



The Electricians' Choice



TYPE 2
CHARGING SOCKET



WI-FI, BLUETOOTH
AND ETHERNET COMPATIBLE



SMART
APP CONTROL



OCPP 1.6
CHARGING PROTOCOL



RFID ACCESS CONTROL
WITH 2 FOBs



SCHEDULING CHARGE
TIMES



SOLAR PV
COMPATIBLE



MAXIMUM OUTPUT
CURRENT ADJUSTMENT



DYNAMIC LOAD
MANAGEMENT



30mA TYPE A + 6mA DC
FAULT PROTECTION



PEN CONDUCTOR FAULT
PROTECTION



ACTION
BUTTON



DOWNLOADABLE
SOFTWARE UPDATES

SIENA[®]

Mode 3 EV Fast Charging Point

Installation, Operation & Maintenance Instructions



Powered by

MONTA



(EN) User Manual – V1.04

Introduction

Dear Valued Customer,

Congratulations on your purchase of our state-of-the-art EV Charging Point!

We are delighted to welcome you to the growing community of environmentally conscious individuals who are taking a significant step towards a sustainable future.

At Lewden, we understand the importance of eco-friendly transportation, and we commend you for choosing to be a part of the solution. Your decision to invest in an electric vehicle and our charging infrastructure is a positive contribution towards reducing carbon footprints and creating a cleaner planet.

This instruction manual has been carefully crafted to guide you through the setup and usage of your new EV Charging Point. Whether you're a seasoned electric vehicle owner or embarking on this exciting journey for the first time, we are here to make your charging experience seamless and enjoyable.

Thank you for trusting us with your charging needs. We are confident that our intelligent EV Charging Point will exceed your expectations and make electric vehicle ownership even more convenient.

Wishing you smooth and sustainable travels!

Warm regards

Lewden

Contents

	Page
1. Important Safety Instructions	4
2. Electrical System Requirements at the property	5
3. Unpacking	6
4. Getting to know the Charge point	7
5. Installation.....	8
Safety	8
Positioning the Charge point	8
Hardware installation procedure	9
Electrical wiring procedure	10
Power wiring	10
Ethernet cable	10
Dynamic load balancing CT	10
Extending the CT cable length	11
Solar PV CT	11
Final checks prior to installing the charger body	12
Maximum output current adjustment	13
Refitting the charger body to the wall plate	13
6. Set up, Testing, and Commissioning	14
Establishing data communications	14
Lewden Connect smart app	15
Dynamic load balancing operation	16
Installation Electrical testing	18
Powered by Monta registration flow	18
7. Product features.....	19
Communications features	19
Control features	20
Pairing an RFID fob	20
RFID Principle of operation	20
Auto Dimming status LED	21
Action button	21
Monta smart app control features	22
Default off peak charging	22
Charging rules	22
Randomised delay	23
Demand side response	23
Powerbank	23
Solar charge	23
Cable lock function	24
Protection measures	25
8. User operating Instructions	27
9. Troubleshooting	29
10. Maintenance	32
Storing the charge lead	32
Safety	32
Periodic Maintenance	32
Software updates	32
Transferring Charge point ownership	32
11. Technical Specifications and Standards Compliance	33
12. Service history	34
13. Warranty	36
14. Disposal instructions	39
15. Technical Support	39

1. Important Safety Instructions

Please read these important safety instructions together with the charging instructions in your vehicle owner's manual before charging your electric vehicle. The charging device is only suitable for vehicles that are compatible with the IEC62196-2 charging standard.

Ensure that you are fully conversant with all safety information and warnings provided in this manual, to identify any risks or hazards associated with the installation, operation, maintenance and troubleshooting of this charging device.

Failure to install and operate the charging point in accordance with these instructions may invalidate the manufacturer's warranty.

When installing, using, or maintaining the charging point the following precautions should always be observed. Failure to do so may result in death or serious injury.



- Ensure that the vehicle is turned off before charging.
- The charging cable must be fully uncoiled during the charging process.
- Never attempt to move the vehicle whilst the charge cable is connected.
- Never attempt to use extensions to extend the length of the charging cable.
- Never attempt to use plug adaptors or converters that are not an integral part of the charging cable.
- Do not use the charging point if it appears defective or damaged in any way.
- Do not use the charging point if the charging cable shows any signs of frayed or damaged insulation.
- Do not use the charging point if the electrical contacts of the charge connector are wet.
- Ensure that the charging cable is well positioned during charging, such that it will not be stepped on, tripped over, driven over, or subjected to mechanical strain or damage.
- Do not operate the charging point in severe weather.
- Do not insert fingers or foreign objects into any part of the charging connector.
- Do not leave the charging lead connector on the ground when not in use. Always protect against ingress of water.
- Do not operate the charging point near explosive, corrosive, or combustible materials, chemicals, or vapours.
- Always maintain a clean and clear area within the vicinity of the charging point.
- Never store objects directly on the charging point.
- Never use the charging point for anything other than its intended purpose.
- Do not attempt to disassemble, repair, or modify the charging point in any way. There are no user serviceable parts inside. Refer all maintenance requirements to qualified service personnel.

2. Electrical System Requirements at the property

This charging point must be connected to a dedicated final circuit in accordance with the requirements of the local wiring regulations for the country in which it is installed. In the UK this is BS7671 section 722.

For the equipment operating voltage parameters (including tolerances) refer to Section 11: Technical specifications.

The charging point incorporates a method of overcurrent protection through software detection and relay cut off. There are no circuit breakers inside the charging point.

The final circuit supplying a single phase 7.4kW charge point must be protected by an overcurrent protection device with a minimum current rating of B40A (device conforming to BS EN60898-1)

The final circuit supplying a three phase 11kW charge point must be protected by an overcurrent protection device with a minimum current rating of B20A (device conforming to BS EN60898-1)

The final circuit supplying a three phase 22kW charge point must be protected by an overcurrent protection device with a minimum current rating of B40A (device conforming to BS EN60898-1)

Note: This equipment operates under continuous load for several hours during each charging cycle and due consideration must be given to mounting arrangement and thermal derating factors of the overcurrent device located within its distribution board. We do not recommend that the overcurrent device is directly situated adjacent to other protection devices that are operating high power circuits or continuous electrical loads.

The charging point also incorporates a residual direct current detecting device (RDC-DD), providing protection against residual fault currents >6mA DC.

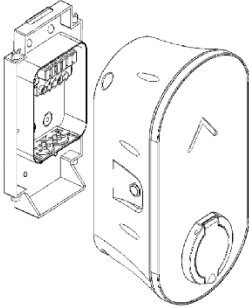
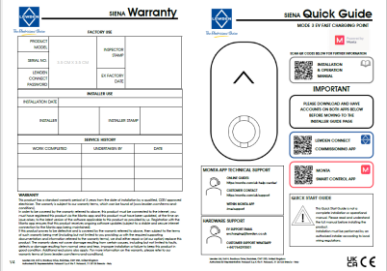
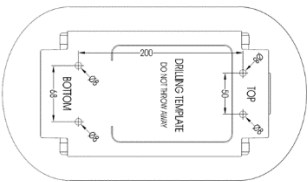
A dedicated 30mA residual current circuit breaker with a minimum characteristic of type A, disconnecting all live conductors (line and neutral) should be located upstream of the charging point in accordance with the requirements of BS7671 section 722. (device conforming to BS EN61008-1 / BS EN61009-1 / BS EN60947-2 / BS EN62423)

Type F and B residual current circuit breakers are also suitable.

Protection against the effects of transient overvoltage in the supply circuit is also recommended in accordance with BS7671 section 443.4, via a suitably rated surge protection device (SPD).

3. Unpacking

This kit includes the following items

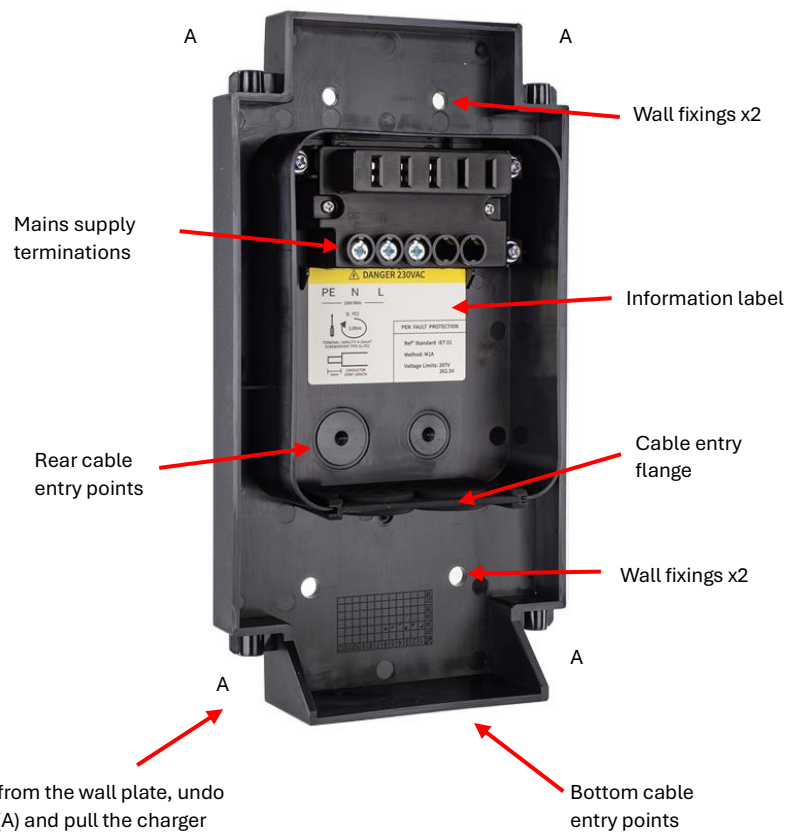
Box Contents		
Qty	Description	Image
1	EV Charging Point & wall mounting Power Plate	
1	Cable entry flange	
2	RFID key fob	
1	Dynamic load balancing current transformer with 5M cable 1x 1PH – 3x 3PH	
1	Wall fixing kit (4x Fixings and Wall plugs) 1x Screwdriver / 4x Rubber Screw Covers 4x M5 Pan Head Screws	
1	Quick Start Guide / Warranty card	
1	Wall drilling template	

All packaging materials are 100% recyclable. Please ensure that all packaging is disposed of responsibly.

4. Getting to know the charge point



Wall Plate



To release the charger from the wall plate, undo the 4 securing screws (A) and pull the charger facia forwards

Safety

To reduce the risk of serious injury or death and/or damage to the charging point, this unit must be installed, commissioned, and maintained by a qualified electrical technician familiar with the construction and operation of this type of installation, and the dangers involved.

