Alfen NG9xx series Release Notes

NG9xx firmware revision 7.2

Document version 5

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1 Introduction

Firmware Release 7.2 includes stability improvements and bug fixes.

These release notes describe what is included in this release in terms of stability improvements, bug fixes and new features.

2 Generic stability improvements

- Measurands configured via OCPP are now verified against what is being read from the meter, if a meter does not have the requested measurand available "rejected" will be replied. If no meter is found (yet) "rejected" is replied.
- Added an extra check for the lock motors to not engage simultaneously with the relays. This prevent a power surge which lead to unnecessary overload of onboard fuses.
- Extended the time the bypass relays are on to make sure all types of supported relays are used within their specification.

3 Metering stability improvements

- Task handling of central and smart meter have been merged to improve performance.
- Removed reference of unused meters and protocols.
- Registers on Modbus TCP/IP meters are now forced to be read in consecutive order rather than in sequence of configuration.
- Improved command line functions and parameters related to metering.
- Memory usage of metering functions have been improved.
- Timing and retries of connections related to metering have been improved.
- Error warnings have been made universal for all used meter protocols.
- Support for Active Load Balancing using the HomeWizard P1 dongle has been improved.
- When a parameter of a smart or central meter is changed, the associated task is now fully restarted and reinitialized to improve performance.
- The IP address of a Modbus TCP/IP meter will previously only checked against ethernet interface IP and Netmask. Now the IP address is checked against the actually used service interface IP and Netmask. The caused an unwanted “IP Conflict” error in the logging, now this is changed to showing a warning text “Different subnet CS = %s, modbus meter = %s”.

4 Bug fixes

- Fixed an issue where Eve Double Pro-line incorrectly displayed error code 102 rather than error code 106 when the residual current device (RCD) tripped during charging.
- Fixed an issue where the logging of the charging station is spammed during a short power outage. Logging is suspended until a full recovery has been done.
- Fixed an issue where the charging station detects the presence of a tamper switch while this is not present due to noise. This is applicable on Eve Single S-line, Eve Single Pro-line and Eve Double Pro-line. A debounce time is introduced to prevent unwanted detection.
- Fixed an issue where RemoteStartTransaction does not work if a cable is already plugged into the E-Socket on Type 2 shutter (T2S) variants of the Eve Single S-line, Eve Single Pro-line or Eve Double Pro-line.
- Fixed an issue where the system clock shows an incorrect date for the first seconds after 00:00, leading to incorrect timestamps on transaction messages generated. The date is now updated fast enough when switching dates around 00:00:00, for example when a charging session is stopped or for meter values.
- Fixed an issue where recent revisions of the auxiliary board (AUX910) was not read out properly on Eve Single S-line and Eve Single Pro-line. Whereas revision A/B/C was properly detected, revision D or later was not properly detected, leading to limited functionality.
- Fixed an issue where the state of the connection with a Modbus TCP/IP energy meter is not updated properly and remained on “Idle” while retrieving registers. The state is now properly updated while the charger is retrieving registers.
- Fixed an issue where the triggering of the tampering detection caused the display to trigger the message “Please plug cable into the socket”. Bottom text will now display "Please hold card over reader below" when the user is not authorized.
- Fixed an issue where the charging station reported P1/TIC disconnection errors multiple times in logging. This error will now only be reported once.
- Fixed an erroneous translation in Portuguese: instead of “Comerçar Tarifa” it is now “tarifa inicial”.
- Fixed a display issue where the display was “stuck” in a specific screen on a Eve Double Pro-line when using signed meter values and a display languages with exotic symbols, leading to memory issues. The charging station can now detect when a screen is stuck and the language will be changed to English for the next screen, subsequently the language will be reverted to the desired language.
- Fixed an issue where an Eve Double Pro-line, Eve Double PG or Twin 4XL keeps spamming “starting SCN” in the logging when Static Load Balancing is enabled while a charging profile was active that prevents charging.
- Fixed an issue that bricks a charging station when setting the AuthorizationMethod to RFID from P&C via the backoffice without removing the PlugAndChargeIdentifier. Once AuthorizationMethod is now set to P&C it no longer bricks the charger if it does not have an invalid ID. The charging station will start using the default P&C Identifier, which afterwards still can be changed to the desired P&C ID.
- Fixed an issue where the Password Recovery Code functionality was no longer working for charging stations running firmware 6.6.0 or later.
- Fixed an issue where the UpdateFirmware FTP password censor fails when using “%40” instead of “@”. Added “%40” as the URL encoded version of “@” to filter the FTP password from logging.
- Fixed an issue where the relays were not driven with 100% duty cycle. The output pins of the main and bypass relays stay permanently on when they are intended to be 100% on.

- Fixed an issue where the tag of stop transactions were shown as 'unknown' when retrieved via the Restfull API. This caused the ACE Service Installer, MyEve and Eve Connect to not be able to show transactions.
- Fixed an issue where the GetCompositeSchedule was previously rejected. When now requesting a GetCompositeSchedule and no active scheduled periods are available, the max current of the socket/station are returned.
- Fixed an issue where creating a second SCN in the same network stops (uninitializes) the first SCN.
  During Smart Charging Network setup unexpected behavior occured when two SCNs had overlapping names. Specifically, if the name of the first SCN is completely contained within the name of the second SCN, it resulted in the first SCN to stop charging.
- Fixed an issue where a configuration key larger than 256 characters would not be sent correctly

5 New features

- Added the possibility to delay the connect socket timeout indefinitely by setting the connection timeout to 0. This will mean that no time-out occurs and the customer can wait indefinitely with authorizing the transaction after plugging in.

