# Choosing
# the Right Charging Solution

Checklist &
Comparison of Amp5 vs Wallboxes

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# Checklist

When planning your investment in charging infrastructure, there are several factors that affect operational reliability, total cost over time, and future flexibility.

Below is a checklist to use as support in your decision-making process.

| Category | Questions to ask | |
|---|---|---|
| **Communication & Operational Reliability** | Is there a wired network (LAN) to each outlet for reliable connectivity? | ☐ |
| | Is there native OCPP support to avoid dependency on manaufacturer's cloud service? | ☐ |
| | Is there support for OCPP 2.0.1 for future services like Plug&Charge and V2G? | ☐ |
| | Does the system have automatic recovery functions to avoid site visits during operational disruptions? | ☐ |
| **Power Optimization & Safety** | Can the system dynamically balance phases and distribute current to optimize available power? | ☐ |
| | Does each charging outlet have a self-resetting residual current device and fuse? Or are site visits required for reset? | ☐ |
| | Is surge protection included to protect vehicles and the facility? (Legal requirement for public charging). | ☐ |
| | Can the system be integrated with the building's safety system (e.g. emergency stop on fire alarm)? | ☐ |
| **User Experience & Operations** | Is there a display showing charging status, error codes, and dynamic QR codes for secure payment? | ☐ |
| | Does the system have a battery backup to unlock charging in the event of a power outage? | ☐ |
| | Can lighting be integrated for increased safety and comfort in the parking area? | ☐ |
| **Installation & Future Scalability** | Is the installation modularized and quality-assured, or dependent on 3rd party installation materials? | ☐ |
| | Can the facility be expanded without new groundwork and cable routing? | ☐ |
| | Can the same infrastructure also be used for other needs, e.g., engine block heaters? | ☐ |

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# Wallbox or System Solution?

Different projects require different solutions. We believe wallboxes should be used in smaller installations or where site-specific conditions do not allow a system solution.

However, for larger installations, it is important to consider functionality that meets requirements for operational reliability, total cost over time, easy expansion, and future-proof features.

In the tables below, we compare Amp5 with two commonly used wallboxes [1]. The purpose is not to disparage these products, but to clarify what advantages Amp5 can offer in larger and more business-critical installations.

## Communication & Operational Reliability

| Feature | Amp5 | Zaptec Pro | CTEK CC3 |
|---|---|---|---|
| **Redundant LAN** | Yes, each outlet has redundant wired LAN for internet connectivity. This minimizes the risk of communication disruptions. | No, primarily uses wireless connectivity. | Yes, LAN but no redundancy. |
| **Direct OCPP** | Yes, Amp5 supports OCPP 1.6J and 2.0.1 (without proxy).<br><br>Amp5 communicates directly with the charge operator's backend. This eliminates dependency on the hardware manufacturer's cloud service.<br><br>OCPP 2.0.1 enables future services such as Plug&Charge and V2G. | No, only OCPP 1.6J via Zaptec's own cloud (proxy). | Yes, for OCPP 1.6J.<br><br>OCPP 2.0.1 support has been communicated in product roadmap. |
| **Self-healing System** | Yes, Amp5 has a built-in function that monitors operations and internet connectivity. In case of disruption, automatic restart occurs at processor level and active charging sessions are paused and then resumed. | No, only automatic in connection with firmware updates. Manual restart (soft reset) possible remotely. | No, only automatic in connection with firmware updates. Manual restart (soft reset) possible remotely. |

[1] Based on publicly available data.

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# Power Optimization & Safety