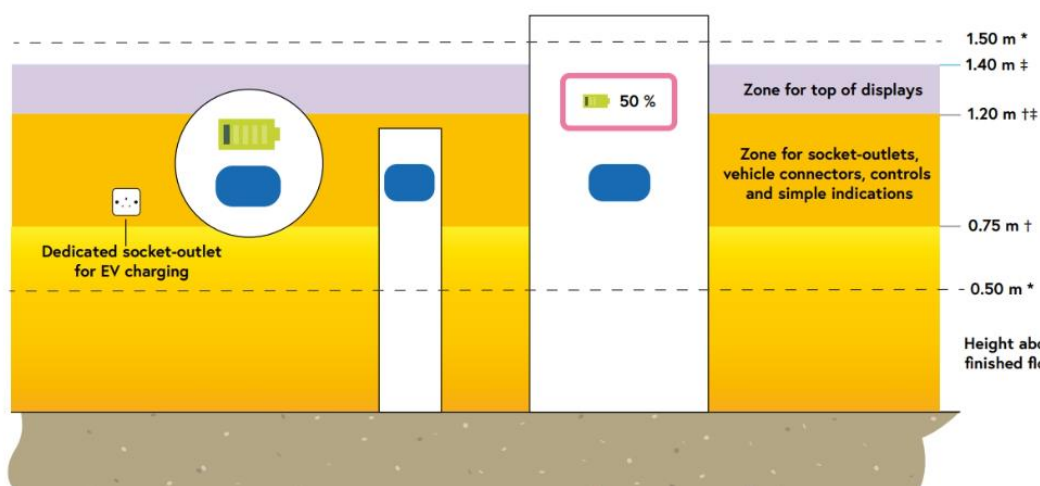
- Installation must be made in accordance with the local electrical and building regulations of the country in which it is fitted.
- Before commencing installation ensure that the incoming mains supply has been suitably isolated.
- Do not install the charging point near explosive, corrosive, or combustible materials, chemicals, or vapours.
- Suitably rated protective devices and wire types corresponding to the electrical and temperature ratings of the installation must be utilised.
- Incorrect installation and commissioning of the charging point could potentially cause irreparable damage to either the vehicle's battery or the charging point. Any damage caused as a direct result of incorrect installation is not covered by the device warranty.

Positioning the charging point

To establish the best location for the charging point it is necessary to first determine the parking position of the vehicle, to ensure that the charging connector has sufficient length to comfortably reach the vehicle charging inlet.

Install the charging point in a safe, convenient, and well-ventilated area.

The charging point should be located approximately 0.75-1.2 metres above ground level and at least 0.25 metres from any obstacles.



Aim to avoid installation of the charging point in exposed areas of direct sunlight, or adjacent to hot objects or surfaces.

Hardware Installation Procedure

Before commencing installation ensure that all component parts are present and in good condition. (Refer to Unpacking section 3)

Ensure that there is a suitably rated power supply available at the installation site. (Refer to Electrical system requirements at the property section 2)

1. Release the Wall plate from the rear of the Charger body.

Separate the back plate from the charger by pulling apart.

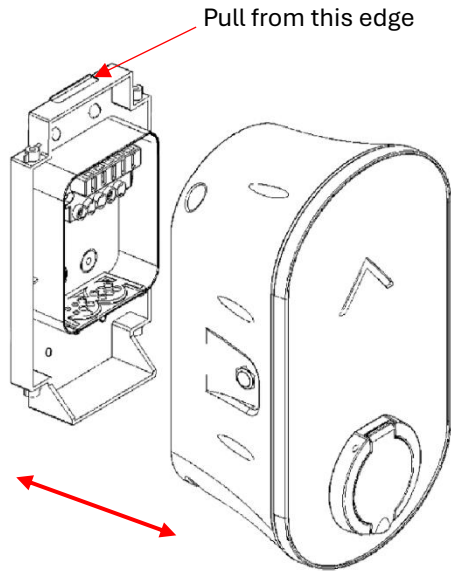


Figure 1

2. Keep the main body of the charger aside in a safe place. You will not require this until later in the installation process.
3. Using the drilling template provided (see packing carton), mark and drill the four fixing holes on the mounting surface using a 7mmØ drill.
4. Using the 4 sets of expansion plugs and self-tapping screws provided, fix the wall plate in the correct orientation to a flat vertical wall of sound structure and suitable load bearing capability. (Note that the hole fixings are not symmetrical between top and bottom fixings!) Do not overtighten.

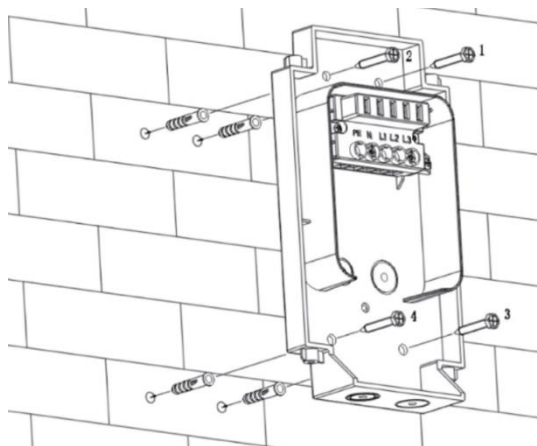


Figure 2

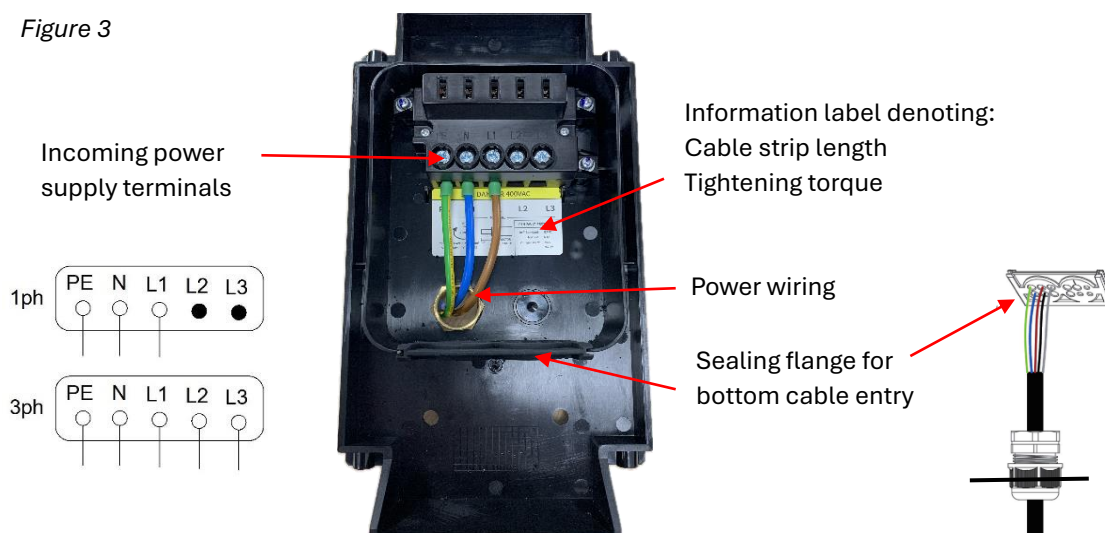
5. Note that no access is required to the internals of the charging point at any time during installation, set up, or commissioning.

Electrical Wiring Procedure

Power wiring

6. The power supply cable can be installed from either the bottom or rear faces of the wall plate. Cable entry through the top or sides of the wall plate is NOT permissible.

Figure 3



Note: Except where combined within a specialist power and shielded data cable, data wiring should enter the charge point via a separate cable entry hole.

7. When entering from the bottom a suitable cable gland must be used to maintain IP55 weatherproof sealing and cable strain relief. When installing the power cable through the rear of the wall plate, a suitable gland or sealing arrangement should be used to maintain weatherproofing.
8. Power conductors must be suitably rated to carry continuously the full electrical load of 32A, and adequately protected against overcurrent and residual current faults (Refer to section 2).
The terminations feature cage clamps designed to accept rigid or flexible conductors ranging from 4-16mm². A minimum conductor size of 6mm² is recommended.
9. Terminate the L N E power conductors into the correctly marked terminals noting the correct cable stripping length and tightening torque on the information label located adjacent to the terminals.

Installing an Ethernet cable (where utilised)

10. An RJ45 port is conveniently located on the rear of the charge point body, marked LAN. Plug an ethernet cable into this socket prior to refitting the charger to the wall plate.

Dynamic load balancing (where utilised)

Note: If load balancing does not form part of your installation, please proceed directly **Solar PV Charging**.

11. The load balancing feature requires a split core current transformer (CT) to be installed on the property's meter tails (i.e. the power cables connecting the DNO kWh meter to the Consumer unit). A suitable current transformer is supplied in the kit.

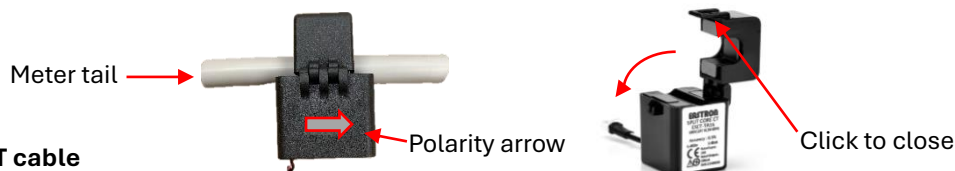
Note: Do not use third party CTs as they may not be compatible with the system, and the load balancing characteristics can therefore be compromised.

12. The CT is designed to clamp around the cable in the most appropriate position and does not require the cable to be disturbed or modified in any way.
13. The CT is polarity sensitive, marked by an arrow (see fig 4). The clamp should be positioned around the Line (brown) conductor, with the arrow pointing in the direction of power flow towards the consumer unit.

Alternatively (if required), the CT clamp may be located on the Neutral (blue) conductor with the arrow pointing away from the consumer unit towards the incoming supply source.

14. To install the CT, release the clip on the CT and open the clamp. Place the CT around the conductor and reclose the clamp, ensuring that the clip is securely fastened.
15. No other cables should pass through the CT clamp.
16. The output from the CT is via the twisted pair cable, which must be connected to the CT input terminals located on the rear of the charging point, Use Screwdriver Part No **672918**. Note that the CT cables should only be connected when you are ready to install the charger body. (See figure 5/6) for CT input terminal connection and polarity. Take care to ensure that the correct coloured wire is installed in the correctly marked terminal.

Figure 4



Extending the CT cable

17. Ideally the charging point should be located within easy reach of the CT clamp position (5M), however if required, the CT cable may be extended in length.
18. To avoid interference and reduce loss of signal, extension cables should be kept as short as possible, with a recommended maximum of 20M.
19. A screened twisted pair cable and a suitable terminal block must be used to make the extension.

Solar PV charging (where utilised)

Note: Solar PV input is only compatible with single phase (230VAC) charge points.

If solar charging does not form part of your installation, please proceed directly to **Final checks prior to installing the charger body**.

20. The solar charging feature requires the dynamic load balancing current transformer (CT) to be installed plus an additional CT installed on the property's solar installation (i.e. the power cables connecting the AC output of the solar PV installation to the Consumer unit).

A suitable current transformer is available as an optional accessory. Part No **P672901**
(Specification: Split Core CT. Pri:100A/Sec:100mA accuracy 0.5% 600V cat III 50/60Hz)

Note: Do not use third party CTs as they may not be compatible with the system, and the solar charge characteristics can therefore be compromised.

