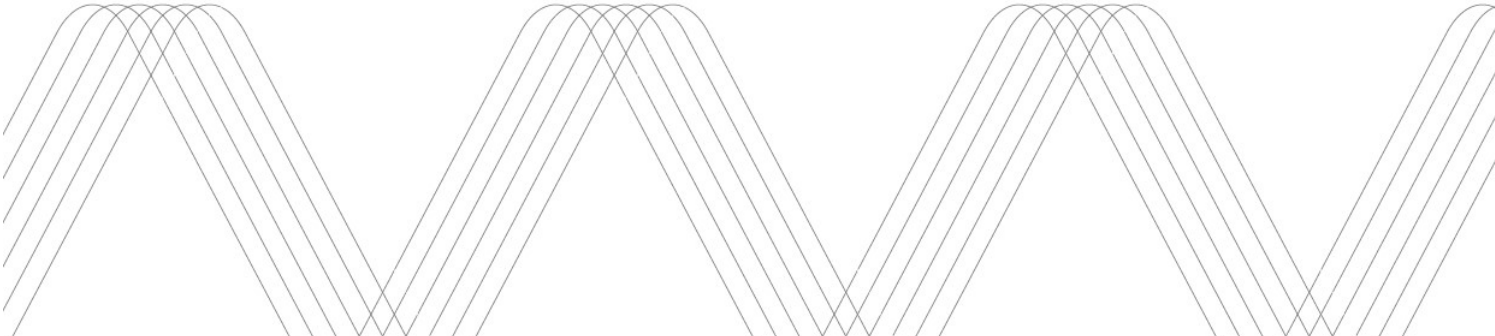
	Title	Author	Date
	Aura fw149 release notes	Erik Wallin	2025-06-27
	Classification	Document Id	Version
	Not controlled	CADEV-###	1

# Charge Amps Aura fw149

Release notes and OCTT tests



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## Changes

Version	Author	Date	Updates
v1	Erik Wallin	2025-06-27	First edition

## Upgrading instructions

### Important!

Firmware version FW129 and FW134 have a fault that causes upgrade to versions FW129 to FW134 to clear the AuthorizationKey if it is set. Avoid upgrading to any version between FW129 and FW134 if AuthorizationKey if it is set. Upgrade to version 135 or higher preserves the AuthorizationKey.

## Version 149

Release date 2025-06-27

### New features

### Changed behavior

### Improvements

### Bug fixes

- Send test button pressed in intercom rcd\_trip\_info – fixes issue with wrong info in StatusNotification after pressing RCD test button
- Improve robustness in i2c communication
- Reset mode\_change\_pending in B1 and C1 – resolves issue with charger not leaving preparing state when a previous session ended with a phase change
- Changing freeCharging should be possible when another connector has a transaction

#### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- PR9595: Security Profile 2 for Wi-Fi blocked

## Version 147

Release date 2025-05-21

#### New features

#### Changed behavior

#### Improvements

#### Bug fixes

- Fix issue where ChangeAvailability Operative is rejected on the right connector when RFID lock is enabled (OCPP key FreeCharging==1.x,2.0)

#### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- PR9595: Security Profile 2 for Wi-Fi blocked

## Version 146

Release date 2025-05-07

#### New features

- Overheat monitor. New ocpp key OverheatCheck. This reduces charging current to 10A if overheating is detected. This protects against badly terminated cable connections.
- New DataTransfer messageId OverheatMonitor with details of the temperature increase when overheat is detected

- Send more temperature measurements in MeterValues. Temperatures are reported per location. The charger now reports temperatures from each connector (Outlet), the main board (Body) and CPU (Inlet).
- Temperature for Body is sent with decimal values. The measurement resolution is 0,125 degrees Celsius

### Changed behavior

### Improvements

- WiFi stability improvements
- Update LMI to new version
- Queue StatusNotifications with errors when offline and send when going online
- Set timestamp on StatusNotification with errors
- Queue DataTransfer messages with errors when offline
- Increase intercom timeout during boot to 10 minutes. This avoids rebooting before charger has time to upgrade firmware if needed
- Zero memory on boot and reboot. This improves stability when restarting the charger without a power cycle