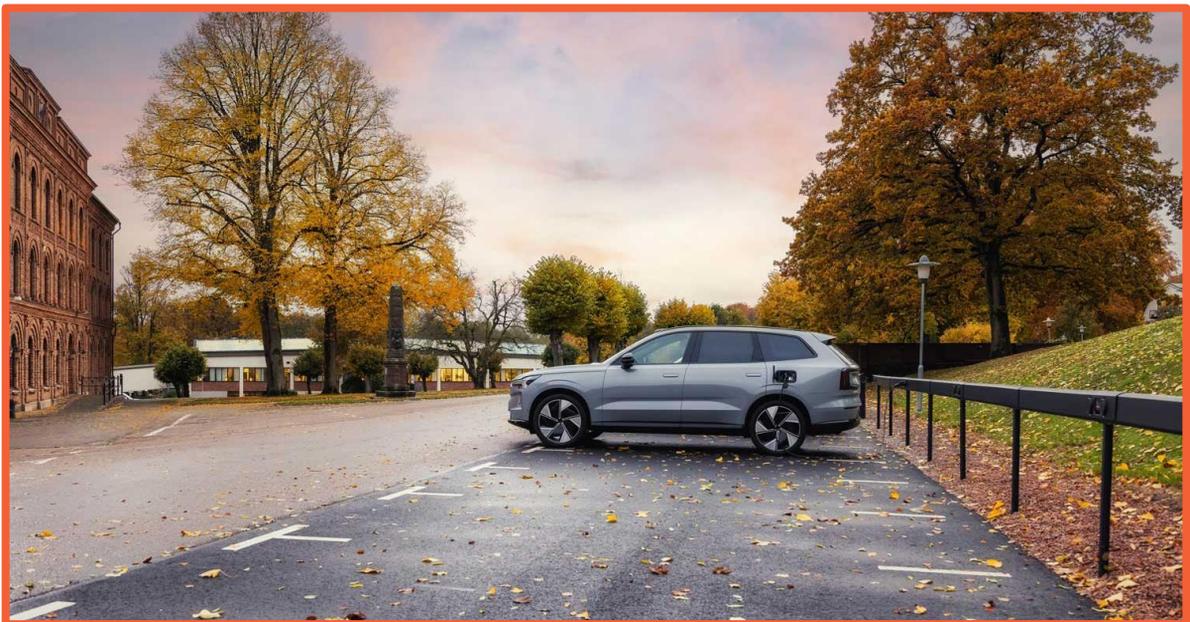| Feature | Amp5 | Zaptec Pro | CTEK CC3 |
|---|---|---|---|
| **Load Balancing via LAN at Multiple Levels** | Yes, via LAN. Support for RS485-connected energy meter (Modbus) at service level. | No, only via PLC. | Yes, via LAN. |
| **Phase Switching/Current Allocation for optimization of available capacity** | Yes, support for dynamically switching phases and distributing current between phases depending on EV needs. | Yes, support for dynamic phase balancing. | No, only static phase allocation. |
| **Self-resetting RCD Type B & Circuit Breaker** | Yes, built-in RCD and fuse at each charging outlet.<br><br>Both are self-resetting after the charging cable is disconnected, minimizing the need for site visits. | No, only the RCD is self-resetting after disconnecting charging cable. | No, only the RCD is self-resetting after disconnecting charging cable. |
| **Surge Protection against lightning and voltage spikes**<br>Legal requirement for public charging! | Yes, centralized surge protection as standard. | No, requires separate installation. | No, requires separate installation. |
| **Emergency Stop** | Amp5 has an input for emergency stop that can be integrated with the building's existing fire or safety system.<br><br>On alarm, all charging sessions are immediately interrupted. | No, only possible via separate installation. | No, only possible via separate installation. |



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# User Experience & Operations

| Feature | Amp5 | Zaptec Pro | CTEK CC3 |
|---|---|---|---|
| **Display** | Amp5 is equipped with a 4.3" TFT display that can show real-time charging data, error messages, and digital QR codes.<br><br>Digital QR codes prevent fraud with fake stickers. | No, lacks display.<br><br>MID version only has a counter for kWh. | No display on standard CC3. The CC3i variant has a 7" touchscreen with dynamic QR codes and real-time charging data. |
| **Battery Backup** | Amp5 has integrated battery backup that allows ongoing charging sessions to be safely concluded during power outages and charging outlets to be unlocked. System owners are notified automatically. | No backup function.<br><br>Requires separate installation. | Nobackup function.<br><br>Requires separate installation. |
| **LED Lighting** | Amp5 can be delivered with integrated LED lighting for increased safety and comfort in parking areas. | No, lacks this feature. | No, lacks this feature. |



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# Installation & Scalability

| Feature | Amp5 | Zaptec Pro | CTEK CC3 |
|---|---|---|---|
| **Modular Installation** | Amp5 is a fully modularized system where every module and installation is predetermined. This ensures the highest quality and eliminates the risk of faulty workmanship or substandard components.<br><br>Additionally, installation time is minimized. | No, needs to be supplemented with third-party materials during installation. | No, needs to be supplemented with third-party materials during installation. |
| **Ground Expansion** | Amp5 is built on ground screws or pole bases with integrated cabling. Expansion can be done quickly and without costly groundwork or new cable routing. | No, requires new groundwork and cable routing for expansion. | No, requires new groundwork and cable routing for expansion. |
| **Engine Block Heaters** | Amp5 can also be used for engine block heaters via EVSE adapter thanks to phase switching support. This provides more use cases for the same infrastructure. | No, warranty covers EV charging only. EVSE adapters may not be used unless approved by the vehicle manufacturer. | No, warranty covers EV charging only. EVSE adapters are not permitted according to the manual. |



Centralized charging technology for operational reliability.