21. The CT is arranged with an open clamp design and does not require the Solar PV AC cable to be disturbed or modified in any way.
22. Repeat steps 13-16, and 17-19 (where applicable).

An RJ45 port is conveniently located on the rear of the charge point body, marked LAN. Plug an ethernet cable into this socket prior to refitting the charger to the wall plate.

Figure 5

Single Phase charger
Dynamic Load Balancing
and/or Solar PV CTs
connection

Important: CT connections to the charging point must not deviate from this diagram

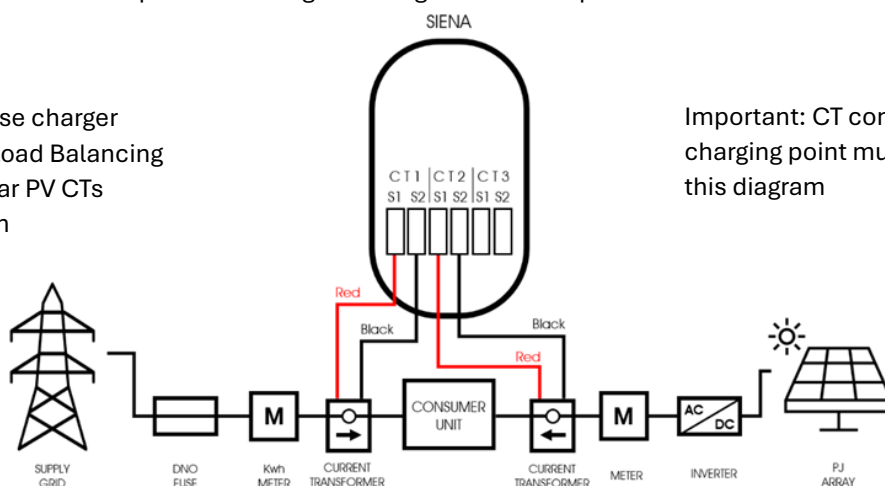
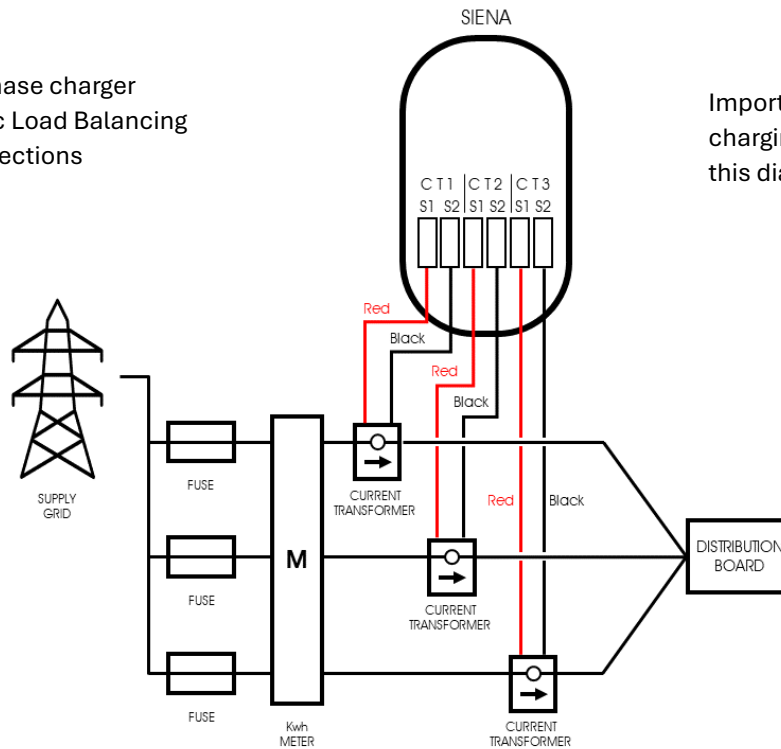


Figure 6

Three Phase charger
Dynamic Load Balancing
CT connections

Important: CT connections to the charging point must not deviate from this diagram



Charger type	Feature	CT Input	Remark
Single Phase charger 7.4kW	Dynamic Load Balancing	1S1 – 1S2	Can be used as a standalone feature
	Solar PV	2S1 – 2S2	Also requires Dynamic load balancing CT
		3S1-3S2	Not Used
Three Phase Charger 11or 22kW	Dynamic Load Balancing	1S1-1S2	L1 Phase input
		2S1-2S2	L2 Phase input
		3S1-3S2	L3 Phase input

Final checks prior to installing the charger body

23. Prior to refitting the charging point to the wall plate, ensure that:

- All electrical connections in the installation have been tightened to the specified torque.
- A 500VDC insulation resistance test has been conducted on the power circuit wiring feeding the charging point.
The charging point must be disconnected from the wall plate prior to conducting insulation resistance tests otherwise irreparable damage may occur.
- The blue dial on the rear of the charging point is set to the desired maximum output current (see p13 – Fig 7)

Maximum Output Current adjustment



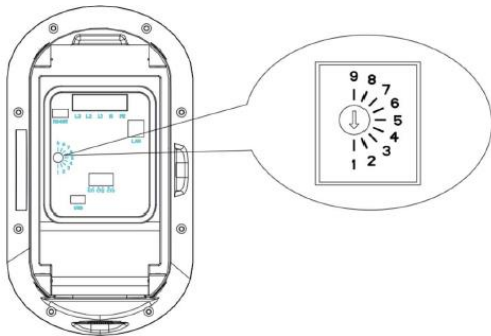
To serve installations that do not have a suitable supply capacity to enable the incorporation of a vehicle charging system operating at 32A, the charging point can support lower values of maximum output current through the setting of an integral rotary switch.

Important: This is not a user function.

The feature should only be pre-set at the commissioning stage by a qualified electrical technician following an electrical load assessment on the property and the distribution switchgear incorporated within to determine the safe maximum operating current that the installation property can deliver without risk of overloading.

Reducing the maximum output current of the charging point significantly increases the charging time of the connected vehicle.

Figure 7



Maximum Output Current Adjustment

Dial Position	7.4kW 22kW	7.4kW	22kW
	Output Current	Output Power	Output Power
1	13A	2.99kW	9.01kW
2	16A	3.68kW	11.10kW
3	20A	4.60kW	13.90kW
4	22A	5.06kW	15.20kW
5	24A	5.52kW	16.60kW
6	26A	5.98kW	18.00kW
7	28A	6.44kW	19.40kW
8	30A	6.90kW	20.80kW
9	32A *	7.4kW	22kW

*Default setting

Important note:

Setting the dial in between set points does not provide a proportional power output.

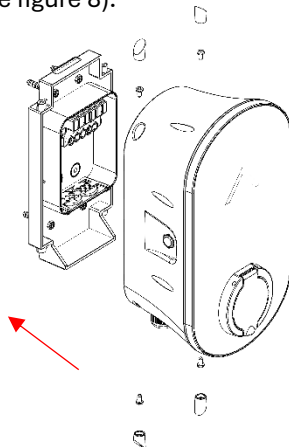
Setting of the dial less than midway between set points reverts to the lower setting, and more than midway to the higher setting.

Setting of the dial beyond the limits of positions 1 or 9 does not alter the output power from setting 1 or 9.

Refitting the charger body to the wall plate

Once completed, align the blade terminals on the rear of the charging point with the corresponding points on the wall plate. Gently push the charger into the wall plate until it is completely docked. Refit and tighten the four securing screws and rubber seals. (see figure 8).

Figure 8



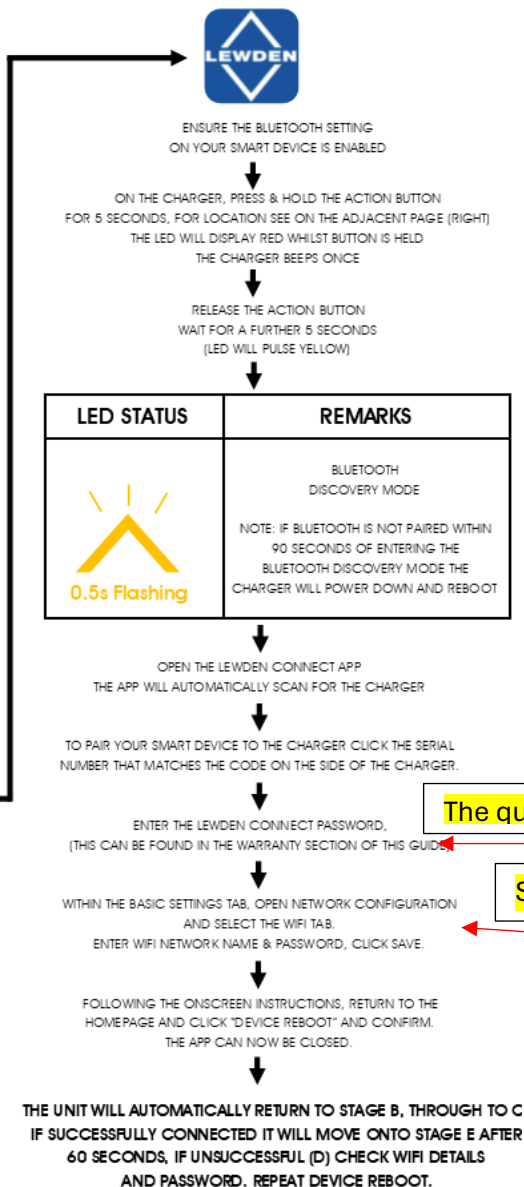
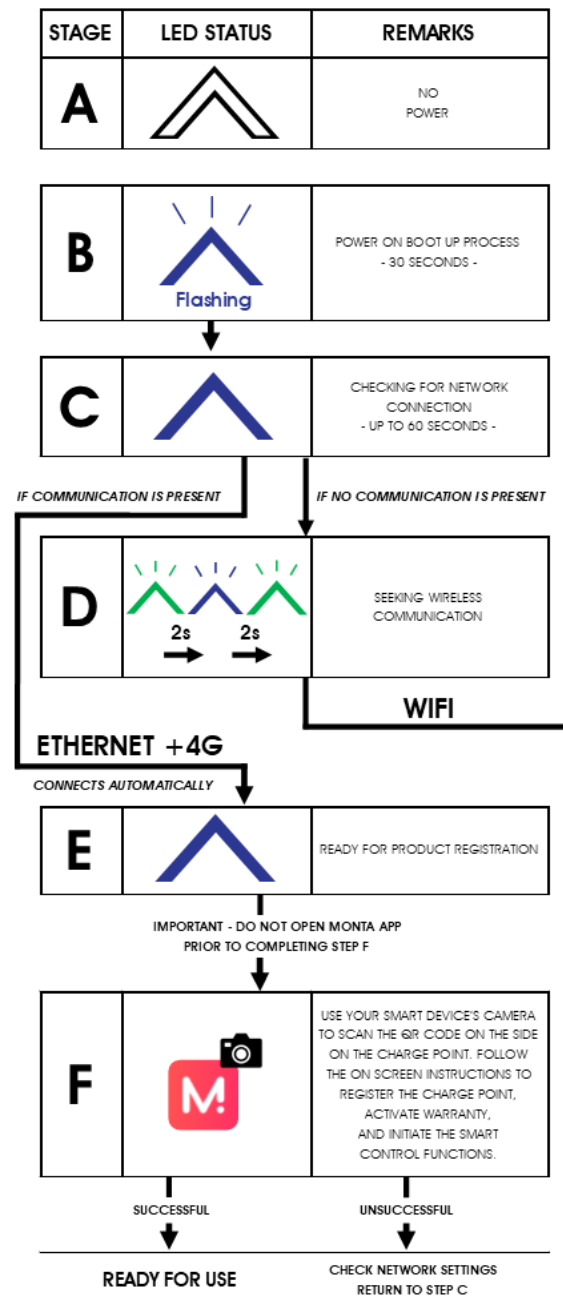
Power to the charging point can now be energised.

