea to install more than one keypad so that one keypad is always nearby and visible



: DO NOT DRILL INTO THE ENCLOSURE WHEN INTERNAL COMPONENTS ARE INSTALLED. METAL SHAVINGS CAN CAUSE SHORT-CIRCUIT CONDITIONS AND DESTROY ELECTRONIC COMPONENTS, VOIDING ALL WARRANTIES.

ELECTROMAGNETIC INTERFERENCE (EMI) AND POOR POWER QUALITY (“LINE NOISE”) CAN CAUSE ERRONEOUS ELECTRIC METER READINGS AND INABILITY TO START NEW CHARGING SESSIONS. THE HYDRA CONTROL UNIT MUST BE INSTALLED NO CLOSER THAN 20 FEET FROM ALL SOURCES OF HIGH-FREQUENCY INTERFERENCE, INCLUDING RADIO TRANSMITTERS, LARGE BATTERY CHARGERS, VARIABLE FREQUENCY MOTOR DRIVES (VFDs) ETC. IN ORDER TO PREVENT EMI FROM CREATING “PHANTOM CURRENT” READINGS FROM THE RMM METERS.


If installation closer than 20 feet from sources of EMI cannot be avoided, speak with your Liberty PlugIns sales representative about EMI protection options.

Ensuring power quality is the responsibility of the customer and electrical contractor. If line filters or uninterruptible power supplies (UPS) are required to remedy local power problems, contact your project engineer or local contractor.


The HYDRA Control Unit (HCU) requires up to ten (4) branch circuits. Each circuit is connected to a dedicated relay meter module (RMM) inside the enclosure. Each RMM provides power to one EV charger. The system uses up to two hard-wired numeric keypads to facilitate entry of access control numbers (“PIN” codes). The keypad(s) can be installed up to 500 feet from the HYDRA Control Unit using any waterproof, direct-burial copper cables. Connect 4 conductors per keypad. For runs longer than 100 feet, one pair of conductors should be a twisted pair. As a supplement to the keypad(s), a Smartphone application or Web site may be used to activate EV charging. Meter and relay-control data and commands are transferred to and from the back-office via cellular or Ethernet-based communications.

The HCU internal components are housed inside a NEMA 4-rated enclosure suitable for outdoor use. The enclosure is rated “rain tight” and “dust tight”, however it is best to install the HCU indoors or shielded from direct sun in order to maximize the longevity of the internal components. **Extended exposure to direct sun should be avoided. All penetrations into the enclosure must be adequately sealed to prevent water infiltration.**

INSTALLING THE HCU BACKPLATE

1.  **WARNING: ENSURE THAT ALL CIRCUITS ARE OFF PRIOR TO PERFORMING ANY WORK IN OR ON THE ENCLOSURE.**

Note: The HCU Backplate should have one Relay Meter Module (RMM) for each EV charger installed.

2.  Install the backplate only after the enclosure is securely mounted. **NEVER DRILL INTO THE ENCLOSURE WHILE THE BACKPLATE IS INSTALLED!** Lift the backplate into the enclosure and align mounting holes with the threaded standoffs located on the back of the enclosure. Use the six 5/16” threaded nuts to secure the backplate.



Relay-Meter Modules (RMM), by number
"TB"=Terminal Block

Figure 6: HCU Backplate Warning

INSTALLING CONDUCTORS



: ELECTRICAL SERVICE SUPPLIED TO THE SYSTEM MUST HAVE A GROUNDED CONDUCTOR (NEUTRAL) AS PART OF ITS ELECTRICAL CONFIGURATION.



: ALL ELECTRICAL WIRING MUST BE PERFORMED BY LICENSED ELECTRICIANS, AND IN COMPLIANCE WITH NEC 2014, NFPA 70 AND ALL LOCAL CODES AND STANDARDS.

Each Hydra Control Unit (HCU) requires up to eleven circuits consisting of the following:

- One (1) 120VAC, 5 Amperes, Single Phase, 60 HZ- To supply the HCU internal controller board and modem, requiring 0.6 Amperes continuously.
- Up to four (4) 120/240 VAC, 40 amperes max (for HYRA-RS 2/4) or up to 100 amperes max for (HYDRA-RXS 2/4) to supply power for each of ten (4) Relay Meter Modules (RMM's), providing power to EV charging units typically requiring up to 32A (for HYDRA-R continuously).
- The hi-leg of a mid-point grounded delta configuration must not be used. Use only two phases with 120 volts to the ground.
- Pull the EV-Charger supply branch circuits and the control circuit from the same electrical system. The neutral conductor is needed for the control circuit and optional for the branch circuits.



