+45 9245 4655
www.flexecharge.com
info@flexecharge.com

Conformity Declaration TAR VDE-AR-N 4100

Document version: 1_042024_EN

FLEXeCHARGE APS
Rahbeks Alle 21
1801 Copenhagen
Denmark

We hereby assert, with full responsibility, that the load management system being presented ('HARMON-E') ensures adherence to the relevant specifications outlined in the Connection Guideline VDE-AR-N 4100:04-2019 pertaining to load management systems. The ensuing criteria have been thoroughly addressed and constitute integral components of this declaration.

5.5.2 Balanced Operation

In order to satisfy the stipulation that unbalanced loads do not surpass 4.6 kVA, HARMON-E incorporates a built-in balancing control mechanism. HARMON-E utilises a 1-minute moving average of the meter values, based on the Open Charge Point Protocol (OCPP), as reported by the charging stations. This method discerns phase loads and identifies potential instances of unbalanced load conditions.

Please note: It is imperative that all connected charging stations under load management transmit OCPP meter values, inclusive of phase-resolved charge currents at intervals of no less than 5-10 seconds. Additionally, both the operator of the charging site and the operator of the load management system bear the responsibility of activating the unbalanced load prevention mechanism and configuring it in accordance with local national regulations.

10.6.4 Active Power Management

The local controller ('Gateway Connect', or 'GWC'), is equipped with both open-loop and closed-loop control interfaces. These interfaces allow the district network operator (DNO) to restrict the maximum charging power for a site within the range of 100% to 0%. Specifically, the system incorporates digital input ports that facilitate external control over the maximum power output for a group of chargers, adjustable in increments of 10%. Moreover, the GWC includes a current-loop output interface, providing real-time information on the load status of the charging facility.

Furthermore, HARMON-E offers an Application Programming Interface (API) for dynamically adjusting the maximum permissible power allocation per charging site.

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Dr. Robert Brehm, Chief Technical Officer, FLEXECHARGE APS

Copenhagen, 15/04/2024

Signature: