MidTeQ

ELECTRIC VEHICLE
CHARGER

INSTALLATION GUIDE

MidTeQ PowerCharge

MID-PCAC20-22-T

Midcosta s.r.o.,
Priemyselná 8E, 917 01 Trnava,
Slovakia www.midteq.com

IMPORTANT

- READ THIS ENTIRE DOCUMENT BEFORE INSTALLING OR USING THE CHARGER. FAILURE TO DO SO OR TO FOLLOW ANY OF THE INSTRUCTIONS AND WARNINGS IN THIS DOCUMENT CAN RESULT IN FIRE, ELECTRICAL SHOCK, SERIOUS INJURY OR DEATH.
- THE CHARGER MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN.

For information on how to charge your electric vehicle, refer to the documentation provided with your vehicle.

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1. Specifications

All specifications and descriptions contained in this document are verified to be accurate at the time of printing. However, because continuous improvement is a goal at MidTeQ, we reserve the right to make product modifications at any time.

Model	MID-PCAC20-22-T		
Voltage and Wiring	400V AC 3-phase, 3P+N+PE		
Current and Power	Maximum 32A and 22kW		
Frequency	50-60 Hz		
Internal RCD	Type A & 6mA DC		
Data Protocol	OCPP 1.6J, OCPP 2.0.1, ISO15118		
Charging Connector	IEC62196 Type-2 socket		
Buttons	1 x Physical button		
RFID	ISO 14443 A/B		
Display	2.8'' LCD		
Network Connectivity	Ethernet, WLAN, Cellular		
Working Temperature	-22°F to 122°F / -30°C to 50°C		
Storage Temperature	-40°F to 158°F / -40°C to 70°C		
Working Humidity	5% - 95% without condensation		
Encolsure Dimensions	380 x 288 x 141 mm		
Shipping Dimensions	495 x 375 x 230 mm		
Shipping Weight	7 Kg	8.5 Kg	8.5 Kg
IR Rating	IP55		
Certifications	EN IEC 61851-1, EN IEC 61851-21-2, IEC 61008-1, IEC 62955		

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2. Features

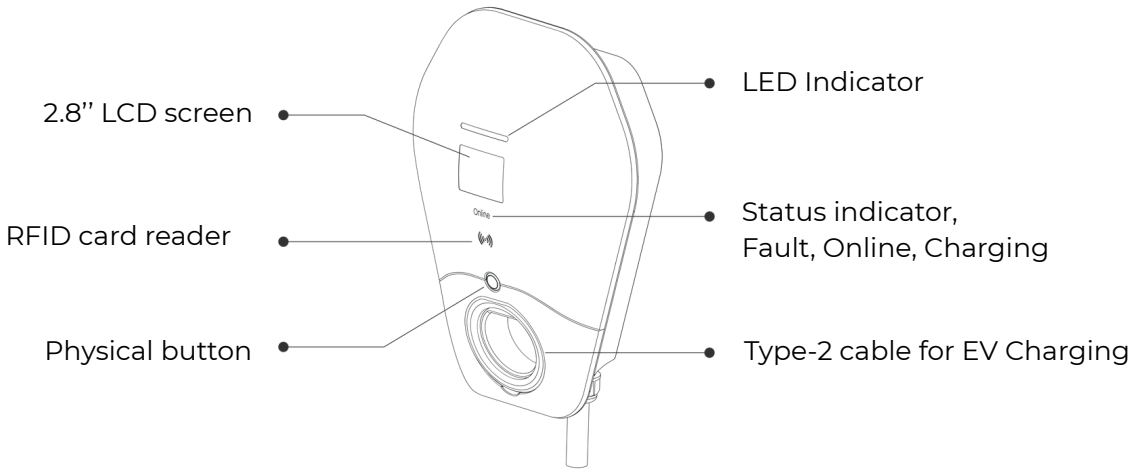
Self-monitoring and recovery

The charger will automatically resume charging after a minor fault such as OVP, UVP, OTP or OCP, with no user intervention required.