: Do not exceed the 10A rating of the HYDRA-RS 2/4 internal relays (RMM) under any circumstances.



: DO NOT USE any three-phase, three-wire, delta configuration without a system grounded conductor to supply the HYDRA-R Control Unit.



: DO NOT USE 277V OR 480V SUPPLY WITH HCU UNIT.

To minimize the possibility of damaging components on the Backplate, pull all conductors into the enclosure before installing the Backplate. NEVER ALLOW ANY METAL PARTICLES TO CONTACT ANY INTERNAL COMPONENTS!

1.1 Overview

The HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System is a high-power system designed to provide access control, metering, reporting, billing, and load management for workplaces, multi-unit dwellings, and fleets. It is specifically used for controlling electric vehicle charging equipment.

Key features of the system include access control, which allows only authorized users to charge their vehicles, metering to record the amount of energy used by each charging station, reporting to generate usage reports, billing to track and bill users for their charging usage, and load management to distribute power effectively among multiple charging stations.

The system architecture is non-technical and can be described as a client-server model. The HYDRA Control Unit (HCU) acts as the server, controlling the operation of the charging system, while the charging stations act as clients.

User access to the system is through a graphical user interface, which provides an easy-to-use interface for electricians to configure and monitor the system.

The system requires a special environment where it can be installed by a licensed electrician. It must be installed in compliance with all national and local electrical codes. The system operates on high voltage and requires proper safety precautions to be followed during installation and servicing.

Overall, the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System is designed to provide efficient and secure charging solutions for electric vehicles in various settings, ensuring reliable power distribution and accurate metering.

2. Getting Started

The HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System is a high-power system designed to provide access control, metering, reporting, billing, and load management for workplaces, multi-unit dwellings, and fleets.

To install the system, it is important to follow all safety precautions mentioned in the safety notice section. The manual provides detailed instructions on locating and mounting the HYDRA Control Unit (HCU) and keypad, installing conductors, making service connections, and terminating control board circuits and grounding conductors.

Once the system is properly installed, basic functional testing should be performed to ensure its proper operation. The manual provides a step-by-step guide for conducting the initial functional test and includes a record sheet to document the results.

The HYDRA-RXS 2/4 system operates by switching and metering each charging station separately. It uses a single-board computer to control the operation of the charging system, including the relays and meter data recording. The system communicates charging session data, system information, and utility grid messages through either a cellular modem or a hard-wired Ethernet connection.

The HYDRA-RXS 2/4 variant is specifically designed to control EV chargers with output currents that may exceed 40A. It provides terminals for dry-switching contractors to signal when each EVSE is authorized to charge. The installation procedure for the HYDRA-RXS 2/4 variant is slightly different from the HYDRA-R, with load lines passing through the HYDRA RXS 2/4 panel and the need for low-voltage conduit runs from the cabinet to each EVSE.

It is important to note that the HYDRA-R and HYDRA-RXS systems may not work properly with EV charging units equipped with cold load pickup (CLP). CLP must be disabled for the proper operation of the HYDRA HCU.

The specifications of the HYDRA-RXS 2/4 system state that each unit can support up to ten "Level 2" EVSE with 120/240VAC. The internal relays of the system have a maximum rating of 40A, and the controller board requires a 120VAC Single Phase, 60 Hz circuit.

Overall, the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System provides a comprehensive solution for controlling and managing electric vehicle charging in various settings. The installer's manual provides detailed instructions and guidelines to ensure proper installation and functional testing of the system.

2.1 Cautions & Warnings

The HYDRA-RXS 2/4 system is designed to be used with electric vehicle service equipment (EVSE) that is safety-certified by Underwriters Laboratory (UL), Intertek (ETL), or another nationally recognized testing laboratory (NRTL). It is important to only use this product with EVSE that is rated for no more than 240 Volts, and to not exceed the 40A rating of the HYDRA-RXS 2/4 internal relays under any circumstances.

Before operating the system, ensure that all EV charging units are installed in accordance with manufacturer specifications, as well as local and national electric codes and standards.

It is important to note that the HYDRA-RXS 2/4 system may not work properly with EV charging units equipped with cold load pickup (CLP). CLP must be disabled for the proper operation of the HYDRA HCU. If your EV charger is equipped with CLP, contact the EV charger manufacturer to determine possible workarounds.