### Bug fixes

- Allow RemoteStartTransaction when FreeCharging is set. This resolves issues with not being able to start a new transaction after a transaction was stopped with RemoteStopTransaction
- Send Unavailable after StopTransaction if Inoperative is scheduled
- Charger goes to preparing when changeAvailability from Unavailable to Available and car is plugged in. This resolves an issue with not being able to start a transaction after changing availability
- Fix issue with white screen on first LMI load
- Go to booted even if there are state restrictions. This resolves issue of StatusNotifications not being sent on boot if the charger is faulted
- Update timestamp on SecurityEventNotification when clock is set
- Fix crash when requesting DataTransfer ChargingLimitations

### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- PR9595: Security Profile 2 for Wi-Fi blocked



## Version 145

Release date 2025-02-03

### Bug fixes

- RCD filter improvements – this resolves issues with some car models causing RCD trips
- Remove legacy OCPP key LoadBalanced – this resolves issues with chargers failing to assign current when this key was incorrectly set true

### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 144

Release date 2025-01-13

### New features

- Troubleshooting: DataTransfer chargingLimitations will reply with limitations based on configuration, profiles, and internal limitations

### Changed behavior

### Improvements

- Only include idTag in StopTransaction.req when tag is used to stop transaction
- Omit transactionId in MeterValues if no transaction active
- Include transactionId in MeterValues when sending ClockAligned
- Send StatusNotifications with vendor specific error messages errorCode: OtherError and vendorErrorCode: PWMVoltageError, B1NoDiode and DStateNotSupported. Change from vendorErrorCode to info for volatile flags error. Add info field with PWM voltage levels.

### Bug fixes

- Only set CP signal PWM when in charging states. Stay in B1\_NO\_DIODE until cable is unplugged. Improve detection of CP signal grounded.

- Stability improvements to USB and I2C drivers. This avoids reboots due to busy wait triggering watchdog reset.
- Fix race condition when calculating current limit from CPMax charging profile. This resolves issues with spurious SuspendedEVSE. This could happen even without using CPMax profiles.
- Charging profiles are now stored with 1 second precision. Charging profile periods were rounded to the nearest 10 seconds. This resolves issues with charging profile periods shorter than 10 seconds and periods not starting when expected.

#### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 143

Release date 2024-06-14

#### New features

- Add configuration Key MessageTimeout – handle message timeouts according to OCPP Standard
- Add Measurand 'Frequency'

#### Changed behavior

- Remove configuration key StopTransactionOnEVSideDisconnect (optional key from Errata v4.0 3.79)

#### Improvements

- Addition to LMI of OCPP ChargepointID Authorization, Wi-Fi SSID list
- Stop resending tx related messages after multiple callError replies
- Change chargingProfileId to be int32 as in OCPP standard
- Reject RemoteStartTransaction when connector is Unavailable
- The Wi-Fi defaults to 802.11b/g – enable 802.11n

#### Bug fixes

- Use -1 for temporary transaction id and send StopTransaction in shutdown values if it has temporary id

- Use transactionId -1 when CPMS sends 0
- Use transactionId -1 if no StartTransaction reply was received
- Handle shutdown on CON2 when AC IN fails
- Resolve race conditions in intercom messages which could cause reboot
- Send reason Reboot in StopTransaction when charger crashed
- Keep saved transaction data from shutdown until sent
- Save shutdown-data for both connectors
- Stop transaction on CON2 during Reset
- BootNotification resend at reject and pending
- Avoid using installation offline current when active schedule
- Charger should go to SuspendedEVSE after timeout when OA on transaction start
- Reset internal variable which could cause stuck-in-preparing

#### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 142

Release date 2024-03-25

#### Upgrading instructions

##### **Important!**

Firmware version FW129 and FW134 have a fault that causes upgrade to versions FW129 to FW134 to clear the AuthorizationKey if it is set. Avoid upgrading to any version between FW129 and FW134 if AuthorizationKey if it is set. Upgrade to version 135 or higher preserves the AuthorizationKey.

#### Improvements

- RCD improvements to avoid false RCD trips on some cars with very noisy power consumption
- Improved general code stability and robustness
- HISuperv will never be smaller than HeartbeatInterval. This resolves an issue where the charger could reboot every HISuperv seconds when idle if HeartbeatInterval is larger than HISuperv.

### Bug fixes

- Fix connection failure on first attempt using WiFi
- Activate RCD test buttons after RCD calibration and make sure the button state is correct on boot. RCD on right connector would trip on boot with a car connected and FreeCharging active.

### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 141

Release date 2024-03-08

### Upgrading instructions

#### **Important!**

Firmware version FW129 and FW134 have a fault that causes upgrade to versions FW129 to FW134 to clear the AuthorizationKey if it is set. Avoid upgrading to any version between FW129 and FW134 if AuthorizationKey if it is set. Upgrade to version 135 or higher preserves the AuthorizationKey.

### New features

- Add DataTransfer messages for testing RCD

### Changed behavior

- Use intallationPhases as default if phases is missing in schedule
- Send first MeterValues within 5 seconds of transaction start
- Changed format for RCD DataTransfer messages
- AssignedCurrent is ignored when SmartCharging profile is active
- Delay switching on phase relays (L1-L3) by 3 ms, so N relay is always connected first
- Empty Wi-Fi password is now allowed. This is for backwards compatibility with CAPI chargers. Using open Wi-Fi networks is *strongly* discouraged
- OCPP connection watchdog activated by default. The default for HISuperv and HISupervCharge are changed as follows. If the charger has not set these parameters, they will be upgraded to the default values.

HISuperv: 3600  
HISupervCharge: 86400

### Improvements

- Support for ISO15118 BCB wakeup. This resolves issues with cars that are trying to activate the ISO15118 modem and get confused when the charger starts the charging session before the wakeup sequence is done. Prolonged B2->C2 timing for ISO15118 wakeup.  
The timing is now set to 500ms.  
This is to handle cars that try to wake up the 15118 modem by sending short 200-400 ms pulses of B-C-B transitions.
- Correct corrupted OCPP configuration
- Allow UserCurrentLimit zero

### Bug fixes

- Ensure that CPU temp measurements do not interfere with RCD
- TXDefaultProfile applied immediately even if StartPeriod = 0
- DataTransfer vendorId and messageId should be case insensitive
- Fix crash when reconnecting network, and improve OCPP message queue stability

### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked
- RCD sometimes false trips on CON2 if FreeCharging is on and a car is connected during boot
- If HeartbeatInterval is higher than 3600, the charger will reboot every 3600 seconds if it is idle. A workaround is to make sure HISuperv is always higher than HeartbeatInterval

## Version 140

Release date 2024-02-29

### Upgrading instructions

#### Important!

Firmware version FW129 and FW134 have a fault that causes upgrade to versions FW129 to FW134 to clear the AuthorizationKey if it is set. Avoid upgrading to any version between FW129 and FW134 if AuthorizationKey if it is set. Upgrade to version 135 or higher preserves the AuthorizationKey.

### New features

- Send StatusNotifications with reporting of HighTemperature
- Support for MRCD Type B according to IEC 60947-2

### Changed behavior

- Chargepoint will use serial number when connecting to Charge Amps production cloud. ChargepointID ocpp configuration key is not used.
- Send diagnostic info using CALLERROR when InstallCertificate fails to parse the certificate
- Send DataTransfer messages on RCD trip and calibration failure

### Improvements

- Ensure time critical ISRs do not hang waiting for flash writes
- Enable MPU to ensure time critical ISRs are not accessing flash memory
- Stability improvements
- Pilot PWM sampling reworked. Now uses ADC oversampling instead of sampling the whole pulse to RAM
- Connect to hidden network with strongest AP

### Bug fixes

- Report Installation failed correctly on firmware upgrade
- Verify that the firmware type is valid on firmware upgrade
- Make sure socket is closed when failing to establish connection
- Correction on handling AuthorizationKey on firmware
- Lock ocpp flash queue area during initialization. This fixes issues with corrupt or missing stored offline ocpp messages.
- Handle wrapped intercom message headers. Fixes bugs in intercom communication between left and right connector, that sometimes lead to unit reboots.

### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

# Version 138

Release date 2023-10-27

## Upgrading instructions

### Important!

Firmware version FW136 has a fault which can cause upgrades to permanently disrupt the functionality. This may happen if an upgrade is performed after a previously failed upgrade indicated by FirmwareStatusNotification message DownloadFailed, InstallationFailed or stuck at *Downloading*. To safely upgrade from firmware version FW136, make sure to reboot the device immediately before the operation *UpdateFirmware*.

Firmware version FW135 and older can fail to upgrade when connected to OCPP using TLS (wss://server), and very long certificate chains. One or more of the following methods may be required:

- Use a shorter certificate chain
- Rebooting the charger immediately before doing the upgrade
- Connect to OCPP without TLS during the FW upgrade (ws://server)
- Contact Charge Amps support

## New features

- DataTransfer with messageId **networkStatus** will return a JSON object with network status
- Improved remote debug logging. This adds a new RemoteDebug OCPP custom key. Sending log messages in DataTransfer is improved. DataTransfer logs and GetDiagnostics logs now have identical contents.

## Changed behavior

- DebugLevel and RemoteDebugLevel custom OCPP keys removed. This functionality is now unified under the new key RemoteDebug.

## Improvements

- Add User-Agent header to HTTP request

## Bug fixes

- Return Rejected when trying to set MetervaluesSampledData to unsupported measurands

- Avoid deadlock and speed up setting when setting RTC. This also fixes time always behind by 2-4 seconds.
- Time was not set correctly on first boot of new charger
- Delay boot 5 seconds to force always setting the time correctly
- Only send StatusNotifications once on boot
- Fix DataTransfer backwards compatibility with old type vendor id
- Allow data parameter in DataTransfer reply
- Make data field in DataTransfer requests optional
- Send CALLERROR messages with correct format. CALLERROR messages had a trailing '\0' character that would confuse some implementations, leading to timeouts.
- Correct for failing internal debug log
- Block update with same version as installed. This avoids bricking chargers under certain conditions.
- Protection against OCPP queue overwriting fw upgrade in flash scratch area. This fixes a rare case where charger would get bricked on fw upgrade.
- FW upgrade improvements and bug fixes
- Protect against writing fw upgrade outside the dedicated flash area. This fixes a bug that would brick chargers when the same firmware upgrade is attempted twice.
- Handle restarted fw download correctly after a failure to upgrade
- Fix validation on restarted fw upgrade. This resolves the issue of fw upgrade always failing when retrying without restarting.

#### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 136

Release date 2023-06-30

#### Upgrading instructions

##### **Important!**

Firmware version FW135 and older can fail to upgrade when connected to OCPP using TLS (wss://server), and very long certificate chains. One or more of the following methods may be required:

- Use a shorter certificate chain



- Rebooting the charger immediately before doing the upgrade
- Connect to OCPP without TLS during the FW upgrade (ws://server)
- Contact Charge Amps support

### Improvements

- Better compliance with 61851-1, Annex A, car charging state communication

### Bug fixes

- OCPP StatusNotifications missing intermittently
- NFC Handler timeouts are off by 10%
- FTP sometimes fail, due to race condition between data channel and control channel
- FW update success reported with FirmwareUpdateStatusNotification instead of SignedFirmwareStatusNotification, when firmware was upgraded using SignedFirmwareUpdate
- GetConfiguration fails to return InstallationPhases when requested explicitly
- Charging state is changing too fast in certain scenarios
- Memory leaks when doing TLS operations
- Certificate installation sometimes fail
- Unable to reconnect using TLS
- FW upgrade fails when using OCPP over TLS and large server certificate chain

### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 135

Release date 2023-05-30

### New features

- Support for B2 Wakeup. Workaround for legacy cars and some newer cars. Enabling with OCPP configuration key WakeupEnable. This will trigger a wakeup procedure if the car does not respond to offered current within 30 seconds.

## Changed behavior

- Send HTTP Basic Authentication header in first request if enabled. This used to be sent only after receiving a HTTP Status 401
- DeleteCertificate always returns Failed. Since the charger currently only supports one certificate of each type.
- Security Profile 3 not supported, SignChargePointCertificate is rejected
- Not possible to disable LMI in Security Profile > 1
- **NOTE!** This version will sanitize the AuthenticationKey parameter. It enforces the OCPP standard minimum 16 and maximum 20 bytes key length. Keys with length outside these values will be reset.