OCPP 1.6J & OCPP 2.0.1 Full profiles & Smart charging support

The charger supports OCPP 1.6J & OCPP 2.0.1 full profiles, including the latest smart charging to balance the load of charging stations with limited power supply.

3. Product Overview



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4. Safety Instructions

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

This document contains important instructions and warnings that must be followed when installing and maintaining the EV charger.



- Do not install or use the charger near flammable, explosive, harsh, or combustible materials, chemicals, or vapours.
- Turn off input power at the circuit breaker before installing or maintaining.
- Do not use or stop using the charger if it is defective, appears cracked, frayed, broken or otherwise damaged, or fails to operate.
- Do not attempt to open, disassemble, repair, tamper with, or modify the charger. The charger is not user serviceable. Contact MidTeQ or authorised service provider for any repairs.
- Do not use the charger when either you, the vehicle or the charger is exposed to severe rain, snow, electrical storm or other inclement weather.
- Do not touch the charger sockets with sharp metallic objects, such as wire, tools or needles.
- Do not put fingers into the charger sockets.
- Do not use this charger if the EV charging cable is frayed, has broken insulation, or displays any other indication of damage.
- Do not use this charger if the enclosure or the EV charging connector is broken, cracked, open, or show any other indication of damage.
- To reduce the risk of fire, connect only to a circuit provided with 40 amperes maximum branch circuit short-circuit protection in accordance with IEC 60898-1.



- The charger should be installed only by a qualified approved technician.
- Make sure that the materials used and the installation procedures follow local building codes and safety standards.
- Incorrect installation and testing of the charger could potentially damage either the vehicle's Battery and/or the charger itself. Any resulting damage is excluded from the warranty for both the vehicle and the charger.
- Do not operate the charger in temperatures outside its operating range of -22°F to 122°F (-30°C to +50°C).
- Ensure that the EV charging cable is positioned properly to the charging sockets.
- Do not use cleaning solvents to clean any of the charger's components.

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5. Installation

Tools required

- Philips #2 screwdriver
- Electric drill

Overview of steps

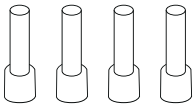
Turn off the power supply. Then follow these steps to install the Charger:

1. Check box contents,
2. Concrete anchoring.
3. Power cable wiring.
4. Internet connection.
5. Verify the installation.

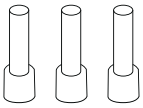
These steps are detailed next.

5.1 Step one - Check box contents

If any of these components are damaged or missing, contact MidTeQ.



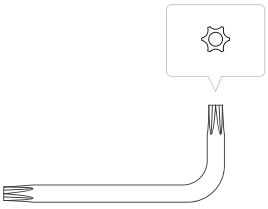
Terminal Crimps(red)
x 4



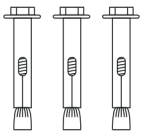
Terminal Crimps(black)
x 3



EV Charger with backplate



Spanner
x 1

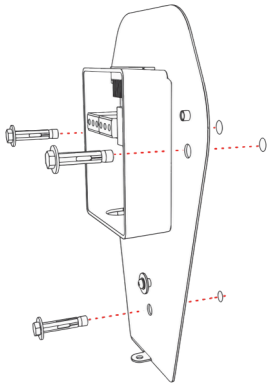


Expansion screws
x 3

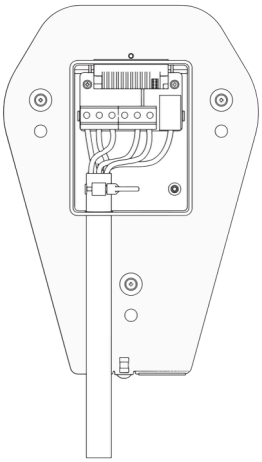
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5.2 Step two - Wall mounting & wiring

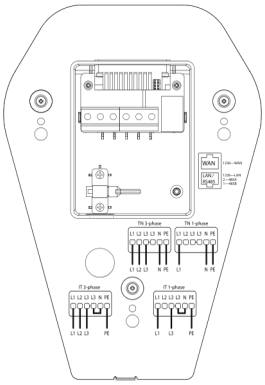
1. Remove the backplate from the charger and mount the backplate to the wall.



