



HIMS TECHNICAL Q&A TRAINING

Full Version for Dealer and Corporate Sales Teams

Section A: 34 field technical questions · Section B: 50 additional sales & field questions · Quick diagnosis form

Electrical installation, circuit-breaker and residual-current work must be done under the supervision of an authorised/qualified electrician.



TRAINING FOUNDATIONS

Core Principle and the First 60 Seconds of a Field Call



Core principle of the training

Diagnose first, then resolve: never say “the charger is faulty” without the model, error code, vehicle make/model, screen photo/video and installation measurement.

For charges that start then cut off, the first check is usually **the installation, earthing, phase connection, voltage drop and vehicle behaviour.**

Explain to the customer briefly and reassuringly: **“The charger tells the vehicle its upper limit; the actual current is set by the vehicle and the infrastructure.”**

THE FIRST 60 SECONDS OF A FIELD CALL

- 1 Get the charger model and error code.
- 2 Ask for the vehicle make/model and AC charging power.
- 3 Request a screen photo + a connection video.
- 4 Request a neutral-to-earth and phase-to-neutral measurement.
- 5 Do not promise a replacement/warranty before diagnosis is complete.



ROADMAP

The Training Has Two Sections



Field Technical Questions (34 questions)

Screen and measurement · Cut-offs and low power · Earthing and residual current · Single-phase/installation · Cables · RFID and commercial model · App · Error codes and Code 7 · Warranty and specifications · Installation references · Golden rules



Additional Sales & Field Questions (50 questions)

Sales and model selection · Customer objections · Corporate, site and DC scenarios · Installation and safety · Charging time and simple explanations · App and Wi-Fi · Service, warranty and communication standard · Maintenance · Quick diagnosis form + WhatsApp template



A

Field Technical Questions

34 questions · A standard answer flow from screen to error codes, from earthing to warranty.



SCREEN AND MEASUREMENT · QUESTIONS 1-2

380 V → 220 V drop · Amp setting = UPPER LIMIT



S1 · 380 V on screen, 220 V at the vehicle

The vehicle is likely charging on a **single phase**; its socket may lack Phase-2/Phase-3 pins, or it only supports a 1-2 phase on-board charger.

Diagnosis: request a **photo of the vehicle's socket**; also confirm the vehicle's on-board AC power.



S2 · I set 16 A, it isn't drawing the full amount

The amp setting is the **UPPER LIMIT**; the actual current is **set by the vehicle** (battery, temperature, vehicle setting, infrastructure). On most models the screen shows **the controller setting**; even if the vehicle draws 16 A, the screen may show 32 A (Togg example).

If 16 A is requested on screen, the controller is set internally to 16 A.



Why is power low at 22 kW? · Slowdown at 80%-90%



S3 + Ek32 · “It says 22 kW, but I'm seeing 10-11 kW”

Most vehicles accept a **maximum of 11 kW** on AC; this is not a fault. 22 kW needs vehicle support (an option on some).

Factors that can reduce actual power: **on-board limit, phase connection, amp setting, voltage drop, battery temperature, internal vehicle limit.**

Check order: number of phases → amps → vehicle AC limit → phase-to-neutral voltages (~230 V).



S4 + Ek30 · Stopping at 80%, slowing down after 90%

Stopping at 80%: this is the vehicle's internal **charge limit setting**; it can be raised to 100% from the menu (Energy/Charging). AC/DC behaviour may vary by model.

Slowdown after 90%: the **battery management system** limits current at higher states of charge — this protects the battery. Neither is a charger fault; it is the vehicle's strategy.



CUT-OFFS · QUESTION 5

“Charging cuts off after 10-15 min” — Standard Diagnosis Flow

1

MEASURE EARTHING

Neutral-to-earth should be ~1 V; request a measurement with a multimeter.

2

EXTERNAL EARTH

If earthing is fine: it may be machine/compensation harmonics → have an external, sound earth run.

3

TOGG CHECK

If it's a TOGG, set to 25 A; check the accessory mode.

4

QUICK TEST

Reduce 16 → 12-14 A; if it's stable, the issue is the grid/earthing/installation.