## Improvements

- Add OCPP config keys AdditionalRootCertificateCheck (Read only, false) and CertificateStoreMaxLength (Read only, 1)
- Security Profile 1 enabled
- Disconnect from TLS session when server certificate expires
- Trigger SecurityEventNotification when trying to connect with TLS (Security Profile 2) using Wi-Fi
- Improve handling of OCPP Reset, and reboot from LMI. More graceful shutdown. Try to send queued ocpp message and status messages. Also closes WebSocket gracefully if possible. Reboot will finish as soon as all network activity is done.
- Disable LMI during reboot
- Enable Security Profile 2
- Support for SignedFirmwareUpdate

## Bug fixes

- Drop connection on HTTP Status 4xx
- Fix problem with sending LMI communication on closed sockets
- AuthenticationKey that contain 0xFF and 0x00 are now correctly handled
- Revert on connection failure after InstallCertificate
- Fix bugs in Wi-Fi handling. Increase buffer size for PWD and SSID in Wi-Fi code
- Fix race condition when closing Ethernet sockets
- Memory leak in Ethernet when DNS lookup fails
- Reply with Reject on InstallCertificate with an invalid certificate
- Testing of new certificate in InstallCertificate fails to reject invalid certificate
- Scanning NFC tag from LMI sometimes fails
- FTP sometimes fails due to socket state from wrong level
- Charger sometimes reboots on reconnection to Wi-Fi

- CPMAX profiles not working as intended
- Firmware upgrade sometimes fail

#### Known issues

- Reservation not supported
- OCPP Improved security features are only partly supported
- Security Profile 2 for Wi-Fi blocked

## Version 134

Release date 2023-02-27

#### Improvements

- Improved production support

## Version 133

Release date 2023-02-20

#### New features

- Support for reading 10 byte NFC tags

#### Changed behavior

- Default numberPhases is 3 in a ChargingProfile if not specified. This is according to the OCPP standard
- When switching to Security Profile 1 or 2, ManagementInterface is set to 600 seconds  
ManagementInterface can not be disabled in SecurityProfile >=1  
*See Charge Amps Aura OCPP API description for details*
- Start NFC Reader earlier after start of charge point

#### Improvements

- Wait longer for relays to release before switching relay mode
- Improved sending of WS Pong
- Don't save Status Notifications when charge point is offline
- NFC reading improvements
- Network improvements

## Bug fixes

- Fix problem with open connections not being closed
- Fix issue with rejected chargingprofiles
- Make sure StopTx is saved until sent to central system on multiple reboots
- Correct spelling of LoadBalanced configuration parameter
- Fix issue with setting AssignedPhase to L123
- Resolve issue that charging does not start again on CON2 after phase change and SuspendedEVSE (0 current)
- Correct setting of phase when phaseToUse is specified in chargingprofile
- Set L123 if numberPhases is 3 in charging profile
- Improve stability on CON2
- Fix for offline transaction upload that sometimes uses wrong transaction ID
- Remove bogus StatusNotification Faulted on boot
- Handle connection failure on cached DNS
- Always restart transport when connection fails
- Make sure correct TxId is sent after power loss in SuspendedEV
- Fix power detection on boot
- Fix issue with rapid current changes leading to OA charging rate (PWM)
- Use actual current assigned in PWM when calculating overcurrent

## Known issues

- Reservation not supported
- OCPP Improved security features are disabled
- Security Profile 2 for WiFi blocked

# Version 129

Release date 2022-11-29

## New features

- Add configurable high level watchdog. See *Charge Amps Aura OCPP API description* for details.

## Improvements

- AuthorizationKey tested before updated

### Changed behavior

- Do not send SecurityEventNotification when SecurityProfile is 0
- Allow changing SecurityProfile level without verifying AuthorizationKey. This conforms to the OCPP standard.
- UnlockOnEVSideDisconnect is now default true

### Bug fixes

- Improved error handling of WebSocket handshake
- Fix intercom CRC which caused reboot
- Disable reservation implementation which could cause RemoteStartTransaction to return Blocked
- Corrected wrong transaction id on StopTransaction when offline

### Known issues

- Reservation not supported
- OCPP Improved security features are disabled

## Version 128

Release date 2022-11-08

### Improvements

- Add timeout to LMI server sockets

### Bug fixes

- Unexpected server HTTP responses drops connection
- Network stability improvements
- Fix user:pass parse from uri

### Known issues

- Reservation not supported
- OCPP Improved security features are disabled

## Version 127

Release date 2022-10-14

### Improvements

- Add load balancing indication to LEDs
- Improved watchdog and exception handling
- Set chargepoint to Fault state on boot when RCD has tripped

### Bug fixes

- Case insensitive comparison of RFID tags
- Ethernet stability, reset connection on websocket loss