2. Connect the cable through the bottom of the junction box.



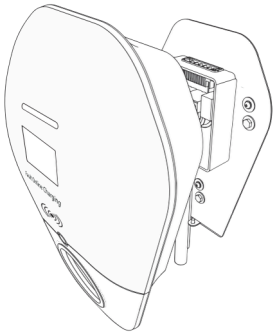
3. There are four possible connection variants, depending on whether 3-phase is used, and whether a TN network, TT network or IT network is used, as shown on the label on the back plate.



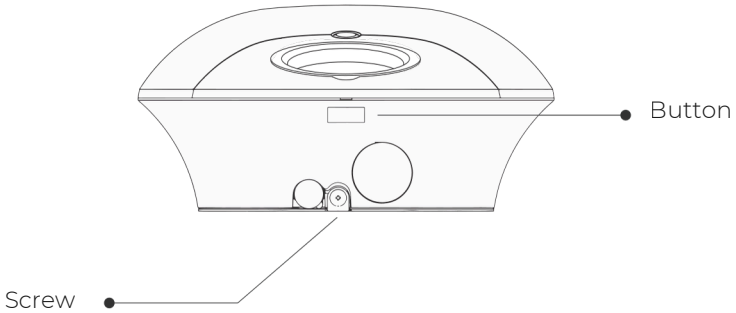
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5.3 Step three - Install the charger

1. Install the charger to the backplate.



2. Fix the charger and backplate with screw and press the button to remove the bottom case to insert the SIM card.

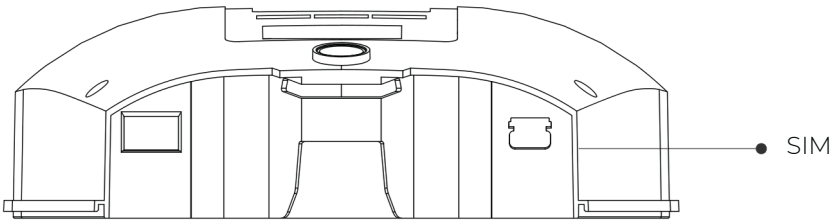


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5.4 Step four - Internet connection

Supporting Ethernet, WiFi and Cellular connection.

1. Cellular & Ethernet

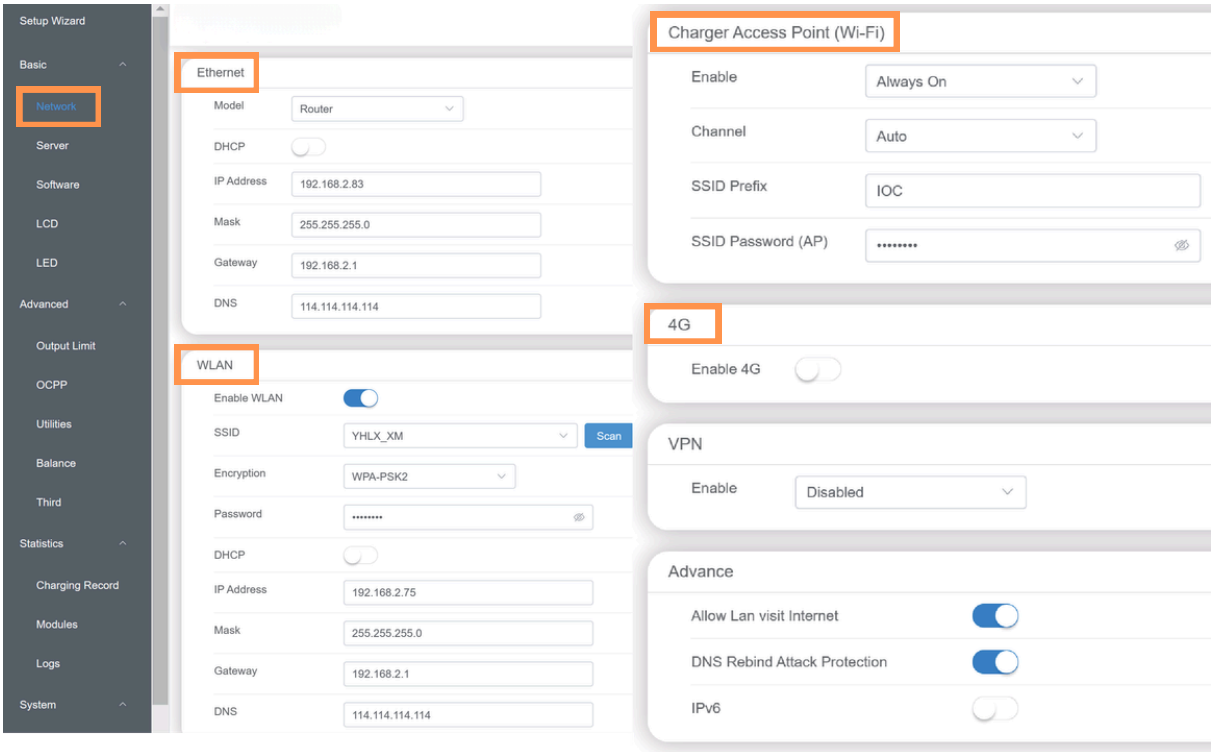


No.	Item
1	Insert SIM card to the card slot for cellular connection.
2	Connect internet cable to backplate for Ethernet connection.

2. WiFi

a. Connect your device to the charger WiFi SSID 'IOC_XXXXXX', and enter default password 'IOC12345'.

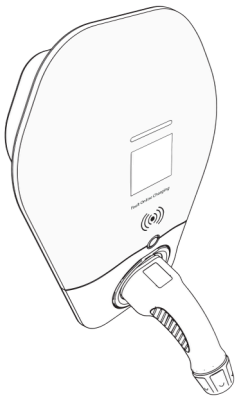
b. Open web-based setup page by entering the default IP Address '192.168.10.1', and enter Username 'install' and Password 'installer123' then click 'ok'



No.	Item
1	Ethernet supporting DHCP or static IP
2	Scan the WiFi to select the SSID to be connected
3	Ask MidTeQ for further details on charger connection via SIM card as this will be provided with the initial subscription. Any data SIM can be used if connecting to other 3rd party back end.

5.5 Step five - Verify the installation

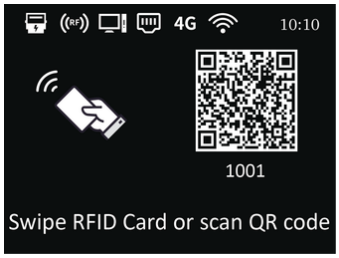
1. Verify the power cables are wired properly.
2. Close the upstream RCD to power on the charger, and you should see the LED lights sequentially illuminate white.
3. If the LED red light illuminates or flashes, refer to the Troubleshooting table on page 14.
4. Check on the screen display whether internet is available and back office is connected, refer to page 13.
5. Test the live charging process with simulator or electric vehicle if the installation is completely verified.

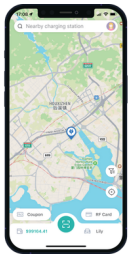


6. Charging Wizard

Start charging

1. Connect the charging cable to the electric vehicle.
2. There are 2 ways to start charging.
   a. Swipe RFID card.
   b. Use the mobile app to scan the QR code on charger screen.





Stop charging

There are three ways to stop charging.

a) Stop charging by EV.
b) Stop charging with RFID card.
c) Stop charging with the mobile app.

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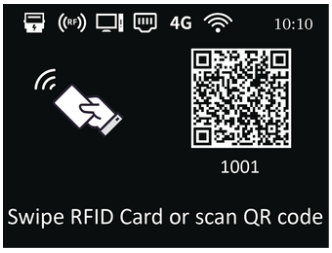
7. Status Indicator

LED diagram	Definition	LED status
	Idle	Slow flashing white
	Charging	Fast flashing white
	Suspend	Fast flashing yellow
	Reserved	Slow flashing cyan
	Unavailable	Slow flashing red
	Fault	Flashing red

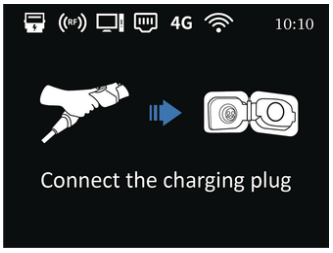
8. LCD Screen Display Details



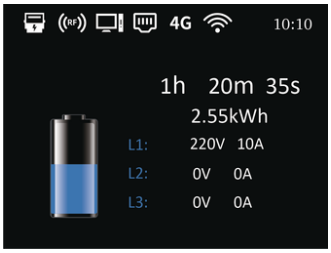
Welcome Screen



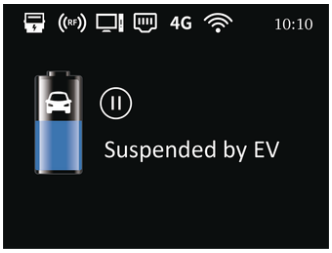
Scan the QR code or swipe the RFID card to start charging



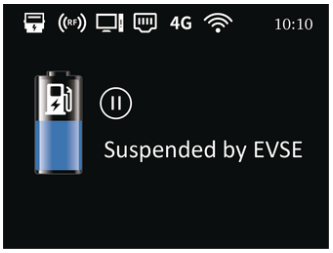
Connect the charging plug



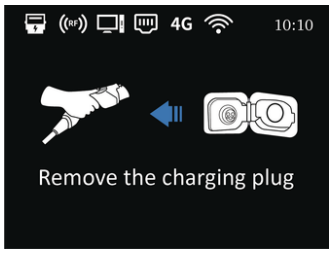
Charging in process



Suspended by EV



Suspended by EVSE



Remove the charging plug



Automatic upgrade mode activated

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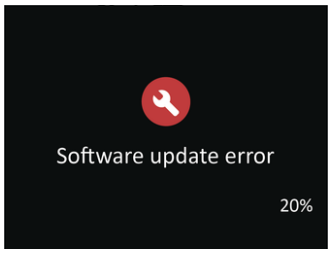
Software downloading and upgrading automatically