Golden rule: If the charger were faulty, in most cases charging would never start at all. If it starts then cuts off, check the INSTALLATION first. If “it worked fine before” is reported, the infrastructure may have changed.



CUT-OFFS · QUESTIONS 6-7

Summer cut-offs · The charger reducing current itself



S6 · Cut-offs at high amperage in summer

The grid is under heavier load during the air-conditioning season; **voltage drop** can occur at high amperage.

Solution: test by reducing from 32 A to **25 or 20 A**; if stability improves, the infrastructure needs reinforcing.



S7 · I set 16 A, it shows 8 A

HCTK series: internal temperature **~65°C** → speed automatically drops by **HALF**; it returns to the setting below **50°C**.

To the customer: “the speed is automatically reduced to prevent overheating.”

Instead of reducing speed, the 3.7 kW model may end the charge at temperature → suggest cooler hours + shade; a **15-minute heating observation** should be done at the start.



Socket heating/melting · 2.2 kW low-power case



S8 · Low power / socket heating

If the installation or extension lead is too thin, set the charger to **8-10 A**; otherwise the socket can heat up and melt.

CCA (copper-clad aluminium) cables overheat; recommend **100% copper**.

Voltage drop isn't only about distance; cross-section, connection quality and the grid also play a part.

If the breaker trips at 32 A but it works at 16 A, the rated value/installation capacity may be insufficient.



S9 · “Why is it charging at 2.2 kW?”

Usually due to a **single-phase + 10 A** setting: $1 \text{ phase} \times 10 \text{ A} \approx 2.2 \text{ kW}$.

The charger should be set to 32 A; however, **the installation and socket capacity must be suitable**.

Checklist: Is it single-phase? What amp setting? Is earthing external/sound? What kW does the same vehicle draw on three-phase?



Not resuming after a power cut · Door/key cut-off



S10 · Not resuming after a power cut

With RFID use, charging **does not restart automatically** once power returns; the card must be tapped again.

In locations with intermittent power cuts, the charger can be switched to **Plug and Play / cardless** mode.

On the commercial model, the socket lock releases automatically when power is lost.



S11 · Cut-off on door opening / on approach

This is vehicle behaviour, not a charger fault (on some vehicles, on AC).

Citroën/Peugeot/Opel: the lock may release when the door opens, stopping the charge. Not always seen on Tesla/BYD.

TOGG and Citroën may not start/may cut off if the door is open; on Citroën, **approaching with the key** can also cut it off.

On DC, opening the door usually doesn't cut off charging; once the connector is plugged in, the vehicle's **sleep mode** should also be checked.



Why is earthing critical, and how is it measured?

NEUTRAL–EARTH $\approx 1\text{ V}$ (1–1.5 V) A significant share of field issues in AC charging come from earthing/installation.



Measurement and circuit rule

On the multimeter, voltage is measured by touching **one probe to neutral, one probe to earth**.

EK24: The earth line must not be taken from a shared/weak/uncertain circuit; a **sound, measured and, if possible, dedicated** circuit is required.

With weak earthing, the charger goes into protection mode, the vehicle throws an error, or charging cuts off.



Sensitive vehicles and definitive diagnosis

Renault Zoe and TOGG are more sensitive to earthing.

If a **different brand of charger** also errors at the same socket, the problem is the installation; replacing the charger is not the solution.



Renault Zoe “AC Charging Impossible” error

- The Zoe is **highly sensitive** to earthing resistance; weak home earthing is the most common cause. Confirm neutral-to-earth ~1 V, and check the earth line separately.
- **Reset:** unplug the cable → lock the vehicle → move the key away → wait for **15-20 min of deep sleep** → try again.
- The cable must seat fully **until the 2nd locking click**; a weak 12 V battery can also cause a charging error.
- If the problem persists at every location (AC+DC), the internal charging block (**BCB**) may be faulty → refer to the vehicle service centre.



Relay keeps tripping — 3-Way Isolation Test

TEST 1

Same charger + DIFFERENT VEHICLE

Is the leakage from the vehicle?



TEST 2

Same charger + same vehicle + DIFFERENT LOCATION

Is it from the installation/socket?



TEST 3

DIFFERENT CHARGER + same vehicle + same location

Is it from the charger itself?



Remember: This test isolates whether the leakage is on the vehicle, installation or charger side. The charger's own residual current monitoring unit cuts charging and faults on a genuine leak; a tripped relay isn't always a charger fault.



RESIDUAL CURRENT · QUESTIONS 15-16

“Connected” but not starting · Monthly safety test



S15 · Shows connected, but no charging / red

Usually caused by **earthing or voltage**; the first step is a neutral-to-earth measurement.

If a different brand of charger also errors at the same socket, the root cause is the installation; replacing the charger won't help.

At sockets with no neutral return / no earth / no neutral, most vehicles can't measure the neutral-to-earth voltage and may error out.



S16 · Monthly safety test

Press the **TEST button** on the residual current relay; the detection circuit should trip.

Simply flipping the switch off doesn't count as a test — it only cuts power physically; it doesn't test detection.

The charger can be left switched on when idle; idle consumption is **~3-5 W/hour**.



Single-phase connection rules and phase wiring



S17 · Single-phase connection

Connect **ONLY L1 + Neutral** to the residual current breaker; earth to the yellow-green terminal on its left.

L2-L3 stay unused. **BRIDGING MUST NEVER BE DONE** — the most common field installation error; it causes intermittent cut-offs on vehicles such as BYD.

With this connection a three-phase charger runs at **~7.2 kW** and can be set to 32 A; the installation must be suitable.

With earth protection active, the charger may check **phase-to-neutral polarity**; it errors on reverse connection and clears once polarity is corrected.

Models with a smart connector automatically **limit current to 16 A** on a household socket.



S18 · Phase wiring rules

The phases arriving at the building entrance must be run **individually and separately, not skipped**.

Phases must not be skipped; each phase should be treated as a separate circuit.



Extension leads, communication, IP protection, standard



S19 + Ek22 · Extension / joining

The charging cable must **not be used** joined end to end; splitting/shortening is not allowed. Extension isn't recommended — if unavoidable, use the correct cross-section, 100% copper, fully unwound (no reel). **“An extension isn't a permanent fix; the correct installation line must be run.”**



S20 · Cut-off when the cable is moved

The internal **communication wire** may have broken at a bend → request the cable for testing, replace if needed. Storage: coil it in a loop, **1 reverse, 1 forward**.



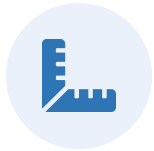
S21 · What does IP protection mean?

IP54 doesn't mean fully waterproof; it means **resistance to rain/splashes**. It's IP54 when idle; while plugged in and charging it **can reach IP67** (confirm from the catalogue per model). Keep covers closed, surfaces dry and clean.



S22 · 3.7 kW cable standard

H07BZ5-F: $3 \times 2.5 \text{ mm}^2 + 1 \times 0.75 \text{ mm}^2$ communication; same standard on the supply and charger side. Brands: **Nak, Mekas, Üntel** — Made in Türkiye emphasis.



Cable Cross-Section Table by Power

Power	Cross-section	Note
3.7 kW (single-phase)	3×2.5 mm ²	Household socket/Schuko, approx. 16 A
7 kW (single-phase)	3×6 mm ²	Smart plug limits current to 16 A on household socket
11 kW (three-phase)	5×2.5 mm ²	3 phase + neutral
22 kW (three-phase)	5×6 mm ²	+1×0.75 mm ² communication wire is standard on all cross-sections



Caution: If the installation cable is too thin, the charger must be reduced to 8-10 A; as distance increases, the cross-section must be calculated separately.



RFID · QUESTIONS 24-25 (+ EK 39)

Card not reading · Root cause of Code 4



S24 · Card not reading / damaged

If the card was left in the vehicle's **wireless charging zone**, its magnetic strip may be damaged; also keep it away from phone wireless chargers.

It can be laminated in PVC; what matters is keeping it away from wireless charging areas.

New registration: the RFID module + cards are sent to HIMS, registered and returned; during shipping, continue in **Plug and Play** mode.

Additional card price: confirm from the current price list.



S25 + Ek39 · Explaining Code 4

Root cause: tapping before seeing “connected”, or tapping repeatedly in a row. The charger treats each tap as a separate command; start/stop gets mixed up.

Training line: “Only tap the card once, after you see the connection on screen; if you hear a beep, don't tap again.” **One beep = one tap.**

Solution: unplug the connector → plug it back in → see the connection → tap once. If it persists, there may be a leak → get a photo/video + service.



Card registration on the commercial model · HCDK capacity



S26 · Card registration on the commercial model

The card is registered to the **SYSTEM**, not the charger; getting more cards later isn't a problem.

If the station is live: the card is given to the user → tapped → the date-time is reported to HIMS → registration complete.

Cancelling/registering a card may require the charger to reach HIMS; if that's not wanted, switch it to Plug and Play mode.



S27 · HCDK model

There are **6 RFID** cards; tracking is done from the mobile app. **It should not be presented as the main solution for shared areas; it suits a limited-user scenario, such as two close neighbours/relatives.**



APP · QUESTIONS 28-29 (+ EK 35 · 36)

Which app? What is shown, what isn't?



S28 + Ek35 · App and Wi-Fi

Standard chargers: **Smart Life or Tuya**; most models, including HCTS, are added to this. Some new series use Hims Charger + basic OCPP (get the list from the technical team).

On Kare units, **if OCPP is on, the app cannot connect**; it should be off for individual use.

On the Portable, press the button for **10-12 seconds** (holding longer triggers a different function). On an “another user” warning, remove the pairing and check permissions.

Ek35: Without Wi-Fi, basic charging may still work depending on model/mode; smart features (remote start, reports, scheduling) need Wi-Fi. On Smart HCDK, if Wi-Fi is connected, Bluetooth may not be visible.



S29 + Ek36 · App capabilities

Current setting: App → charger → Settings → **Current Setting / Akım Ayarı**. Except on the commercial model, there may be no on-device setting.

The last current setting is remembered; if it keeps reverting to 6 A, there may be accidental touchscreen contact while plugging in.

Ek36: On AC, the vehicle usually doesn't share its battery percentage — the app values are power, current, time or energy; not showing a percentage is normal (it may show on DC).

Scheduled charging/reservation is supported; it's programmed based on the night tariff. On some models, the app can't connect during charging — explain the flow per model.



How to Read the Error Code Table

Code	Possible meaning	First fix	Who resolves?
3	Emergency stop / connection warning	Release / open the emergency stop button.	Field / Dealer
4	Card scanned repeatedly	Unplug the cable, reconnect it, and scan the card once.	Field / Dealer
5	Socket error / not fully seated	Check the socket, plug in firmly; if unresolved, request the device.	Field → Service centre
6	CP / earthing line warning	Check earthing; try a different socket.	Field → Service centre
7	Socket lock / cable not seated	Unplug the cable, push in to the 2nd click, and scan the card while pushing.	Field / Dealer
8	Hardware / socket fault	Request photo/video; if unresolved, replace part/device.	Service centre
10	Earthing / grid-related	Check earthing; lower current from 16 to 12-14 A.	Field → Service centre
2	Open issue	Code meaning to be clarified by the technical team.	Follow-up

An error code alone doesn't mean a definite fault; the vehicle, installation, connection and user action are assessed together.



Code 7 (Lock Error) — Step-by-Step Resolution

1

Unplug the cable from the vehicle side; push the connector in SECURELY. 1st click = pre-lock, 2nd click = fully seated. Charging won't start without the 2nd click.

2

Tap the RFID card at the same time as pushing in the connector. Loose seating is common on BYD cables; try a different cable if available.

3

If the lock doesn't turn despite the cable being seated: remove the 6 screws → open the cover → push the wires touching the lock to the left → confirm the lock turns by hand → close it back up. This must be done by an AUTHORISED technician.

4

If unresolved: there may be a seating problem on a long cable or a fault in the charger-side connector; the charger/cable is requested for service.



Warranty terms and documentation for an OBC fault



S32 + Ek43 · When is the warranty voided?

Unless the enclosure is opened and internal components are tampered with, the warranty remains valid; external burning of the plug/socket alone does not void the warranty.

If the customer replaces the cable end/plug themselves, this **may void the warranty**; the work must be done under HIMS's supervision.

Ek43: Unauthorised tampering inside the enclosure creates a warranty risk; beyond a simple external/connection check, refer to technical service or a qualified electrician.



S33 · Documentation for an OBC fault

Wallbox: a **technically approved document/declaration** showing the installation complies with standards may be requested.

Portable: **CE + 2014/30/EU (EMC), 2011/65/EU (RoHS), 2014/35/EU (LVD)** certificates may be presented.

If documents are not provided or the fault recurs, the case may be assessed as outside warranty coverage.



Frequently Requested Clauses in Public / Site Specifications

- Minimum **IP54 + IK08**, operating range of -25/+40°C and 5-95% humidity, wall or pedestal mounting.
- LAN + Wi-Fi, RFID (ISO-14443A/B and ISO-15693), **IEC 61851-1** compliance certified by an accredited laboratory.
- Single-phase + three-phase operation, adjustable nominal current, fault display.
- Free **TURKISH-LANGUAGE management software**: start/stop, current setting, plate-user registration and reporting.
- **Ocpp 1.6J** support, compatible with charging network software; requires a sales organisation, call centre, spare parts and service in Türkiye.



Installation Reference Values (22 kW AC)

Component	Recommended value	Note
Circuit breaker (22 kW)	40 A, 4-pole, C-curve MCB	1.25 safety factor; prevents premature tripping under continuous load
RCD	40 A / 30 mA, 4-pole, Type A	Type A is sufficient if the device has integrated 6 mA DC detection; otherwise Type B may be required
Main panel protection	300 mA time-delayed (S-type) RCD	For fire protection purposes
Overvoltage	Type 2 (B+C / C) 4-pole surge protection device	Recommended against lightning and grid surges
Earthing resistance	< 2 Ohm, ideally < 1 Ohm	If insufficient, local rod electrode + equipotential bonding
Grid type	TT or TN-S	Suitable infrastructure for charging stations

Field reference based on IEC 60364-7-722. Technical team approval must be obtained before use as an official HIMS installation guide.



GOLDEN RULES OF FIELD DIAGNOSIS · SECTION 11

1

Always obtain on first contact: model + error code + vehicle make/model + screen and connection image.

2

Neutral-to-earth should be ~1 V. In AC charging, a significant share of field issues originate from earthing/installation.

3

Run a cross-test. If a different brand device also errors on the same socket, the root cause is the installation.

4

A faulty device may not start at all. If it starts then cuts out, the installation is checked first.

5

Never say “let's send a replacement” without seeing it. Photos, video and measurements are obtained first.

6

If the HCTS screen does not come on, it may be caused by the cable at the rear; the product is requested and a technical check is performed.



Open Items — Follow-up List for the Technical Team

- The price of additional RFID cards must be confirmed as current.
- Which models are Hims Charger, and which are Smart Life/Tuya? **A clear model list must be produced.**
- The meaning of the **Code 2** error must be added to the error code table.
- Monthly/daily charging statistics and device temperature display in the app should be considered for the software roadmap.
- If the installation reference table is to be converted into an official installation guide, technical team approval must be obtained.
- Recurring locking/seating complaints on 16-20 m long cables should be tracked as a production improvement item.
- **A cable cross-section table by distance** must be prepared.

B



Additional Sales and Field Questions

50 new questions · Model selection, objection handling, corporate scenarios, service language and maintenance. Before a definitive model-based answer, check the current catalogue + technical team approval.



Which device should we recommend? Is 22 kW possible at home?



Ek1 · Device recommendation: 5 details first

- 1 Vehicle make/model
- 2 Vehicle's AC on-board charging power
- 3 Installation: single-phase or three-phase?
- 4 Usage location: home / residential complex / workplace
- 5 App, RFID, reporting requirements

Then recommend: 3.7/7.4 kW single-phase · 11/22 kW three-phase · commercial model / management software for shared use.



Ek2 · Can I get 22 kW charging at home?

Requirements: **three-phase supply, 32 A capacity per phase, suitable circuit breaker and cable cross-section, sound earthing, sufficient contracted power.**

If the vehicle does not support 22 kW on AC, it may draw **11 kW or less** even if the device is 22 kW.



11 kW or 22 kW? Portable or wall-mounted?



Ek3 · 11 kW vs 22 kW

If the vehicle takes 11 kW, 11 kW is **sufficient for today**; if a different vehicle / higher AC power is likely in future, 22 kW is the **future-proof** choice.

Sales line: “The device's power is considered together with the infrastructure and the vehicle; a 22 kW device reaches full power only with a compatible vehicle and installation.”



Ek4 · Portable vs wall-mounted

Portable: flexibility and convenience; for those who travel often and charge in different locations.

Wall-mounted: a fixed, tidy, secure and premium installation; a more professional solution for homes, residential complexes, villas, offices and showrooms.



Locking socket · Is RFID mandatory · Compatibility · Type 1



Ek5 · Advantage of a locking socket

Prevents the cable from being unplugged without permission during charging; gives a sense of security in residential complexes/car parks/shared areas. **“Once charging starts, the connection stays locked in place; use is safer and more controlled.”**



Ek6 · Is RFID mandatory?

It is not mandatory; Plug and Play or RFID is chosen depending on the scenario. RFID is recommended where there is **shared use, staff access, or a risk of unauthorised use.**



Ek7 · Is it compatible with all vehicles?

It is compatible with vehicles using the **Type 2 AC** standard. The answer separates **“will it charge?”** from **“how many kW will it draw?”** — it will charge, but may not draw the expected power due to the on-board limit.



Ek8 · What is done for Type 1 vehicles?

In Türkiye/Europe the AC standard is **Type 2**; for Type 1, an adaptor/special cable is assessed separately. **Safety, current and warranty conditions require technical team approval.**



CUSTOMER OBJECTIONS · EK 9-10

“Another brand is cheaper” · “I want the fastest one”

EK9 · “ANOTHER BRAND IS CHEAPER”

“EV charging is a system that continuously draws high current; what matters here is not just buying it, but using it safely and sustainably.”

Price should not be compared alone; it is compared together with: cable quality, safety protections, service, spare parts, warranty, installation support and the dealer network.

EK10 · “I JUST WANT THE FASTEST CHARGING”

“We should recommend not the fastest option, but the right solution that your vehicle and installation can safely handle.”

First ask: the vehicle's maximum AC power, the home/workplace infrastructure and the contracted power — speed is not determined by the device alone.



Is an individual device enough for a residential complex? How is consumption tracked?



Ek11 · Individual device in a complex/apartment

It may be sufficient for a single user; a commercial model / management software should be considered if there are **multiple users, authorisation needs, consumption tracking or reporting.**

Line for site management: “If user separation and consumption tracking are needed, we should be discussing a manageable solution rather than an individual device.”



Ek12 · Charging tracking in shared areas

In the commercial model, tracking can be done by user/card/system; **model and software capabilities must be clarified before installation.**

Devices with limited card capacity, such as HCDK, **should not be presented as the main solution for shared areas.**



What is OCPP, and who needs it?



Ek13 · What is OCPP?

It is the communication protocol that lets the charging station **talk to management software or a charging network platform.**

Simple explanation: “You can think of it as the language that lets the device be managed remotely, reported on, and connected to commercial systems.”



Ek14 · Is it needed by every customer?

For a home user it is usually **not needed**; Smart Life/Tuya or the model's own app may be sufficient.

OCPP and management software matter more in **residential complex, fleet, car park, municipality, shopping mall and paid-use** scenarios.



Information to gather in a corporate site survey · AC or DC for a fleet?



Ek15 · Information to gather at the first site survey

Location type, number of vehicles, daily charging need, **existing panel capacity, transformer/contracted power, cable distance**, number of users, payment/reporting needs, indoor/outdoor environment.

Photos that should be requested: distribution panel, meter, cable route, parking area, the wall/pedestal point where the device will be installed.



Ek16 · AC or DC for a fleet customer?

If vehicles remain parked for long periods, **AC may be more economical and sufficient**; for fast turnaround, intensive use or public service, **DC** is considered.

Line: “How many hours the vehicles stay parked, daily mileage and the pace of operations determine the device type.”



When does DC make sense? Care points when a dealer sells DC



Ek17 · When does DC charging make sense?

In **car parks, dealerships, service centres, fleets, shopping malls, fuel stations, logistics** sites and locations with high vehicle turnover.

In DC projects the **transformer/contracted power, infrastructure, panel, cable distance, ventilation, installation area and commissioning** process is more extensive than for AC.