6. Set up, Testing and Commissioning

Establishing Data Communications



SIENA Installer Guide



The quick start guide

See page 15

NOTE

The 4G communication option is preset at the factory and does not require user set up

FOR FULL GUIDANCE REFER TO THE INSTALLATION & OPERATION MANUAL

WHEN PERFORMING INSTALLATION TESTING I.E RCD TRIP/TIME/ EARTHLOOP IMPEDANCE TESTS ENSURE THAT THE CHARGE IS SET IN FREE CHARGING MODE ON THE LEWDEN CONNECT APP

Important: The charging point must be registered to activate product warranty and initiate smart control functions. Scanning the QR code located on the right-hand side face of the charging point will direct you straight to the registration form within the Monta smart app. Monta is a free to use app.

Lewden Connect smart app



Lewden Connect is a free to use app that can be downloaded directly from the App store (iOS) / or Google Play store (Android), or alternatively via the QR link provided here. The app requires you to register your name and email address. A verification email will be sent to your email address. Check your spam folder if the email is not received.

When connected to a charge point (see how to instructions on page 14), the home screen displays the charge point serial number and the current operating firmware version.

The app serves the following functions:

Basic Settings

1. System Date and Time

Used to set the current date and time.

2. Network configuration

For initial set up purposes (when using Wi-Fi as the chosen method of communications), the Lewden connect app provides a bridge between the available Wi-Fi networks at a property, and the charging point.

Pairing the charge point to a smart device using the Bluetooth function (see section 6: Establishing data communications) enables the user to select the Wi-Fi network that they wish the charge point to join, by entering the Wi-Fi network name and Password.

Alternatively, where an ethernet cable is connected to the charge point, manual configuration is not necessary. The ethernet tab will display the network settings automatically.

3. LED light setting

Refer to LEWDEN Connect App / Basic setting / LED Light Setting

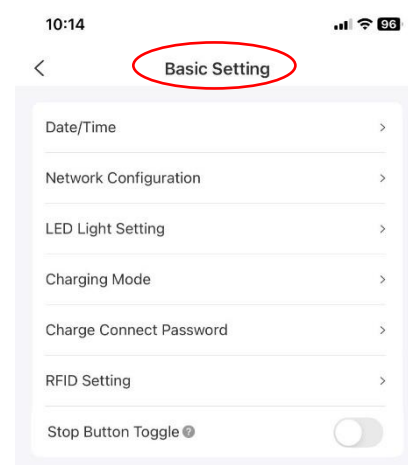
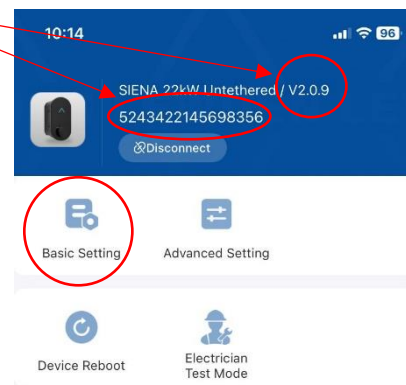
This menu allows the user to alter the default day and night mode operating hours, determining the brightness of the charge status LED. By programming night mode operating hours, day mode hours are automatically assigned from the remaining balance of one 24-hour period.

When programming, first enter the time that you require the night mode to start, followed by the time you would like night mode to end. The clock is 24 hours, so for example 7pm is entered as 19.00. Refer to table on page 20

4. Charging mode

This menu incorporates three user selectable charging mode options.

- Monta app:** This is the default setting, allowing all smart control and monitoring features of the charge point via the Monta platform.
- Free charging:** This is intended as an 'emergency operating mode' only, allowing the charge point to be utilised without smart app control, for example if the communications network at the site is totally unavailable due to a fault. In this operating mode the charge point will not log on to the Monta smart app and will simply allow charging when a vehicle is connected. No monitoring data will be collected apart from local charging logs and fault logs within the lewden connect app.
- RFID charge:**
This mode is the same as 'Free charging' with the inclusion of access control.
A charge sequence can only be initiated or stopped by tagging a paired RFID fob within the charge point RFID target zone. Up to 50 RFID fobs can be paired to one charge point (refer to note 6: RFID setting).



Notes:

- Any RFID fobs paired through the Lewden Connect app have no association or interaction with the Monta smart app. (e.g. If you pair an RFID fob via Lewden connect it will not automatically work when Monta is the default charge mode). The RFID fob will also need to be paired through the Monta app separately to enable it to be used with the Monta smart app.
- Toggling between charging modes will delete logs. These logs can be exported via email before switching.
- In Free charging and RFID charge modes the charge point cannot receive over the air software updates.

5. Charge connect password

This menu allows you to change the user login password for the Lewden Connect app.

6. RFID Setting

This menu enables pairing of an RFID fob to a charge point for use in “RFID charge” mode (Refer to 4c on p15).

Select the ‘add’ button at the top right of the screen.

Fobs can be paired by either:

- Scanning the fob using your smart phones NFC scanner, or
- Scanning the RFID fob using by holding it against the RFID target zone on the front of the charger that you are connected to.

For easy identification, paired RFID fobs can be assigned a unique name.

The RFID fob is then visible on the Lewden Connect charge logs by name, easily identifying the person that initiated a charging sequence.

Registered RFID fobs can also be deleted using this tool. On the screen, simply swipe (from right to left) the RFID fob that you wish to delete, and then tap on the trash can icon.

7. Stop Button Toggle (Also refer to Section 7 - Action Button)

By default program, the silver action button on the side of the charger body can be pressed once to:

- Awaken the blue ‘standby’ LED following 5 minutes of inactivity, or
- Halt an active charging session.

When installed in more public locations this feature could be considered as inconvenient, therefore a toggle selection allows the user to either enable or disable this feature.

Advanced settings

1. Parameter settings

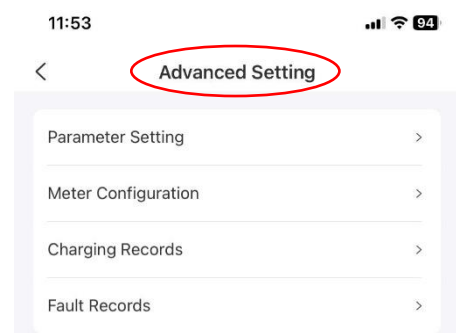
- Displays OCPP URL default setting (not editable)
wss://ocpp.monta.app

Dynamic Load Balancing

To prevent overloading of a property’s electrical installation, this feature automatically measures and controls the power made available to a charging electric vehicle during times of peak demand.

The system continuously monitors the power consumed by the charging process and compares this to the active power requirement of the property.

When a predetermined maximum demand on the property is exceeded, the system dynamically reduces the amount of power made available for the charging process (6-32A), ensuring that other load appliances at the property can continue to function correctly.



Dynamic load balancing can only vary the power made available to the charging point and cannot reduce power to other load equipment installed at the property. A reduction of power to the charging point will increase the time taken to complete a charging cycle.

A power availability of less than 6A may terminate the charging session due to the minimum vehicle charging requirements.

The load balancing feature is only suitable for installations comprising a single charging point and equipped with a dynamic load balancing current transformer (See section 5 page 10: Electrical wiring procedure).

The main fuse at the DNO service head within the property should be labelled to state the maximum permissible load. The load balancing system must never be set above this maximum figure, with an ideal setting figure that is lower than this applied.

Note that load balancing only limits power available to the charging point. It may still be possible to exceed the maximum permitted load of the property if too many appliances are used simultaneously.

Caution: Overloading the electrical installation to the property risks overheating and fire, and this activity should therefore only be undertaken by a qualified electrical technician.

For installations comprising multiple charging points an alternative energy management solution should be considered, using the Monta smart app.

This feature must only be activated if the load balancing current transformer (supplied with the charge point) has been installed (Refer to Electrical Wiring Procedure)

CT Dynamic Load Balancing: Activate / De-activate.



Max Current switch

Refer to Maximum Current output adjustment (page 13)

This feature displays the maximum current output setting applied via the blue dial adjuster located on the rear of the charge point (at time of connection to the Lewden Connect app).

This setting is not adjustable within the Lewden Connect app.

Home max current

This setting should be applied by a qualified electrical installer, to determine the total electrical load that can be safely drawn into your property. Under no circumstances should this setting be higher than the ampere rating of the incoming supply fuse.

This helps to ensure that the charge point does not exceed the overall capacity of your property's electrical system when the charge point and other electrical loads at the property are in operation simultaneously.

2. Meter Configuration

This menu allows connection of an external MID certified power meter, connected via the RS485 terminals.

Selecting an external meter will automatically override power measurement from the integral (non-MID) meter.

The external meter reading is automatically communicated to the Monta platform

3. Charging records

Displays a history of date, start/stop times, and power consumed for each charging session.

4. Fault records

Displays the date, time, and basic explanation of a charging fault.

Installation Electrical testing

Insulation resistance testing

Refer to Note 23 of Section 5: Electrical wiring procedure.

Earth loop impedance testing

This test may be conducted with the charge point connected to its wall plate and can be made via the socket outlet or tethered charge connector, using suitable test equipment designed for use with mode 3 electric vehicle chargers.

A test adapter is normally required to enable connection to the type 2 socket and simulate pilot wire connection of a vehicle to allow closure of the L-N switching contactor within the charging point.

RCD & RDC-DD testing

This test may be conducted with the charge point connected to its wall plate and can be made via the socket outlet or tethered charge connector, using suitable test equipment designed for use with mode 3 electric vehicle chargers.

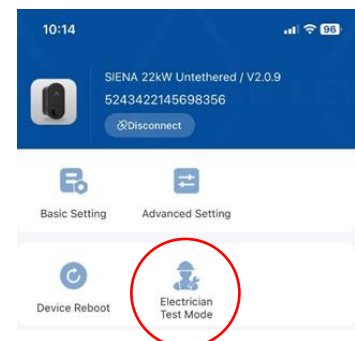
A test adapter is normally required to enable connection to the type 2 socket and simulate control pilot wire connection of a vehicle to allow closure of the L-N switching contactor within the charging point.

Note: Selecting 'Electrician Test Mode' on the home screen of the Lewden Connect app makes testing of the integral RCD significantly easier.

Activating this mode places the charger into free charging mode for 5 minutes. This allows each step of the multi-trip RCD testing process to be performed without the need to repeatedly re-energise the L/N contactor (via the Monta app) after each step of the process.