Waiver use or copy permissions are not mentioned in the manual, so it is assumed that there are no specific permissions required for the use or copying of the system.

2.2 Set-up Considerations

The HYDRA-RXS 2/4 system is a high-power plug-in vehicle charging control system that provides access control, usage reporting, and load management for workplaces, multi-unit dwellings, and fleets. It consists of the HYDRA Control Unit (HCU) and a keypad unit. The HCU controls and meters each charging station separately, with dedicated relays and meter units. The system communicates with the utility grid and sends/receives data via a cellular modem or Ethernet connection. The installation must be done by a licensed electrician and in compliance with electrical codes. The system supports up to ten EV charging stations and requires a 120VAC Single Phase, 60 Hz circuit for power. It is important to disable the cold load pickup (CLP) feature in EV chargers for proper operation.

2.3 Accessing the System

To access the HYDRA-RXS 2/4 Plug-in Vehicle Charging Control System, follow the steps below:

1. **Obtain a User ID:** Contact Liberty PlugIns or a licensed electrical contractor to obtain a User ID for accessing the system.
2. **Log on to the System:** Once you have a User ID, go to the login page of the HYDRA-RXS 2/4 system. Enter your User ID and password in the provided fields and click the "Log In" button.
3. **Change Password:** Upon logging in for the first time, you may be prompted to change your password. Follow the instructions provided on the screen to create a new password. Make sure to choose a strong password that includes a combination of letters, numbers, and special characters.

4. **Reset Password:** If you forget your password or need to reset it for any reason, click on the "Forgot Password" link on the login page. You will be prompted to enter your User ID and email address associated with your account. An email will be sent to you with instructions on how to reset your password. Follow the instructions provided in the email to reset your password.

Note: It is important to keep your User ID and password confidential and not share it with anyone. Regularly update your password for security purposes.

2.4 System Organization & Navigation

LOCATING & MOUNTING THE HYDRA CONTROL UNIT AND KEYPAD:

1. Choose a suitable location for the HYDRA Control Unit (HCU) and keypad. The HCU should be installed indoors or in a NEMA-rated enclosure if installed outdoors. The keypad should be installed outdoors and within 500 feet of the HCU.
2. Mount the HCU backplate to a secure surface using the provided mounting hardware. Ensure that the backplate is level and securely attached.
3. Connect the necessary conductors to the HCU backplate according to the installation instructions.
4. Mount the HCU enclosure onto the backplate and secure it in place.
5. Install the keypad using the provided mounting hardware. Connect the keypad conductors to the HCU according to the installation instructions.

INSTALLING CONDUCTORS:

1. Install the necessary conductors for power supply, relay control, and communication according to the installation instructions.
2. Ensure that all conductors are properly terminated and secured.

SERVICE CONNECTIONS

1. Connect the service conductors to the appropriate terminals on the HCU according to the installation instructions.
2. Ensure that all service connections are properly tightened and secured.

TERMINATION OF THE CONTROL BOARD CIRCUIT (TB-3)

1. Terminate the control board circuit conductors to the TB-3 terminal block according to the installation instructions.
2. Ensure that all conductors are properly inserted and tightened in the terminal block.

TERMINATION OF THE KEYPAD CONDUCTORS (TB-3)

1. Terminate the keypad conductors to the TB-3 terminal block according to the installation instructions.
2. Ensure that all conductors are properly inserted and tightened in the terminal block.

TERMINATION OF THE EQUIPMENT GROUNDING CONDUCTORS

1. Terminate the equipment grounding conductors to the appropriate terminals on the HCU according to the installation instructions.
2. Ensure that all equipment grounding conductors are properly inserted and tightened in the terminal blocks.

COMMUNICATIONS CONNECTION (ANTENNA OR ETHERNET)

1. Connect the communications antenna or Ethernet cable to the appropriate port on the HCU according to the installation instructions.
2. Ensure that the connection is secure and properly tightened.

BASIC FUNCTIONAL TESTING

1. Perform the basic functional testing procedures outlined in the installation instructions.
2. Record the results of the functional testing in the provided Initial Functional Test Record.

Note: For detailed instructions on each step and for additional system functions/features, refer to the HYDRA-RXS 2/4 Installer's Manual provided by Liberty Access Technologies or a licensed electrical contractor.