Modular for fast & reliable installation.

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# Aesthetics

Naturally a matter of taste, but many Amp5 customers appreciate the discreet design, especially for larger installations. Below are a few customer references.

**Slottsmöllan, Halmstad in Sweden**







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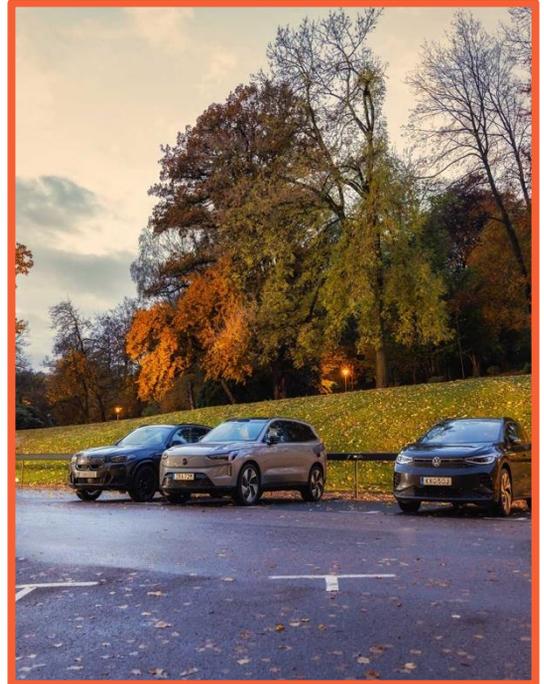
# Aesthetics

**Wihlborgs  Properties, Malmö in Sweden**







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# Aesthetics

**Stena Properties, Malmö in Sweden**







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# Amp5 - Technical Information

| | |
|---|---|
| **Max number of charging outlets** | 54 per Smart Hub[1] |
| **Max number of simultaneous charging sessions** | 30 per SmartHub[1] |
| **Max incoming current** | 63A per SmartHub[1] |
| **Max simultaneous charging power** | 44kW |
| **Max charging power per outlet** | 22kW (3-phase), 7.4kW (1-phase) |
| **Main fuse** | 63A, B-characteristic |
| **Communication protocol** | OCPP 1.6J / OCPP 2.0.1 / ISO15118-20 |
| **Network connection** | Teltonika RUT 901 with 4G SIM card |
| | LAN |
| | Wifi (configuration only) |
| **RF technology** | GSM, GPRS, EDGE, UMTS/HSPA+, LTE |
| **RFID type** | ISO/IEC 14443 Type A, 13.56 MHz Mifare |
| **Current measurement** | MID certified version of Amp5 is available for delivery in May 2026. |
| **24V input for external switch** | Yes |
| **Static load balancing against fixed value** | Yes |
| **Dynamic load balancing** | Yes. Via internet or locally with Modbus TCP / RS-485 |
| **Residual current device** | Type B per outlet (IEC60947-2) |
| **Circuit breaker** | 32A B-characteristic |
| **Battery backup (UPS)** | Capacitor |
| **Charging outlet** | Typ 2, (IEC 62196-2) |

| | |
|---|---|
| **Display** | TFT 480x272px, (HxW): 55 x 96 mm |
| **Temperature range - operating** | -30°C to 45°C air temp. |
| **Temperature range - non-operating** | -30°C to 65°C condensation-free |
| **Material** | Aluminum, minimum 75% recycled aluminum |
| **Color** | Graphiteblack (RAL 9011), powder-coated |
| **Lock** | EBR-lock "Stockholm" |
| **IP rating** | IP54 |
| **IK rating** | IK10 |
| **Autocharge** | ISO15118-2:MAC |
| **Other** | Customizable display content via OCPP |
| | RCD testing with magnetic sensor |
| | User interaction via QR code, RFID |
| | Lockable charging outlets |

[1] If more than 54 charging outlets, more simultaneous charging sessions, or support for higher incoming current is desired, Amp5 is supplemented with additional SmartHubs.