After 5 minutes has elapsed, the charger will automatically exit Electrician test mode and revert back to Monta charging mode.

Testing results should verify tripping characteristics of the RCD functionality as per the table below.

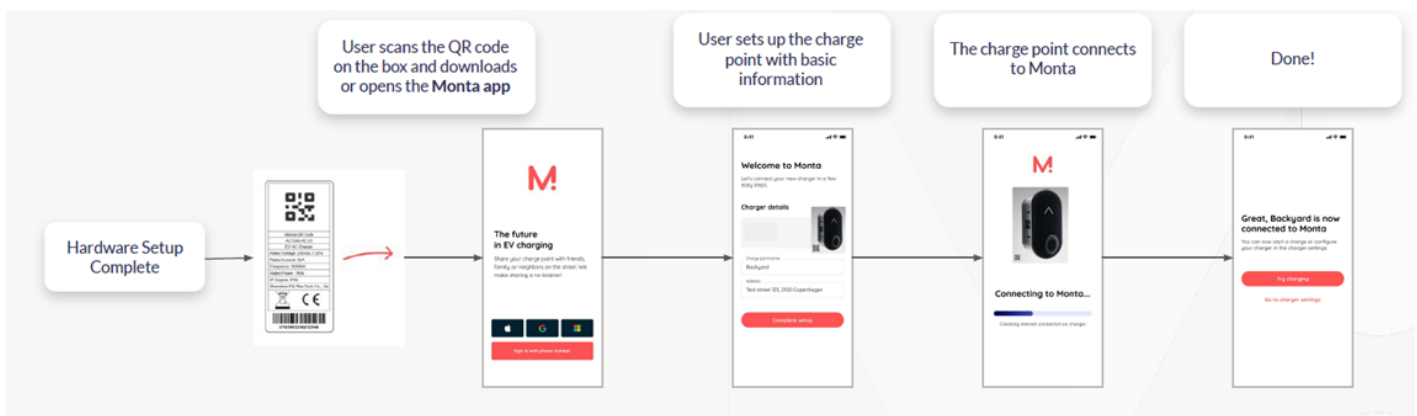


- **Functional testing**

Refer to Section 8: User operating instructions.

Fault magnitude	Response
<15mA AC	No trip
>15mA ≤30mA AC	Trip ≤300ms
≥150mA AC	Trip ≤40ms
>6mA DC	Trip ≤10s
>60mA DC	Trip ≤300ms

Powered by Monta registration flow



7. Product Features: Communications



A communications network must be established at the charge point to ensure that smart control features and data exchange are possible.

All communications sent from the charging point are encrypted for data security.

Ethernet

An ethernet port is provided to enable a secure and stable internet connection to the communications network for smart control, this being the default installation method.

Wi-Fi

As an alternative to installing an ethernet cable, the charging point can be connected to the communications network for smart control via a local Wi-Fi network. Wi-Fi maximum communication distance is within 10M.

4G Connectivity

For installations where communications via ethernet cable is not possible, and Wi-Fi signal strength is weak or unreliable, a 4G mobile data plug in PCB is available as an optional accessory. **Part No P672902**

This requires a user SIM card and may incur additional data subscription charges from the chosen data provider.

Bluetooth

The Bluetooth function enables communication with the charging point for initial set up of a Wi-Fi network, and dynamic load balancing. Refer to Section 6: Set Up, Testing, and Commissioning

USB port

A USB port is provided to temporarily assist the installer / maintenance team to update firmware when the OCPP function is not working. This port serves no other function and must not be occupied at any other time.

OCPP1.6

The open charge point protocol (OCPP) 1.6J is an industry standard communications platform used between EV chargers and a central management system. OCPP enables advanced functionalities to improve the efficiency, reliability, and user experience of EV charging services. Key features include remote start and stop of charging sessions, status notifications, firmware management, and error reporting. It also supports smart charging capabilities which allow for dynamic adjustment of charging rates based on grid demand, thereby promoting energy efficiency.

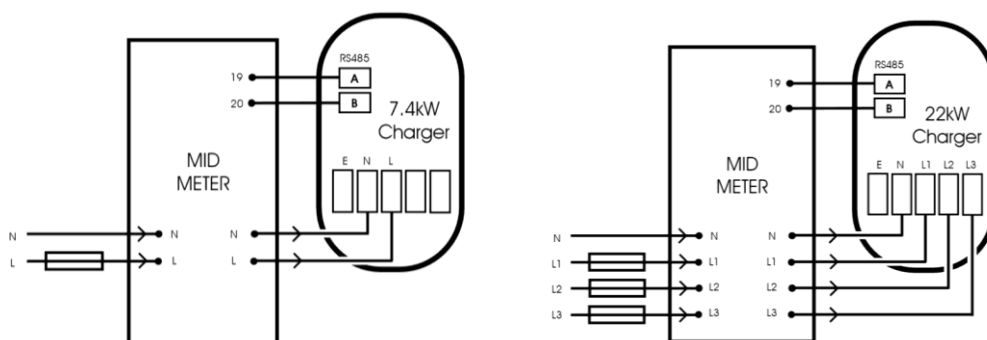
Metering of electricity consumption

The charging point incorporates a kWh meter within the electronic circuit board, with a reading accuracy tolerance of $\pm 1\%$. Imported electricity usage and charging data can be tracked and viewed for the preceding 12-month period via the Monta smart app.

Notes:

- Siena does not support the exporting or measuring of power in the reverse polarity, i.e. from vehicle to home (V2H) or vehicle to grid (V2G).
- The internal meter is not MID certified and therefore should not be used for direct billing purposes.

Alternatively, it is possible to connect an external MID power meter via the RS485 terminals located on the rear of the charger. (Also see meter configuration on p17).



Product Features: Control

RFID (Radio Frequency Identification) Access Control

Pairing an RFID fob

The charge point is provided with 2 RFID key fobs as standard. Additional fobs are available as an optional accessory (**Part No 672900**). All fobs (including those supplied with the charge point) must be paired with the charging point. Pairing is possible either through the Monta smart app or the Lewden Connect app (according to the intended operating mode of the charger).

Pairing an RFID fob through the Monta app ensures that the RFID fob can be used in conjunction with the Monta Smart app.

On Monta: Go to: Me / Personal Wallet/ Charge keys (RFID) /  and follow the on-screen instructions.

Pairing an RFID fob through the Lewden Connect app is only necessary if using RFID charge within the Lewden Connect platform. Note: In this operating mode the charger has no connection to the Monta smart platform or its features.

On Lewden Connect: Go to: Basic Setting / RFID Setting / Add / and follow on-screen instructions.

Note: Registering or deleting RFID fobs must be done independently on both platforms.

Read NFC key can be achieved by scanning the new RFID fob using a smart phone.

Pair through charge point can be achieved by holding the new RFID fob against the fascia of the charging point in the RFID tag zone.

The RFID fob is assigned to an individual person rather than a charging point, to enable the same fob to be used on any charging point appointed to your network (comprising 1 or more charging points).

Furthermore, any card that incorporates contactless technology (e.g. debit/credit cards) may also be used to perform the RFID function and can be paired in the same way. Note that this does not incur any charges as the card is not being used to pay for goods or services, it is simply presented as a readable access key. This feature can be useful if using Monta roaming features.

Within the Monta app, only persons with ADMIN access rights can pair an RFID fob.

RFID Principle of operation

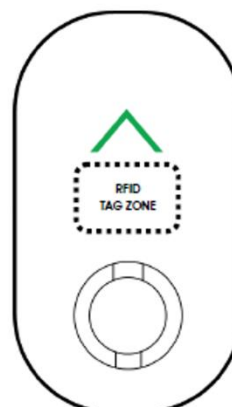
RFID access control allows the freedom of charge immediately mode whilst also preventing unauthorised use of the charge point. This feature is operable when the charge point has been set to either smart or scheduled charging within the Monta smart app. It is not applicable when the charge point is operating in free charging / charge immediately mode within the app.

When a vehicle is connected to the charge point, tagging the RFID fob in the target zone will commence the charging sequence immediately (without the need to enter the smart app to start a charge sequence).

If the RFID is tagged prior to insertion of the plug, the plug must be inserted within 3 minutes otherwise the process will need to be repeated.

Only RFID fobs registered to the same user can be used to stop the initiated charge sequence, by once again tagging the RFID target zone.

Charging data is collected in the same way by the Monta app as when operating in smart or scheduled charge modes.



Auto Dimming Status LED

To save energy and avoid lighting pollution during hours of darkness the charging status LED will automatically toggle between DAY and NIGHT modes:

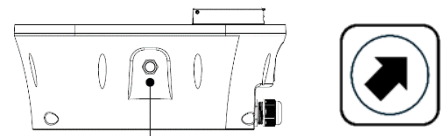
Operating mode	LED	Function	Brightness	Comment
DAY 07.00 – 19.00	Blue	Standby mode	100%	Reverts to 0% after 5 mins of inactivity
	Green	In use	100%	Ensures that the LED can be seen in sunlight
	Red	Fault		
NIGHT 19.00 – 07.00	Blue	Standby mode	100%	Reverts to 0% after 5 mins of inactivity
	Green	In use	20%	Reduced brightness
	Red	Fault	100%	Fault occurred during the charge sequence

When in the standby mode (charging point not in use) the standby LED will turn off after 5 minutes of inactivity. Insertion of a plug, tagging the RFID fob, or pressing the action button once will awaken the standby LED (requires the action button to be enabled within the Lewden Connect app).

The programmed times for DAY and NIGHT modes can be adjusted to suit user preference via the LEWDEN Connect app. The default settings are DAY = 07:00 to 19:00 / NIGHT = 19:00 to 07:00 (See Section 6: Lewden Connect smart app)

Action Button

A silver pushbutton located on the left side of the charging point serves multiple functions:



Mode	Sequence	Function	Remark
Standby Mode	Push once and release	Awaken the Blue (Standby) LED after 5 mins of inactivity	Refer to table above
	Push and Hold for 5 seconds Release as soon as the unit beeps	Bluetooth connectivity	Used for communications network set up via the Lewden Connect app. Refer to section 6: Establishing data communications.
	Push and Hold for 10 seconds	Manual Reset / Reboot	This function can be utilised following a charging fault (indicated by a red LED) that cannot be automatically reset by the charger. The unit beeps continuously for 5 seconds before shutting down and rebooting.
During a charging sequence	Push once and release – this is configurable within the LEWDEN CONNECT APP On / Off	STOP the charging process LED displays solid Green	Disconnects output power from the charging point during a charging sequence. Following use of this feature, a new charging sequence is only possible after first disconnecting the vehicle and restarting the process.

Monta smart app features supported by Siena



Default Off-Peak-Charging

To encourage owners to take advantage of smart charging offers or reduced energy prices in off peak hours, the Monta smart app control **has pre-set default charging hours, which are outside of normal peak hours.**

The owner can choose to:

- a) Accept the pre-set default charging hours
- b) Remove the pre-set default charging hours and set different default charging hours
- c) Override the default charging hours at the start of each charging process where immediate charging is required.