2.5 Exiting the System

To properly exit the system, follow these steps:

1. Power off the HYDRA Control Unit (HCU) by turning off the main power supply.
2. Disconnect all service connections and terminate any remaining conductors according to the installation instructions.
3. Remove the keypad from its mounting location and disconnect the keypad conductors from the HCU.
4. Remove the HCU enclosure from the backplate and disconnect any remaining conductors.
5. Remove the HCU backplate from the mounting surface.
6. Ensure that all conductors and components are properly stored and secured.
7. Clean up the installation area and dispose of any packaging materials properly.

Note: If you plan to reinstall the system at a later time, make sure to store all components and documentation in a safe and dry location.

For detailed instructions on each step and for additional system functions/features, refer to the HYDRA-RXS 2/4 Installer's Manual provided by Liberty Access Technologies or a licensed electrical contractor.

3. Using the System

3.1 User Function: Charging Session Start

Description: This function allows the user to initiate a charging session with an electric vehicle (EV) by connecting the EV charger to the HYDRA-RXS 2/4 unit.

Input:

- Plug in the EV charger into the appropriate charging port of the HYDRA-RXS 2/4 unit.
- Ensure that the EV charger is properly connected to the EV.

Output:

- The HYDRA-RXS 2/4 unit will detect the EV charger and establish a connection.
- The charging session will start, and the unit will display the charging status on the screen or through LED indicators.
- The unit may also provide real-time information such as charging current, voltage, and energy consumption.

3.2 User Function: Charging Session Stop

Description: This function allows the user to stop an ongoing charging session with an electric vehicle.

Input:

- Unplug the EV charger from the charging port of the HYDRA-RXS 2/4 unit or the EV.

Output:

- The HYDRA-RXS 2/4 unit will terminate the charging session.
- The unit may display the total energy consumed during the session and other relevant information.
- The user may receive a summary report of the charging session if configured to do so.

3.3 User Function: Access Code Authorization

Description: This function allows the user to enter an access code to authorize charging sessions or to restrict access to the charging unit.

Input:

- Enter the access code using the keypad or touch screen interface of the HYDRA-RXS 2/4 unit.

Output:

- If the access code is valid, the charging session will start.
- If the access code is invalid, the unit will display an error message and prevent charging from starting.

3.4 User Function: Real-time Monitoring

Description: This function allows the user to monitor the real-time status and performance of the charging session.

Input:

- No specific user input required. The user can simply view the display or access the monitoring interface of the HYDRA-RXS 2/4 unit.

Output:

- The unit will display real-time information such as charging current, voltage, energy consumption, and charging time.
- The user may also be able to view historical charging data and generate reports if supported by the unit.

3.5 User Function: Historical Data Retrieval

Description: This function allows the user to retrieve historical charging data for analysis and record-keeping purposes.

Input:

- Access the historical data retrieval menu or interface on the HYDRA-RXS 2/4 unit.
- Select the desired date, time range, or specific charging sessions for data retrieval.

Output:

- The unit will retrieve and display the requested historical charging data.
- The user may be able to view details such as charging duration, energy consumed, and charging station usage statistics.

3.6 User Function: Report Generation

Description: This function allows the user to generate standard or ad hoc reports related to charging sessions and energy consumption.

Input:

- Access the report generation menu or interface on the HYDRA-RXS 2/4 unit.
- Select the desired report type, parameters, and formatting options.

Output:

- The unit will generate the selected report in the specified format (e.g., PDF, CSV).
- The report may include details such as charging session summaries, energy consumption statistics, and user access logs.
- The user may have options to print, save, or export the report.

Note: The specific report types, formats, and available options may vary depending on the configuration and capabilities of the HYDRA-RXS 2/4 unit. Please refer to the User Manual or system documentation for detailed instructions on executing and printing different reports.

4. Troubleshooting & Support

In the event of an error condition or system failure, the following steps should be taken to recover and correct the issue:

1. Identify the error condition or failure by reviewing any error messages or indications on the HYDRA-RXS 2/4 unit or keypad.
2. Refer to the troubleshooting section of the HYDRA-RXS 2/4 Installer's Manual for guidance on resolving the specific error condition or failure.
3. Follow the recommended corrective actions provided in the troubleshooting section to address the error condition. This may involve checking connections, resetting the system, or contacting technical support for further assistance.
4. If the error condition persists or cannot be resolved, contact a licensed electrical contractor or Liberty Plugins for further troubleshooting and repair.
5. Document the error condition, corrective actions taken, and any additional information related to the issue for future reference.
6. Perform a functional test of the system after resolving the error condition to ensure proper operation.