Network upgrade mode



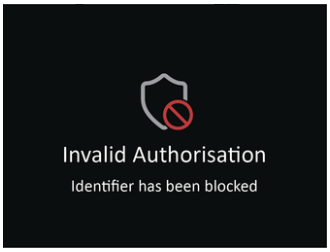
Micro SD card upgrade mode



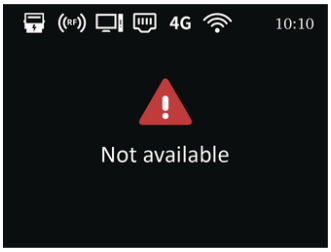
Software update error



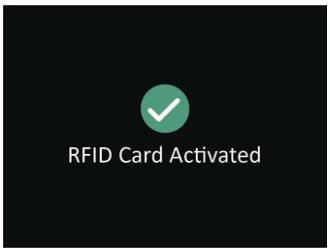
Factory Reset



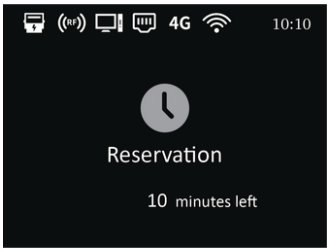
Invalid Authorisation



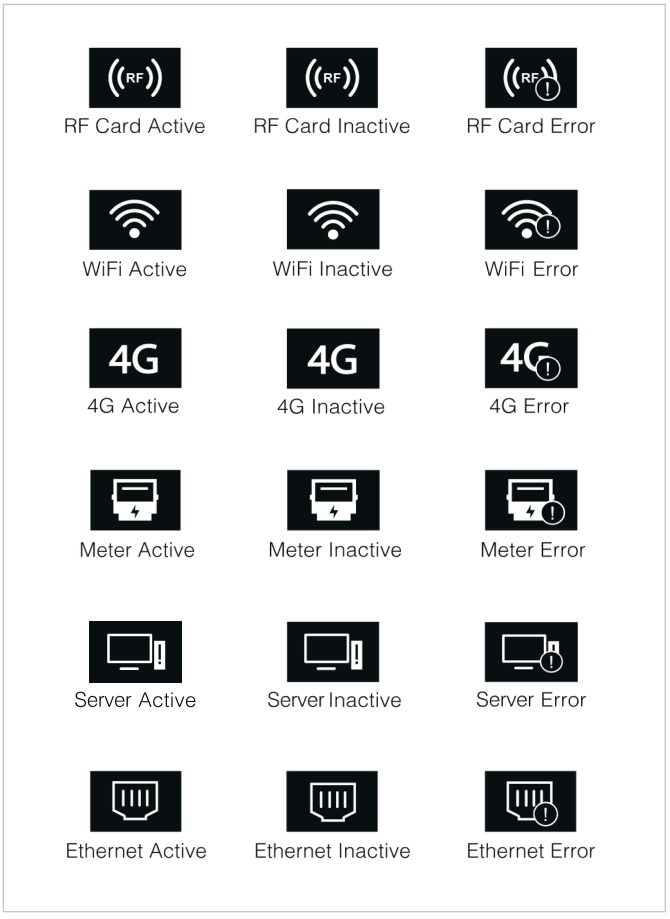
Service not available



RFID Activated



Reserved Mode



Explanation of ICONS

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9. Troubleshooting

Situations	Actions	
Status indicator is not white after the charger is powered on	1	Make sure the AC power input is connected correctly.
	2	Turn OFF the charger and then back ON using the switch.
	3	If the problem persists, contact MidTeQ for Technical Support.
Status indicator does not flash white when the charger is connected to the EV	1	Unplug the charging plug and reconnect it fully to the receptacle on the EV.
	2	Inspect the cable and plug for damage,
	3	Inspect the EV and its receptacle for damage.
	4	Try to charge with the portable card set that came with the vehicle. Contact MidTeQ for Technical Support.
Status indicator flashes red while charging	1	There is a temporary error.
	2	Wait until the temporary error is resolved and the charger returns to normal condition. It usually takes less than 10 seconds.
	3	If the status indicator doesn't return to white, turn OFF the charger and then back ON using the switch.
	4	If the situation persists, contact MidTeQ for Technical Support.
Status indicator is solid red	1	There is a critical error.
	2	Unplug the charging plug from the EV immediately.
	3	Turn OFF the charger and then back ON using the switch.
	4	If the situation persists, contact MidTeQ for Technical Support.

LED diagram	Definition	LED Status
	CP/CC fault	Red light is solid
	Overcurrent/Overvoltage/ Undervoltage	Alternately flashing red and green
	e-locker/relay fault	Alternately flashing red and blue
	PE fault	Group A and B, red and red flashing alternately
	RCD fault	Group A and B, red and green flashing alternately
	PME fault	Group A and B, red and blue flashing alternately
	Other fault	Flashing red

10. Maintenance and Repair

Regularly inspect the charger components for damage. If damage is found, contact MidTeQ. The charger contains no user – serviceable components. If the unit is not operating correctly, contact MidTeQ.
Wipe the outside of the charger regularly with a clean damp cloth to remove any accumulation of dust and dirt and prevent rust.

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