A charging structure can be managed by creating rules according to convenience, cost and eco-friendliness. Detailed information and tutorials for all Monta controlled features can be found at <https://monta.com/uk/help-center/category/app>

Note: It is not possible to initiate a charging sequence within peak hours via RFID unless the Monta platform has been set to allow charging within peak hours.

To allow peak hours charging within the Monta app go to: Chargers / Settings  / Access settings / Private / Allow charging in peak hours

Charging Rules

a) Smart Charge

Automatically optimises charging for lowest prices and eco-friendliness based on user preferences for money saving, low CO₂, or focus on renewable energy.

Within the Monta app go to: Charge points / Smart Charge / Smart Charge preferences and follow the on-screen instructions.

b) Scheduled charge

Scheduled charging allows you to state the exact time when you want your car to charge. By setting a Scheduled charge rule, you just need to plug in your car and the charge will automatically take place during the programmed hours.

Within the Monta app go to: Charge points / Schedule / Select a start and end time for the charge

c) Charge immediately

Charging will start as soon as the car is plugged in

Make sure there are no schedules from the car, or the charge point that can interfere.

Within the above options it is also possible to control the total amount of energy delivered in one charge cycle, the desired battery charge percentage, or the time required for the vehicle to be ready for use.

Charging rules will only take effect at the next charging sequence (i.e. after the charger has been disconnected from the vehicle and reconnected).

Randomised delay

Maintaining grid stability is a key government policy objective for smart charging. There is a risk that many charge points could start charging or change their rate of charging simultaneously, for example when recovering from a power outage or in response to an external control signal, potentially destabilising the grid.

To mitigate this, the smart charge regulations set out requirements for a randomised delay functionality. Applying a randomised offset ensures grid stability by distributing demand placed on the grid, gradually ramping up the electricity demand over time in a way that is more manageable for the network.

The requirement to operate with a randomised delay is separate to the off-peak charging requirement.

A charge point must be configured to operate a default randomised delay of up to 600 seconds (10 minutes) at each charging instance. The delay time will automatically differ at each charging sequence.

In certain charging scenarios this functionality is not desirable, particularly if an immediate response is needed from the charging point. It is possible for the user to override the randomised delay feature via the smart app control.

Demand Side Response (DSR)

The electricity provider can control power levels to the charging point (within its design parameters) remotely via the OCPP communications platform, reducing power to the charging point when it is needed by higher priorities in the geographical area, and increasing when those priorities subside.

If the charging point is used in conjunction with a DSR agreement, peak and off-peak charging will not be implemented as the electricity providers system will control the charging process.

Powerbank is the Monta solution for DSR.

Power Bank

PowerBank is the first step towards a more sustainable and developed power grid. It is a preventative solution that briefly pauses and resumes charging sessions in response to detected imbalances in the electrical grid.

With PowerBank, charge point owners are helping their community by preventing power outages potentially created by outdated grid infrastructure, lack of availability of traditional energy sources, fluctuations in energy demand, & unstable renewable energy supplies. It's a smart way to keep the electricity flowing smoothly while supporting the transition to EVs.

Powerbank rewards the user with Monta credits for each kWh charged.

Powerbank is fully compatible with the Siena charging point. Further information on this feature can be found at monta.com

Note that this feature will increase the time taken to complete a charging sequence.

This feature can be set within the Monta smart app.

Go to: Chargers / Settings  / Powerbank.

Solar Charge

Solar Charge lets you charge your car with the same amount of energy as your solar panels are producing. A minimum of 6A is required to start the charging process.

Activate Solar Charge within the Monta smart app by adding details about your solar panel set up. These details are used along with the local weather forecast to calculate your estimated solar production.

After activation, you can choose Solar Charge when starting a charging session. With Solar Charge enabled, the charging speed will follow your estimated solar production capacity.

This feature requires both a Dynamic load balancing CT and a Solar Charging CT to be connected to the charging point and is only possible with charge points operating from a single phase 230VAC supply. (Not available for 3 phase applications). Refer to figure 5 on page 11.

Operating Principle: **$P_{ev} = P_g + P_{pv} - P_l$**

Where:

P_{ev} = The real time charging power supplied to the electric vehicle

P_g = Power available from the electricity company (Cannot exceed DNO fuse rating)

P_{pv} = Total real time power available from the solar PV installation

P_l = Total real time power consumed by all other load equipment at the property

If the power measured by the dynamic load balancing CT (property consumption) is greater than the power measured by the Solar charging CT (photovoltaic generation), meaning property consumption exceeds PV production, the electric vehicle can charge opportunistically: **$P_g + P_{pv} > P_l > P_{pv}$**

Then: **$P_{ev} \leq P_g + P_{pv} - P_l$**

If property consumption is less than photovoltaic generation **$P_l < P_{pv}$** , it is necessary to charge the electric vehicle to utilise the excess solar power (where a battery storage system is not installed at the property).

Then: **$P_{pv} - P_l < P_{ev} \leq P_g + P_{pv} - P_l$**

For set up within the Monta app go to: Chargers / Settings  / Home integration / Solar Charge and follow the on-screen instructions.

Cable Lock function (Untethered model only)

Untethered charge points feature a motorised mechanical locking feature.

At the start of a charging cycle the inserted plug is interlocked automatically with the charge point outlet to prevent its unauthorised withdrawal during the charging sequence.

The user can choose how the outlet locking feature operates following completion of a charging cycle: This feature can be set within the Monta smart app.

Go to: Chargers / Settings  / Other Settings / Lock cable / Set preference via toggle bar

- Lock cable OFF: Allow withdrawal of the plug from the charging point on completion/ halting of the charging cycle after removal of the charging gun from the vehicle.
- Lock cable ON: The plug remains locked into the outlet upon completion/halting of the charging cycle after removal of the plug from the vehicle. Unlock is only possible via the smart app.

To release the plug, go to: Chargers / Settings  / Monta Connection / Unlock 

Product Features: Protection measures

The charge point features several primary protection features.
For more information on set points refer to Section 9: Troubleshooting



PEN fault protection (Combined Protective Earth & Neutral Conductor)

The PEN conductor refers to part of the electricity cable feeding power to the property, belonging to the electricity provider. Damage to this conductor can create a potential hazard where the chassis of an electric vehicle becomes 'live' during charging, thus establishing a risk of electric shock if touched.

A PEN fault protection system is required when the supply system to a charging point located outdoors utilises TN-C-S (PME) as the means of earthing for the protective conductor.

This system eliminates the requirement within the wiring regulations to install a dedicated local earth rod.

In the event of a PEN fault within the supply network to the installation property, the charging point will automatically detect and disconnect all electrical connections (including ground) between the charging point and the connected vehicle in accordance with the requirements of BS7671 (section 722).

Following repair of the PEN fault by the electricity provider, the system requires manual reset before further charging operations are permitted (refer to section 7: Action button)



Residual Current Fault Protection (RCD)

The charging point features integral protection against residual fault currents >6mA DC, using RDC-DD technology (Residual Direct Current Detection Device).

In the event of a residual current fault >6mA DC, the charging point will stop the charging process and disconnect power to the vehicle. It will not interrupt the incoming AC power supply to the charging point. The RDC-DD will automatically reset once the fault condition has been cleared.

The charging point also incorporates 30mA type A residual current protection, using the same logic to disconnect the output power circuit from the charging point.

(Note: Although 30mA type A RCD functionality is according to BS EN61008-1, the equipment is not certified to this standard)

Surge Protection

The charging point incorporates integral protection against the effects of a voltage surge on the AC supply. This element is non-serviceable.

Tamper Security

To fulfil the cyber security requirements of the UK Smart Charging Regulations, a tamper boundary switch is incorporated inside the charging point to protect its internal components, which is activated should the front cover be opened or separated from its base unit. In this event the charging point will send an alert to the owner via the smart control app.

The tamper boundary is only in effect when the charging point is connected to power. It is not required to operate upon separation of the charger body from its power plate, as this operation will fully isolate power to the charge point.

Under and Over Voltage

In the event of the supply system voltage rising above or falling below pre-defined operating limits the charging point will stop the charging process.

Over Current

The maximum output current from the charging point is adjustable between 13A-32A in nine steps. Should a fault occur on the equipment which charges the vehicles battery, too much current may be drawn from the supply. If the output current exceeds the pre-defined maximum output current setting on the charging point the charging process will be halted.

Over Temperature

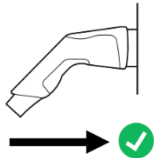
Should the internal operating temperature of the charging point rise above a pre-defined threshold the charging point will automatically reduce the charging current to compensate. The charging point will automatically recover when the internal temperature has decreased to within operating tolerances.

Should the internal temperature fail to decrease, but instead continue to rise, the charging point will halt the charging process and latch in the fault mode.

Loss of Protective Earth

The electrical continuity of the protective earthing conductor between the charging point and the earth contact at the vehicle is continuously monitored. The charging point will disconnect the supply to the vehicle in the event of total loss of the protective conductor connection or incapacity to verify the continuity of the protective conductor.

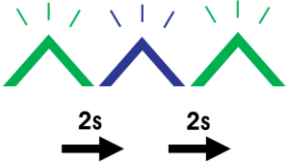
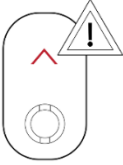
8. User Operating Instructions

Charging Sequence	Stage	LED Status	Remarks
			Step 1: Standby Mode The charging point is ready for use, indicated by a steady blue LED. The LED extinguishes after 5 mins of inactivity. Press the Action button once to re-instate. (requires Stop button is activated within Lewden Connect)
			Step 2: Connecting the vehicle <i>Tethered models:</i> Unreel the charging cable fully, remove the weatherproof rubber cap (if fitted) and plug the charging connector into the vehicle charging port. <i>Untethered models:</i> Unreel the charging cable fully. Remove the weatherproof cap (if fitted) and insert the charging lead gently into the socket on the charging point prior to connection to the vehicle charging port. Note that untethered charging sockets feature mechanical shutter protection for the electrical contacts which will open automatically upon insertion of the charging connector. A steady green LED confirms successful connection to the vehicle. The charge connector is mechanically locked to the vehicle charging port during the charging sequence.
		 Flashing	Step 3: Charging Set the mode of operation / charging schedule via the Monta smart app or tag the RFID to start a charging sequence. (For further information and tutorials of Monta smart app features go to) The green LED is flashing. Charging is in progress.
			Step 5: Charging Complete A steady green LED will indicate when the charging cycle is complete. Unlock the vehicle and release the charge connector from the vehicle port and replace its weatherproof cap*. For safety, an interlocking system prevents unintentional disconnection of the vehicle charging connector whilst under load. Never attempt to detach the charge connector from the vehicle until the vehicle has released it. Upon disconnection from the vehicle the charging point will return to the Standby mode (Step 1).

Notes:

- Charging times will vary according to the kWh rating of the vehicle battery, its residual charge level, and the output power setting of the charging point. Further information should be sought from the vehicle owner's handbook for anticipated charging times.
- Opening the vehicle door during a charging sequence will halt the charge.
- * Fitting the weatherproof cap on the vehicle charge connector when not in use will greatly assist in preventing the build-up of unwanted dirt and debris on the charging contacts, therefore reducing the risk

of poor electrical connection which could result in premature failure of the device. Rubber caps are not designed to fully protect against water ingress.

Faults		LED Status	Remarks
			Seeking for communication refer to section 9 Troubleshooting.
			Charging Fault If the red LED (Fault) appears at any stage during the charging process, stop the charging process, disengage the connector from the vehicle port and re-start the process. If the red LED is still illuminated, refer to section 9 Troubleshooting.

Restart	Stage	LED Status	Remarks
			No Power
			Initial Power Up Following initial power up the blue LED pulses repeatedly for 30 seconds whilst the charging point is booting up. The unit automatically enters standby mode on completion of this process and is ready for use.

Detailed information and tutorials for all Monta controlled features can be found at

<https://monta.com/uk/help-center/category/app>

9. Troubleshooting

Problem	Solution
Plug will not insert easily into socket (untethered models)	Do not apply excessive force when inserting the plug into the socket. The plug must be inserted gently to ensure correct operation of the socket safety shutters.
Following insertion of a plug, the charge point does not display a green light to signify communication with the vehicle	The plug has not been fully inserted into the socket. Push the plug in further either at the vehicle or the charge point.
RFID fob not working	Check that the RFID fob is paired correctly with the charge point via the Monta smart app / Lewden Connect app. Refer to Section 7. Product features – Pairing RFID fob. If this is not successful contact technical support.
A charge sequence is successfully activated via app or RFID and then stops immediately.	If charging within peak hours, ensure that 'charge within peak hours' has been activated on the Monta app. (For smart charging regulations compliance, the Monta app default is set to not allow charging during peak hours).
RFID or Monta app charging sequence fails	If you have a vehicle manufacturers app, check and delete any programmed charging schedules, battery charge limits, or external charging rules that may create a conflict.
Following completion of a charge sequence, the charge point does not release the charging gun (un-tethered models)	The cable lock function is activated on the Monta smart app. Refer to Section 7. Product Features – (Cable lock function) Page 23
Lewden Connect app displays an error message when registering a new account.	There is a 50character limit on the user email address, and an 8-20character limit on the password. Special characters or symbols cannot be used within the password.
When creating a Lewden Connect account the email verification did not arrive	Make sure to check your Spam email inbox for an email from the Lewden Connect team.
RFID Charging sequence fails	If you have a vehicle manufacturers app, check and delete any programmed charging schedules, battery charge limits, or external charging rules.

A red illuminated chevron on the front of the charging point indicates the presence of an electrical fault that could potentially arise during the charging process.

Various faults can occur if the charge point moves outside of its normal operating parameters and will automatically recover once the charge point is back within tolerance. Any faults that cannot be recovered automatically will require the charge point to be manually reset.

Manual reset can be achieved by holding down the action button for 10 seconds until a long continuous beep is heard and the charge point shuts down. The charge point will reboot itself.

Fault identification can be further assessed either:

- Via the Monta smart app. Go to: Chargers / Settings  / Monta Connection / See log
- Or alternatively via the Lewden Connect app. Go to: Advanced settings / Fault log

Electrical Fault	Remark	Recovery
Input Over voltage (>253V)	Power is automatically disconnected within 5s	Automatic recovery when supply voltage is <253V for 1s
Input Over voltage or PEN conductor fault (>262.2V)	Power is automatically disconnected within 0.2s. Manual Lockout initiated Contact electricity provider for power line repair.	After the fault is cleared the charge point will automatically reset. A new charge sequence can then be initiated.

Input Under voltage (>30V / <207V)	Power is automatically disconnected within 0.2s	Automatic recovery when supply voltage is >207V for 1s
Input Power loss fault (<30V)	Charge point inoperable	The charge point will automatically reboot upon restoration of the supply voltage within normal parameters.
Output Over current	If the maximum output current setting is $\geq 20A$, exceeding $A \times 1.1$ will automatically stop the charging process. If the max output current is set to less than 20A exceeding $A+2$ will automatically stop the charging process	Disconnect the vehicle from the charge point. The charge point will automatically recover after the fault is cleared. A new charge sequence can then be initiated.
Over Temperature stage 1 (>80°C)	The charge point continues to charge but gradually reduces the charging current automatically to compensate.	Automatic recovery to full charging current following cool down to <60°C
Over Temperature stage 2 (>90°C)	Over Temperature stage 1 did not overcome the fault. Charge process is halted	Unplug from the vehicle and allow the charger to cool to <60°C. Once cooled the charger will recover automatically. A new charge sequence can then be initiated.
Emergency Stop	Initiated by pressing the Action button once during a charging sequence. The charge process is stopped (requires stop button is activated within Lewden Connect)	Automatic recovery upon disconnection of the vehicle from the charge point. A new charge sequence can then be initiated.
Microprocessor fault	Hardware or software failure	Cannot be recovered. Contact customer services
AC Residual Current fault (>15mA / $\leq 30mA$ AC)	Power to the vehicle is disconnected automatically within 300mS	Automatic recovery upon disconnection of the vehicle from the charge point. A new charge sequence can then be initiated.
AC Residual Current fault (>150mA AC)	Power to the vehicle is disconnected automatically within 40mS	Automatic recovery upon disconnection of the vehicle from the charge point. A new charge sequence can then be initiated.
DC Residual Current fault (>6mA DC)	Power to the vehicle is automatically disconnected 6mA DC <10s / 60mA DC <0.3s	Automatic recovery upon disconnection of the vehicle from the charge point. A new charge sequence can then be initiated.
L/N Contactor fault	Control command feedback to microprocessor not verified. The charging sequence is stopped.	Hardware fault. Contact customer services
Power meter fault	Power meter communication is abnormal or not present. The charging sequence is stopped.	Disconnect the vehicle from the charge point. Press and hold the Action button for 10s to reboot the charge point. If the fault is cleared, a new charge sequence can then be initiated. If the fault remains present, contact customer services. Hardware fault.
Vehicle Anomaly	Charge Pilot (CP) wire voltage incorrect	Disconnect from vehicle and re-initiate charging process. Automatic reset Check vehicle if problem persists
Cover open fault	The anti-tamper security boundary has been breached. Power is automatically disconnected to a charging vehicle	Automatic recovery on re-securing the fascia to the main body of the charge point

Loss of Protective Earth between charge point and connected vehicle (>70V)		This is a physical fault that must be identified and repaired prior to further use of the charge point.
Dynamic Load Balancing current (<6A)	Power to the vehicle is disconnected automatically within 2s	Automatic recovery upon disconnection of the vehicle from the charge point. A new charge sequence can then be initiated once power consumption of other electrical loads on the system are reduced, allowing a charge capacity >6A for the vehicle.
Current Transformer (CT) fault	Communication lost between dynamic load balancing CT and charge point. The charging sequence is stopped.	This is a physical fault that must be identified and repaired prior to further use of the charge point.

Communications faults

Communication faults that prevent correct operation of the charge point via the OCPP platform are identified by an alternating blue/green LED flashing at 2 second intervals.

Wi-Fi

The strength of the Wi-Fi communications signal can be affected by

- The distance between devices
- The thickness of walls and wall construction
- Large metal objects
- Other wireless devices operating on the same radio frequency.

We are not able to guarantee performance where circumstances beyond our control affect the performance of the wireless link.

Connecting a smartphone to the Wi-Fi network and standing adjacent to the charge point will quickly verify the Wi-Fi signal strength in that location.

If wireless connection is hampered or is not possible due to the above, the charging point is equipped with an ethernet port which may be used as an alternative.

Total loss of communications network access

The charging point can retain its ability to charge an electric vehicle if it is not connected to a communications network.

Refer to Section 6: Set Up, testing, and commissioning / Lewden Connect App.

Basic settings - 4. Charging modes

4G failure

Check data subscription for credit status.

10. Maintenance

Storing the charge lead

Untethered charging points are designed to enable the vehicle charging lead to be completely disconnected from the charging point and stored onboard the vehicle, providing security for the charging cable and a tidy appearance.

Tethered charging leads are permanently connected to the charging point. When not in use, tethered leads should either be stored by neatly coiling them around the charging point or utilising a suitable wall mounted hanger (not included). Always use the rubber weatherproof cap to keep the charging gun clean and dry. Never store the charge lead on the floor where there is an increased risk of it becoming wet or damaged.



Safety

- The mains supply to the charging point must be fully isolated prior to carrying out any work on the charging installation.
- Never carry out unauthorised changes or other technical modifications to the installation.
- Never use any replacement parts other than those approved by the manufacturer.

Periodic Maintenance

- Always maintain a clean and clear area within the local vicinity of the charging point.
- To remove dust and dirt the charging point can be cleaned gently using a soft damp cloth.
- Check for physical damage that may compromise function of the charging point
- Ensure that electrical contacts are clean. Should it become necessary to clean the electrical contacts of the socket outlet / vehicle connector, a suitable non-conductive electrical contact cleaner must be utilised (e.g. WD40 Specialist contact cleaner). The power supply to the charging point must be suitably isolated before carrying out this procedure.
- Periodic electrical testing and inspection of the charge point should be conducted in accordance with local wiring regulations and associated guidance notes. The frequency of this procedure is determined by the type of premises in which the equipment is located.

Software updates

Software updates may be required for various reasons including regulatory changes, security enhancements, or to provide compatibility with new electric vehicle models.

If software updates are released, they will be made available via the Monta platform where users will receive download notifications via the Monta app.

If an alternative management app or charge mode is selected by the user, software updates will not be available via that platform.

Transferring of charge point ownership

Once installed, the charging point may be considered as a property asset.

During the installation and setup process, the charging point is registered to the owner within the Monta smart app.

Should the registered owner vacate the premises and transfer occupation to a new tenant, charge point ownership should also be transferred to the new tenant accordingly. This can be achieved by deleting the charge point from your Monta account.

The new owner can then log on to their Monta account, scan the QR code and claim the charge point using the sequence shown on page 14.

Go to: Charges / Settings  / Delete charge point.

11. Technical Specification and Standards Compliance

Technical Specifications

Installation type	Stationary equipment for permanent connection
Installation Location	Indoor or Outdoor
Access location	Operator accessible
Rated Input	230VAC 50/60Hz $\pm 10\%$ / 400VAC 50/60Hz $\pm 10\%$
Rated output	7.4kW (32A 230V) / 22kW (32A 400V)
Model Numbers (Untethered)	7.4kW: 672150 / 672152 22kW: 672350 / 672352
Model numbers (Tethered)	7.4kW: 672151 / 672153 22kW: 672351 / 672353
Charging Current	Installer adjustable from 13-32A in 9 pre-defined steps
Charging Protocol	Mode 3
Output interface	IEC62196-2 type 2 AC charging socket / connector 
Status Indication	Green / Blue / Red / Yellow LED
Communications	Wi-Fi 802.11 b/g/n 2.4GHz
	RJ45 Ethernet connection 10M/100M Base-T
	Bluetooth (for installer configuration purposes)
	USB port (For firmware upgrades only)
	4G (Factory Fitted option) additional Sim card will be required.
Built in Protection features	Open charge point protocol (OCPP1.6)
	PEN conductor fault <207V & >262.2V for 0.2 seconds
	Residual Current Fault 30mA type A and DC 6mA
	Over temperature (Stage 1 >80°C / Stage 2 >90°C)
	Output overcurrent (A+2 for max output $\leq 20A$) (A $\times 1.1$ for max output >20A & $\leq 32A$)
	Input Overvoltage >253V for 4.5 seconds (Phase voltage)
	Ground failure (between charge point and vehicle) >70VAC
	Surge Protection
	Tamper boundary switch
Control	RFID Access control
	Action button
	Free charging or Smart App: Powered by Monta
Standby Power Consumption	4W
Metering Accuracy	$\pm 1\%$
Pulse constant	3000imp/kWh
Overall Dimensions	370h x 210w x 164.5d (mm)
Impulse voltage withstand	4kV (Overvoltage category III)
Shell Construction material	Polycarbonate and ABS
Pollution degree	3
Ingress Protection rating	IP55
Impact resistance rating	IK08
Storage temperature	-42°C to +70°C
Ambient Operating temp.	-30°C to +50°C
Relative Humidity	5-95%
Equipment Class	Class I
Installation Altitude	$\leq 2000M$
Cooling method	Natural air cooling
Forced ventilation function	No
Weight	Tethered 4.5kg / Untethered 3kg
Incoming cable termination	4-16mm ²

Standards Compliance

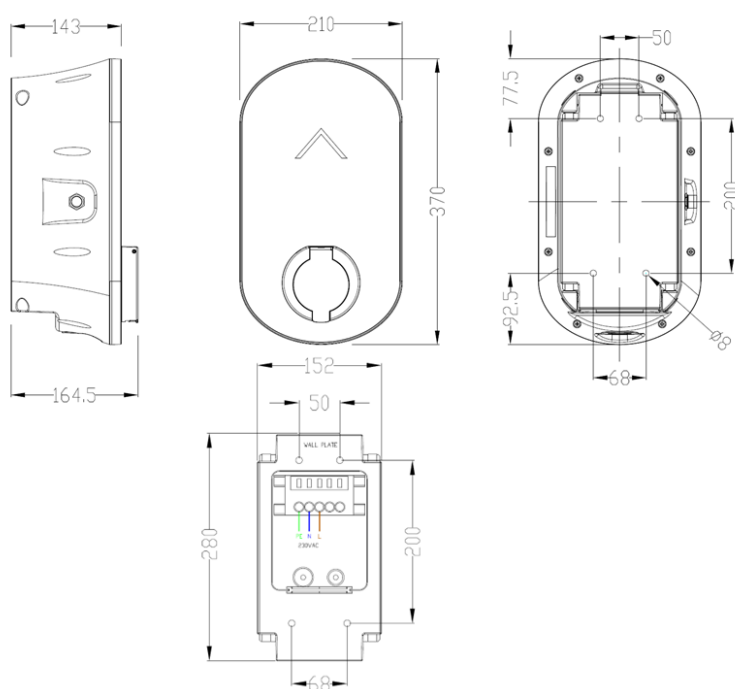
Charging System	BS EN IEC 61851-1: 2019 UK Smart Charging Regulations 2021 (SI1467 inc. Schedule 1 & 2)
Safety Compliance	UK safety regulations 2016 (SI1101) Low voltage directive 2014/35/EU
Charging Interface	BS EN IEC 62196-2: 2022
EMC Compliance	BS EN IEC 61851-21-2: 2021 EN IEC62311: 2020 BS EN IEC61000-6-1: 2019 BS EN IEC61000-6-3: 2021
PEN fault protection	BS7671: 2018 +A2: 2022 section 722
Communication Technology	EN 300 328 v2.2.2: 2019 EN 300 330 v2.1.1: 2017 EN 301 489-1 v2.2.3: 2019 EN 301 489-3 v2.1.1: 2019 EN 301 489-17 v3.2.4: 2020 EN 301 489-52 v15.1.1: 2021 EN 301 908-1 v15.1.1: 2021 EN 301 908-13 v13.2.1: 2022
RDC-DD	IEC62955: 2018

Statement of Compliance: The Electric Vehicles (Smart Charge Points) Regulations 2021

Lewden Ltd declares under sole responsibility that the charge point fully complies with the device level requirements set out under the Electric Vehicles (Smart Charge Point) Regulations 2021.

Charge Point Make / Manufacturer	Lewden Ltd. PO Box 12344, Braintree, Essex, CM7 0JR
Charge Point Model No.	Siena 672150 / 672151 / 672152 / 672153 Siena 672350 / 672351 / 672352 / 672353
Software Version at Point of sale	Refer to carton label
Compliance to Schedule 1: Security Requirements	Yes
Demand Side Response (DSR) Agreement	Not Applicable

Overall Dimensions



12. Service History

Product model		Serial No.	
Installation Date			
Installer			
Installer stamp			

Service History

Work Completed	Undertaken By	Date

A list of approved installers can be found on the Lewden website lewden.com

13. Warranty Terms

Warranty Overview:

Lewden Ltd, a company registered in England and Wales under company number 00425180 and with its registered office at Unit 4 Bradbury Drive, Braintree, Essex, CM7 2SD (**we, us, our**) offers, subject to the following terms, a **3-year warranty** in relation to our Siena EV Charger (**Charger**) from the date of installation by a qualified, OZEV approved electrician.

Subject to the terms of this warranty being met, this warranty covers defects in materials and workmanship and covers labour, on-site assistance, parts and repairs or replacements.

The minimum operational life of our Charger is 3 years from the date of installation by a qualified, OZEV-approved electrician.

Warranty Coverage:

Should your Charger prove to be defective within the Warranty Period, subject to the terms of this warranty being met, we (or our authorised technicians) will repair your Charger or (at our option) replace your Charger with the same or equivalent product free of charge.

All parts which are replaced will become our property.

The repair or replacement of your Charger will not extend the Warranty Period (as defined below).

This warranty will only apply if the Charger has been correctly installed by a qualified, OZEV approved electrician under the OZEV grant scheme and has been connected to the internet.

This warranty is only applicable to Chargers which are sold and used within the United Kingdom and only applies if you are the end-customer/end-user in relation to the Charger.

Warranty Activation and Requirements:

This warranty is valid for a period of 3 years from the date of installation of your Charger by a qualified, OZEV approved electrician (**Warranty Period**).

To be covered by this warranty, you must register your Charger via the Monta app. This registration is crucial for enabling smart features and for ensuring that the Charger receives ongoing software updates. A stable and secure internet connection for the Monta app must also be maintained.

Exclusions:

This warranty does not cover:

- Faults, defects or damage resulting from:
 - improper installation, commissioning, handling, delivery or storage;
 - neglect, abuse, misuse (which includes failing to use the Charger in accordance with our instructions) or failure to keep the Charger in good condition (which includes, amongst other things, ensuring that the Charger is maintained and kept clean, for example by ensuring that damaged parts are replaced, ensuring that there is no accumulation of moss and ensuring that there are no insect infestations);
 - unauthorised repairs or modifications;

- normal wear and tear;
- accidental damage;
- any removal or re-installation;
- external factors, such as extreme weather conditions, electrical outages or power surges; or
- circumstances outside of our control;
- Chargers which have not been registered via the Monta app;
- Chargers which, at the time that the issue arose, were not updated to the latest version of the software applicable to the Charger as provided by us;
- Cosmetic issues such as scratches or dents that do not affect the Charger's functionality; or
- Chargers which are not connected to the internet and therefore which do not allow a full in-depth remote diagnosis.

Transferability:

This warranty is transferable if the Charger remains at the property at which it was originally installed, as long as the new owner of such property is able to provide with any claim the supporting documentation and information referred to beneath the 'How to Make a Warranty Claim' section below, as well as proof of change of ownership of the property. If the Charger is moved to a new location, it must be removed and re-installed by a qualified, OZEV-approved electrician according to the installation manual and regulations and OZEV must have been informed of the change of address for this warranty to continue.

Limitations of Liability and Consumer Rights:

Nothing in this warranty limits or excludes our liability in relation to any liability that cannot by law be limited or excluded. Except where it would be unlawful for us to limit or exclude our liability, our liability under or in connection with this warranty is limited to the repair or replacement of your defective Charger. We are not responsible for any special, indirect, incidental or consequential loss.

If you are a consumer, you have statutory rights in relation to your Charger and this warranty does not affect those statutory rights.

How to Make a Warranty Claim:

1. **Report and Supporting Documentation/Information:** If you encounter an issue with your Charger, you must report this to our support team via the Monta app, via our website at [lewden.com/warranty-claim-ozev] or via our customer service number at WhatsApp [+447764293501]. When reporting the issue, you must provide details of the issue, proof of purchase of your Charger, proof of installation and proof of a completed OZEV grant claim.
2. **Remote Diagnostics:** Following submission of your report and the required supporting documentation and information referred to at paragraph 1 above, subject to the terms of this warranty being met, our support team will conduct remote diagnostics to identify the problem and they will try to resolve the issue remotely.

3. **Repair or Replacement:** If the issue cannot be resolved remotely, we will arrange for an on-site technician to attend your property and they will either repair your Charger or (at our option) replace your Charger with another charger with the same or equivalent functionality. Please note that we may charge you a call-out fee if our technician is prevented by you or anyone acting on your behalf from being able to carry out repair or replacement works in relation to your Charger (which includes our technician being unable to access your Charger, if, for example, your Charger is located in a locked garage that you have not provided access to) or if any information that you provide to us which we use in order to decide whether to send an on-site technician to attend your property is deemed to be misleading, false or fraudulent.

Issues with your Charger must be notified to us within a reasonable time of discovery.

You agree to provide us and our authorised technicians with information, access (including remote access) to your property and your Charger and reasonable assistance where required in order for us to fulfil our obligations under this warranty.

Governing Law and Disputes

If a court or other authority decides that any of the terms of this warranty are unlawful and/or unenforceable, the rest of the terms of this warranty will continue to apply.

The terms of this warranty are governed by English law and wherever you live you can bring claims against us in the English courts. If you live in Wales, Scotland or Northern Ireland, you can also bring claims against us in the courts of the country you live in.

Contact Information:

For more details, Please visit

- www.Lewden.com/terms-and-conditions
- evcharging@lewden.co.uk
- WhatsApp +447764293501

14. Disposal Instructions

This product falls within the scope of the UK Waste Electrical and Electronic Equipment (WEEE) regulations and European Directive 2002/96/EC and bears the following mark.



Electrical and Electronic equipment is regulated to reduce the amount of WEEE incinerated or sent to landfill sites. Please ensure that this product is recycled in an environmentally responsible manner. Do Not dispose of in normal household waste. You can return your used device to your dealer or utilise a local authorised collection & disposal point.

15. Technical Support



Online Guides

<https://lewden.com/ev-chargers>

<https://monta.com/uk-help-center>

Customer Contact

Lewden WhatsApp: +447764293501

Lewden Email: evcharging@lewden.co.uk

<https://monta.com/uk/support>

Within Monta app

/me/support

Lewden Ltd
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