6 Known issues

Wi-Fi Access Point IP Conflict
We've identified an issue where the charger's internal IP address range (192.168.1.1/24) may conflict with other devices on the same network. This can cause connectivity problems, particularly for wired devices such as Modbus TCP/IP meters. A fix for this issue will be included in an upcoming firmware update.

P1 Measurand not available
When using a direct connection between the charger and the smart meter (over serial DSMR5 or Telnet P1 meters), a technical issue prevents the data from being read correctly. This happens because the data message is both completed and started within the same read cycle, making the data unreadable. When you are using this for load balancing, we recommend skipping this firmware version. We've actively working on a fix, which will be included in an upcoming release.

Unable to connect to TCP/IP Meter on networks without internet
An issue has been detected where the firmware fails to connect to a TCP/IP meter if the network lacks a router or internet access. In these setups, the charging station is unable to resolve the meter's address, resulting in a connection failure. At the moment we are working on a fix, which will be included in an upcoming firmware release.

6.1 Workaround

6.1.1 Workaround for Wi-Fi Access Point IP Conflict

If you're experiencing connectivity issues due to an IP conflict between the charger and other devices on your network (especially when using the 192.168.1.1/24 subnet), you can follow these steps to resolve the issue:

Option 1: Disable Wi-Fi and Access Point

- Access the charger's settings interface.
- Navigate to the Wi-Fi Access Point tab.
- Disable both Wi-Fi and the Access Point.
- Reboot the charger.
- Wait approximately 15 minutes for the changes to take full effect.

Option 2: Change the Router's IP Subnet

Note: If you have devices that use a fixed IP-address, their settings should also be adjusted to the new IP-range or connections may be lost.

- Access your router's configuration settings.
- Change the router's IP address range to a range different from 192.168.1.1 (e.g., 192.168.0.1 or 10.0.0.1).
- Ensure the charger is connected via Ethernet to this updated network.
- Reboot the charger.
- If Wi-Fi is enabled, wait 15 minutes for the Access Point to deactivate.

When Does This Issue Occur?

This issue typically arises when the charging station (CS) is connected to a network using the 192.168.1.1 IP range. The internal IP conflict can disrupt wired connections, such as those with Modbus TCP/IP meters.

Installer FAQ

Do all installers of Single+ with FW7.x need to wait 15 minutes before configuration?

No. This delay only applies if the Access Point is active and the charger is connected to a conflicting network.

Will the Wi-Fi Access Point re-enable after a reboot?

No, if you've manually disabled it. You can manage this setting in the same tab where you disabled the Wi-Fi Access Point.

6.1.2 Workaround for TCP/IP Meter Connection Issue on Networks Without Internet

If you're unable to connect a TCP/IP meter to the charging station on a local network without internet access, the issue may be due to the firmware's inability to resolve the meter's address without a DNS service.

Recommended Solution

To ensure proper communication between the meter and the charging station when using firmware version 7.2:

1. **Use a Router or Managed Switch**
   Set up your network with a router or switch that includes a DNS resolver. This allows the charging station to correctly resolve the meter's address, even without internet access.

2. **Connect the Devices**
   Ensure both the charging station and the TCP/IP meter are connected to the same local network through the router or switch.

3. **Verify Communication**
   After setup, check that the charging station can detect and communicate with the meter.

7 Back-end communication changes

- The Danish language option in "Language" is now indicated with "da_DK" instead of "dk_DK"
- The option "External modbus" is removed from configuration key "RJ11-Mode".
- The option "DSMR P1" is added to configuration key "ALB-ProtocolSelection".

8 Firmware update instructions

With the release of NG9xx Firmware 7.0, there is no longer the option between "A and B firmware versions", as first introduced with version 4.14.0

To update to NG9xx Firmware 7.2, please follow the steps according to below schedule:

Current firmware version	Step 1	Step 2	Step 3
4.12 or lower	Update to intermediate firmware version 5.6.0 ‘A’	Update to intermediate firmware version 6.6.2 version 'B'	Update to the latest firmware version
Between 4.14.0 and 5.6.0	Update to intermediate firmware version 5.6.0 ‘B’	Update to intermediate firmware version 6.6.2 version 'B'	Update to the latest firmware version
Between 5.6.0 and 6.x	Update to intermediate firmware version 6.6.2 version 'B'	Update to the latest firmware version	
6.6.2 and higher	Update to the latest firmware version		

9 Document Revision control

Document revision control

Date	Version	Description/status	Author
April 4th 2025	1	External release (RC)	Serge
May 2nd 2025	2	Updated based on comments	Sagar
May 28th 2025	3	modified firmware versions update instructions	Sagar
June 2nd 2025	4	Updated known issue found in RC testing by MobilityPlus	Sagar
June 20th 2025	5	Added known issues and workaround sub section	Sagar
June 30, 2025	6	Edited known issues and workaround sub section	Romeo