### Known issues

- Reservation not supported
- OCPP Security improvements are disabled

## Version 125

Release date 2022-09-12

### Improvements

- Add check for present smart charging profile id
- Connection reconnect/back-off improvements
- Stabilize BootNotification resends and timeout

### Bug fixes

- Evaluation of smart charging profiles corrected for future events
- Fix connectors install current when calculating charging current
- Fix issues with FTP communication socket closure

### Known issues

- Reservation not supported
- OCPP Security improvements are disabled

## Version 124

Release date 2022-08-08

### Improvements

- Correct problem in production with new batch power boards to handle variations in circuit specification
- Check installationPhases before setting phase

### Bug fixes

- Corrections to setting AssignedPhase

### Known issues

- Reservation not supported
- OCPP Security improvements are disabled

## Version 122

Release date 2022-06-22

### Improvements

- Network stability
- Add support for Power.Active.Import and more measurement
- Set ChargingProfile on RemoteStart
- TriggerMessage handles connector correctly, and rejects invalid values
- Block toggling FreeCharging during transactions
- Clear cache and smart charging on factory reset

### Bug fixes

- RemoteStopTransaction works with tags of length 20
- Report OverCurrent correctly
- Corrected SmartCharging evaluation
- Reject non-cached tags if server does not reply in time
- Allow charging with 6A on connector 2
- Power always disabled in suspended state
- Problems using same tag for both connectors

### Known issues

- Reservation not supported
- OCPP Security improvements are not working in this version

### Signing signature

SignedUpdateFirmware currently not supported

## Version 118

Release date 2022-05-12

### New features

- Smart charging support
- Wi-Fi support
- Unlock connector support
- Legacy cable lock option
- Initial support for parentIdTag
- OCPP key WebSocketPingInterval support

### Improvements

- Firmware upgrade stability improved
- Handling of cable lock improved
- Diagnostic data improved
- Set dimmer in % instead of 0-255

### Bug fixes

- Transport: On server error during communication, notify client
- Always reboot on power loss
- UseLegacyLock set when upgrading
- WebSocket message with fragmented packets fixed
- Using both ethernet ports fixed
- Fix handling of multiple WebSocket messages in same IP-packet
- Correctly handle WebSocket continuation frames
- Corrected TLS handshake issues on Ethernet and Wi-Fi
- Remove DHCP timeout on ethernet link





## Known issues

- Reservation not supported
- Two ethernet connectors may require daisy chain start sequence

# Version 109

Release date 2022-02-21

## New features

- First release

## Known issues

- No smart charging
- No reservation
- No Wi-Fi

# Secure firmware update

## Signing signature

TXHApXgAunClon74aWODlxiQb4g+atwhdGBGh8rSg9cUxZh4ddoklXMQELVX4fJo/xPr88zJa42K708oakkDY  
PJCFv85TYoN6z4Axdjpuvjcic1yWe4QylQ+/U1CFpEyg/vYMWWhsmpzSOVfz6hBiLCKVOBROOZZFAjdMSEIZ5  
ZGfKRvGMITr45KmZNhaLE2lAB4hHTdVrmp/elejmNPZgWNnqV15i3VVfch2L7a+beV4YMXixRhYsey+Xmxi  
PdZsora69Y+VGXNzK7pBgoRA6zZpggQTmtZlmdbs8Bkxalo7JslKyhsRzgGkiUI10Y1vFqPwrdJQGQFTkSbd3s  
gsig==

## Signing certificate

308203763082025EA00302010202101E98525D22716848A86A96D129A321E6300D06092A864886F70D  
01010B05003051310B300906035504061302534531173015060355040A130E4368617267652D416D707  
32041423110300E060355040B1307526F6F74204341311730150603550403130E4368617267652D416D  
70732041423020170D3230303232363133323332355A180F32313230303232353233303030305A304F3  
10B300906035504061302534531173015060355040A130E4368617267652D416D70732041423110300E  
060355040B130748616C6F204657311530130603550403130C48616C6F2046572043657274308201223  
00D06092A864886F70D010105000382010F003082010A0282010100B5BFB40D1B3895F05C562A59E  
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482AF16288BAA383C9D48E81B2FC213FC7A6B40EEA5ADC59C92020B

## OCTT (OCPP compliance)

### Tests completed

TC\_CP\_V16\_000\_RESET - Revert Charge Point to basic reset state  
TC\_CP\_V16\_000\_STOPTX - General Script - Charge Point - Stop charging session  
TC\_CP\_V16\_001 - Cold boot charge point  
TC\_CP\_V16\_003 - Regular charging session - plugin first  
TC\_CP\_V16\_004\_1 - Regular charging session - identification first  
TC\_CP\_V16\_004\_2 - Regular charging session - identification first - ConnectionTimeout  
TC\_CP\_V16\_005\_1 - EV side disconnected\*  
TC\_CP\_V16\_005\_2 - EV side disconnected\*  
TC\_CP\_V16\_005\_3 - EV side disconnected\*  
TC\_CP\_V16\_007 - Regular start charging session - cached id  
TC\_CP\_V16\_008 - Regular start charging session - id in authorization list  
TC\_CP\_V16\_010 - Remote start charging session - cable plugged in first  
TC\_CP\_V16\_011\_1 - Remote Start Charging Session – Remote Start First  
TC\_CP\_V16\_011\_2 - Remote Start Charging Session - Time Out  
TC\_CP\_V16\_012 - Remote stop charging session  
TC\_CP\_V16\_013 - Hard reset without transaction  
TC\_CP\_V16\_014 - Soft reset without transaction  
TC\_CP\_V16\_015 - Hard reset with transaction

TC\_CP\_V16\_016 - Soft reset with transaction

TC\_CP\_V16\_017\_1 - Unlock connector no charging session running (Not fixed cable)

TC\_CP\_V16\_018\_1 - Unlock connector with charging session\*

TC\_CP\_V16\_021 - Change/Set configuration

TC\_CP\_V16\_023 - Start charging session - authorize invalid / blocked / expired

TC\_CP\_V16\_026 - Remote start charging session - rejected

TC\_CP\_V16\_027 - Remote start transaction - connector id shall not be 0

TC\_CP\_V16\_028 - Remote stop transaction - rejected

TC\_CP\_V16\_032\_2 - Power failure boot charging point-configured to stop transaction(s)

TC\_CP\_V16\_035 - Idle charge point

TC\_CP\_V16\_037\_1 - Offline Start Transaction\*

TC\_CP\_V16\_037\_2 - Offline start transaction\*

TC\_CP\_V16\_037\_3 - Offline start transaction\*

TC\_CP\_V16\_038 - Offline stop transaction

TC\_CP\_V16\_039 - Offline transaction

TC\_CP\_V16\_040\_1 - Configuration keys

TC\_CP\_V16\_040\_2 - Configuration keys

TC\_CP\_V16\_042\_2 - Get Local List Version (Local Authorization List Empty)

TC\_CP\_V16\_043 - SendLocalAuthorizationList-UpdatedType=Differential & Full

TC\_CP\_V16\_043\_2 - SendLocalAuthorizationList-UpdatedStatus=VersionMismatch

TC\_CP\_V16\_044\_1 - Firmware Update -Download and Install\*

TC\_CP\_V16\_044\_2 - Firmware Update -Download-failed; Status Notification

TC\_CP\_V16\_044\_3 - Firmware Update -Installation-Failed; Status Notification\*

TC\_CP\_V16\_045\_1 - Get Diagnostics of charge point

TC\_CP\_V16\_045\_2 - Get Diagnostics of charge point; Upload failed

TC\_CP\_V16\_054 - Trigger Message

TC\_CP\_V16\_055 - Trigger Message - Rejected

TC\_CP\_V16\_056 - Central Smart Charging – TxDefaultProfile

TC\_CP\_V16\_057 - Central Smart Charging – TxProfile

TC\_CP\_V16\_058\_1 - Central Smart Charging - No ongoing transaction

TC\_CP\_V16\_058\_2 - Central Smart Charging – Wrong transactionId

TC\_CP\_V16\_059 - Remote Start Transaction with Charging Profile

TC\_CP\_V16\_060 - Remote Start Transaction with Charging Profile - Rejected

TC\_CP\_V16\_061 - Clear Authorization Data in Authorization Cache

TC\_CP\_V16\_067 - Clear Charging Profile

TC\_CP\_V16\_068 - Stop transaction-IdTag stop transaction matches IdTag start transaction

TC\_CP\_V16\_070 - Sampled Meter Values\*

TC\_CP\_V16\_082 - The Central System sets a default schedule for a currently ongoing transaction.

\* partial compliance