By following these recovery and error correction procedures, any issues or errors with the HYDRA-RXS 2/4 unit can be identified and resolved in a timely manner, minimizing downtime and ensuring the efficient operation of the charging system.

4.1 Error Messages

1. **"Communication Error:** Unable to establish connection with the HYDRA-RXS 2/4 unit."

Possible Cause(s):

- Incorrect network settings on the HYDRA-RXS 2/4 unit
- Network connectivity issues
- Faulty communication module (Ethernet or cellular modem)
- Possible Corrective Actions:
- Check network settings on the HYDRA-RXS 2/4 unit and ensure they are configured correctly.
- Verify network connectivity and troubleshoot any network issues.
- Restart the communication module or replace it if necessary.

2. **"Invalid Access Code:** Please enter a valid access code to authorize charging."

Possible Cause(s):

- Incorrect or expired access code entered by the user.
- Access code not programmed or synchronized with the HYDRA-RXS 2/4 unit
- Possible Corrective Actions:
- Double-check the access code entered and ensure it is correct and up-to-date.
- Verify that the access code is properly programmed and synchronized with the HYDRA-RXS 2/4 unit.

3. "Overcurrent Detected: Charging session terminated due to excessive current"**Possible Cause(s):**

- The EV charging station is drawing more current than the maximum rating of the HYDRA-RXS 2/4 unit.
- Faulty wiring or equipment causing an overcurrent condition.
- Possible Corrective Actions:
- Ensure that the EV charging station is within the maximum current rating specified for the HYDRA-RXS 2/4 unit.
- Inspect the wiring and equipment for any faults or issues that may be causing the overcurrent condition.

4. "Meter Data Not Available: Unable to retrieve meter data for charging session"**Possible Cause(s):**

- Communication issues between the HYDRA-RXS 2/4 unit and the meter unit.
- Faulty meter unit.
- Possible Corrective Actions:
- Check the communication between the HYDRA-RXS 2/4 unit and the meter unit, ensure they are properly connected and configured.
- Restart the meter unit or replace it if necessary.

5. "System Error: Please contact technical support for assistance."**Possible Cause(s):**

- Internal system malfunction or software error.
- Possible Corrective Actions:
- Contact technical support for further assistance and provide them with the error details for troubleshooting and resolution.

Note: For a comprehensive list of error messages and their likely causes and corrective actions, please refer to the appendix of the HYDRA-RXS 2/4 Installer's Manual.

4.2 Special Considerations

Special Circumstances/Considerations for Troubleshooting:

1. Cold Load Pickup (CLP) Feature: The HYDRA-RXS 2/4 may not work properly when connected to EV charging units equipped with the CLP feature. CLP randomizes the amount of time it takes for an EVSE to resume charging following an electrical outage. To ensure proper operation, CLP must be disabled. Check with the EV charger manufacturer to determine if your charger has this feature and contact technical support for possible workarounds.

2. Multiple HYDRA-RXS 2/4 Units: If multiple HYDRA-RXS 2/4 units are installed in close proximity, ensure that each unit is properly configured with unique network settings (IP address, subnet mask, etc.) to avoid communication conflicts.

3. Network Configuration: When troubleshooting communication issues, ensure that the HYDRA-RXS 2/4 unit is connected to a reliable and stable network. Check network settings, cables, and routers to ensure proper connectivity.

4. Firmware Updates: In some cases, error messages or issues may be resolved by updating the firmware of the HYDRA-RXS 2/4 unit. Before performing a firmware update, ensure that you

have the latest firmware version from the manufacturer's website and follow the provided instructions carefully.

5. Electrical Codes and Standards: When troubleshooting power-related issues, always verify that all EV charging units and electrical connections are installed in compliance with local and national electrical codes and standards. Incorrect wiring or improper installations can lead to various errors and malfunctions.

6. Technical Support: If the troubleshooting steps provided in the manual or appendix do not resolve the issue, or if the issue is not covered in the troubleshooting guide, contact technical support for further assistance. Provide them with detailed information about the error message, observed behavior, and any relevant system configurations to help expedite the troubleshooting process.

Note: For a more detailed troubleshooting guide and specific considerations, please refer to the appendix of the HYDRA-RXS 2/4 Installer's Manual.

4.3 Support

Emergency Assistance and System Support:

In the event of an emergency or if system support is required, please contact the following personnel or organizations:

1. Help Desk Support:

- **Organization:** Liberty Access Technologies
- **Contact Person:** Michael Keane
- **Telephone:** +1-855-387-3783
- **Email:** customerservice@libertyplugins.com

2. Production Support:

- **Organization:** Liberty Access Technologies
- **Contact Person:** Michael Keane
- **Telephone:** +1-855-387-3783
- **Email:** info@libertyplugins.com

For reporting problems with the system, follow these instructions:

1. Non-Emergency Issues:

- Contact the Help Desk Support mentioned above during regular business hours.
- Provide a detailed description of the problem, including any error messages or symptoms observed.
- Include relevant system information such as software version, hardware configuration, and any recent changes made to the system.

2. Emergency Issues:

- If the issue poses an immediate risk or impacts critical operations, contact the Production Support team mentioned above, even outside regular business hours.
- Clearly state the nature of the emergency and provide any available information to help expedite the resolution.

Security Incident Handling:

In the event of a security incident or breach, follow these instructions:

1. Immediately notify the System Administrator or Security Officer within your organization.
2. Follow the established incident reporting procedures and protocols within your organization.
3. If required, contact the appropriate law enforcement agency and provide them with the necessary information.

Note: It is essential to have a well-defined incident response plan and procedures in place to handle security incidents effectively. Refer to your organization's security policies and protocols for specific instructions on reporting and handling security incidents related to the HYDRA-RXS 2/4 system.

Table 1 - Support Points of Contact

Contact	Organization	Phone	Email
Customer Support	Liberty Access Technologies	855-387-3783	Info@libertyplugins.com

Appendix A: Record of Changes

Table 2 - Record of Changes

Version Number	Date	Author/Owner	Description of Change
3	N/A	LAT	Initial version
1.1	N/A	LAT	Updated safety instructions and precautions.
1.2	N/A	LAT	Added section on basic functional testing.
3.3	N/A	LAT	Revised specifications and installation steps.
3.4	08/05/2023	Gisselle Delacruz	Clarified requirements for EV charging units.
4.4	10/3/2023	Erica Rivera	Revised document formatting.

Appendix B: Glossary

Table 3 - Glossary

Term	Acronym	Definition
HYDRA-RXS 2/4	<i>H-RXS</i>	The High-Power HYDRA Plug-in Vehicle Charging Control System is a variant of the HYDRA-R that controls electric vehicle (EV) chargers with an output current that may exceed 40A. It provides access control, metering, reporting, billing, and load management capabilities for workplaces, multi-unit dwellings, and fleets.
Liberty Access Technologies	<i>LAT</i>	The organization responsible for manufacturing and providing support for the HYDRA-RXS 2/4 and other related products. They offer help desk and production support for installation and system issues.
Licensed Electrician	<i>LE</i>	An individual who has obtained the necessary qualifications, certifications, and licenses to perform electrical work safely and in compliance with national and local electrical codes.
National Electric Codes	<i>NES</i>	The set of regulations and standards established by a national authority to ensure the safe installation and use of electrical systems and equipment.
Production Support	<i>PS</i>	The team within Liberty Plugins responsible for providing assistance and support related to the production and functioning of the HYDRA-RXS 2/4 system.
System Administrator	<i>SA</i>	The individual or team responsible for managing and maintaining the HYDRA-RXS 2/4 system within an organization. They oversee system operations, security, and user management.
Security Incident	<i>SI</i>	An event or occurrence that compromises the confidentiality, integrity, or availability of information or the functioning of the HYDRA-RXS 2/4 system. It may include unauthorized access, data breaches, or system malfunctions.
Incident Response Plan	<i>IRP</i>	A predefined set of procedures and actions to be followed in the event of a security incident or breach. It outlines the steps for identifying, containing, investigating, and resolving the incident.
Incident Reporting Procedures	<i>IRP</i>	Established protocols within an organization for reporting security incidents to the appropriate personnel or authorities. These procedures ensure prompt and efficient response to incidents.

Term	Acronym	Definition
Security Office	SO	The individual or team responsible for overseeing and implementing security measures and policies within an organization. They are responsible for managing security incidents and ensuring compliance with security protocols.
Underwriters Laboratory	UL	A nationally recognized testing laboratory that certifies the safety and compliance of electrical and other products.
User Manual	UM	A document with instructions for operating a manufactured device.