Ek18 · Care points when a dealer sells DC

The **project site survey** comes before the device price: no definitive solution is given until power, location, transformer, infrastructure, payment system and service access are clarified. Commissioning and testing are carried out **in coordination with HIMS/the technical team**.



Survey photos · Contracted power · Breaker tripping



Ek19 · Photos to request

Inside the panel, meter, main circuit breaker, RCD, parking spot, installation point, cable route, and the existing socket if any.

In addition, the approximate distance and the phase to be used are obtained.



Ek20 · If contracted power is insufficient

The breaker may trip, voltage may drop, and charging may become **unstable**.

The customer should arrange a **power upgrade or installation improvement** through the distribution company/electrician.



Ek21 · If the breaker trips, is the device faulty?

No. Usually it is the rated value, cable cross-section, residual current, a loose connection, installation capacity, or other loads.

Test: lower the current, try a different vehicle/location, check panel connections and the RCD.



16 A from a socket · Surge arrester · Type A/B · Outdoor use



Ek23 · Continuously drawing 16 A from a socket

Possible if the socket, cable, breaker and connections are good quality and of the right cross-section; **risky on old, loose or CCA wiring**. On a new socket, after the first 1-hour charge the plug should be removed and checked for **heat/smell/colour**.



Ek25 · Why is a surge arrester recommended?

It protects the device and installation against **lightning and grid surges**. The recommendation is stronger outdoors, in detached buildings, industrial areas, on long lines and where fluctuations occur.



Ek26 · Is Type A sufficient, or is Type B needed?

If the device has integrated **6 mA DC detection (RDC-DD)**, Type A may be sufficient; otherwise Type B may become necessary. **Confirmation from the technical team** is required, depending on the model and standard.



Ek27 · Where to place the device outdoors?

Direct sun, a façade exposed to constant rain, standing water and impact risk are **not preferred**. A shaded spot, a solid wall/pedestal, a route that does not crush the cable, and accessible service space should be considered.



SIMPLE EXPLANATION · EK 28-29

Difference between kW and kWh · Calculating charging time



Ek28 · Difference between kW and kWh

kW = power: how fast the device can deliver energy at that moment.

kWh = energy: how much energy goes into the battery.

Example: $11 \text{ kW} \times 2 \text{ hours} \approx 22 \text{ kWh}$ — losses and vehicle limits may change the result.

EK29 · HOW IS CHARGING TIME CALCULATED?

Time $\approx$ Energy $\div$ Actual Power

$40 \text{ kWh} \div 10 \text{ kW} \approx 4 \text{ hours}$

In the final percentage range the vehicle may slow down to protect the battery; the time is not always fully linear.



SIMPLE EXPLANATION · EK 31 · 33

Explaining single-phase / three-phase · Night-tariff scheduling



Ek31 · Single-phase vs three-phase

Single-phase delivers lower power; **three-phase provides more balanced, higher power**. 7.4 kW is usually single-phase 32 A; 11/22 kW is considered with a three-phase supply.

Line: “For the device to charge quickly, both the vehicle and the building need to support three-phase.”



Ek33 · Charging on a night tariff

If the model supports it, **daily/hourly scheduled charging** can be set from the app.

The reservation/scheduled charging menu in the app should be shown to the customer; **the menu name may vary by model**.



App does not see the device · Charging history · Lost card



Ek34 · The app does not see the device

Checklist: Bluetooth/Wi-Fi permissions, is the device seeing Wi-Fi, is it a **2.4 GHz network**, is OCPP enabled, is it already linked to another user?

On the portable unit, the button is pressed **for the correct duration** to pair/reset; a long press triggers a different function.



Ek37 · Where can charging history be viewed?

This varies by model and app: limited history for individual units; detailed, user-based records in the **commercial model/management software**.

For a “I want a report” request, the **individual/commercial distinction** must be made correctly before the sale.



Ek38 · If an RFID card is lost

If there is a risk of unauthorised use, **cancellation or re-registration** is initiated; in the commercial model this can be done from the system.

For the individual model, card/module processes are referred to **HIMS service**.



SERVICE STANDARD · EK 40-41

What is requested first for a fault report · Tests before service



Ek40 · What to request from the customer first

Device model, serial number/label photo, vehicle make/model, error code, screen photo, connection video, panel/socket photo, neutral-to-earth measurement.

No service decision is made until this information is received.



Ek41 · Before sending to service

Tests: **a different vehicle, a different socket/location, a different cable, lower current.** Earthing and voltage measurements are taken.

If the fault recurs, it is **recorded on video** and referred to service.



Response to “send me a new one” · Sentences never to use

EK42 · TO A CUSTOMER SAYING “SEND ME A NEW ONE”

“Of course we want to resolve your issue; but for the right action, we first need to establish whether the fault comes from the device, the installation, or the vehicle.”

No replacement is promised without seeing the product; photos, video and measurements are obtained first.

EK47 · SENTENCES NEVER TO USE

- ✗ “The device is definitely faulty.”
- ✗ “We'll send a new one right away.”
- ✗ “No need to check the installation.”
- ✗ “You'll get 22 kW with every vehicle.”

Correct sentence: “We can give you a clear answer once your vehicle, installation and device setting have all been checked together.”



SERVICE STANDARD · EK 44-46

Broken cable/socket · If measurement cannot be taken · Packaging



Ek44 · Is a broken cable/socket covered by warranty?

Physical damage from impact, crushing, pulling, or being run over by a vehicle **may be assessed as outside warranty.**

Photos/video are still obtained;
repair/replacement is then offered.



Ek45 · If the customer cannot measure

The customer is asked to call in a **qualified electrician**; no final decision is made on an incorrect measurement.

The dealer clearly specifies what to measure:
neutral-to-earth, phase-to-neutral voltage, breaker/RCD rating, cable cross-section.



Ek46 · Packaging for service

The device is boxed so it will not be knocked; the cable/socket ends are protected; a **fault note + contact details** are placed inside. Taking an overall photo before shipping makes it easier to **distinguish transport damage.**



SERVICE STANDARD · EK 48

Quick Phone Decision Tree — 6 Questions

1

Does charging not start at all, or does it cut out after starting?

2

Is there an error code?

3

Which vehicle?

4

Was a different device tried in the same spot?

5

Does lowering the current fix it?

6

Neutral-to-earth measurement, in V?



Result: These 6 answers separate most of the issue into device / installation / vehicle / user-flow.



Cable cleaning and storage · Can the device stay on all the time?



Ek49 · Cable cleaning and storage

Cleaned with a **dry or slightly damp cloth**; no chemicals, pressurised water, or water contact inside the socket.
No sharp bends; the cable is stored **coiled and free from crushing**.



Ek50 · Can the device stay on all the time?

It can stay on with low idle consumption; if it will not be used for a long time, cutting power is a preference assessed **according to usage habits**.
Outdoors, socket covers must be kept closed and the cable end kept **clean and dry**.



ADDITIONAL TOOL

Quick Diagnosis Form for Dealers (Phone / WhatsApp)

Field	Information to obtain from customer
1. Device model	Model name, power rating, serial/label photo if available
2. Vehicle information	Make/model/year, AC onboard charging power if known
3. Fault condition	Does it not start at all, cut off after starting, or show an error code?
4. Photo/video	Screen, socket connection, panel/outlet, and video of the fault if possible
5. Wiring information	Single/three-phase, cable cross-section, circuit breaker rating, RCD type
6. Measurement	Neutral-to-earth voltage, phase-to-neutral voltage, earthing resistance if needed
7. Quick test	Does it improve when current is lowered? Has a different socket/vehicle/cable been tried?
8. Final decision	Note the likely cause (wiring/vehicle/user flow/device); refer to service centre if needed



SHORT SAMPLE REPLY FOR WHATSAPP

“Hello, to make an accurate diagnosis we would ask for the device model, the vehicle make/model, the error code/photo on the screen, and a short video of the moment charging cuts out. We will also need a neutral-to-earth measurement from your electrician; in AC charging this value points to the source of most issues.”

This template can be copied and used for technical requests received by phone/WhatsApp.



DIAGNOSIS FIRST, THEN SOLUTION.

Model + code + vehicle + image + measurement. No definitive or misleading statements; only reassuring, accurate answers.