CC613 charge controllers:

Safer charging

with the new generation

Alternating current (AC) charging stations can often be found at home, in hotels, public parking areas or at the workplace. A great advantage of AC charging is that the conventional 230 V/400 V AC power supply can be used and the charging infrastructure itself can be connected quite easily by any electrician.

The choice of charge controller is a fundamental decision, as it is the heart of each charging station and thus has a significant influence on its function. With its intelligent charge controllers, Bender provides the basis for an AC charging station or AC wallbox that stands out for innovation, economic efficiency and safety. Customers can set up their own charging infrastructure solutions and create new business models without the need for expensive and time-consuming development.

Extended functions

After a successful launch of the CC612 charge controllers in 2015, we are now releasing the next generation of charge controllers. With the CC612, Bender has gained broad access to the market and received very positive feedback. It enables a charging infrastructure with an EMH meter and transparency software that complies with German calibration law. With the new generation of CC613 charge controllers, the functional range of the charge controllers has been extended even further. It was important here to retain the mechanical dimensions of the already familiar CC612 charge controller so that it could be used in existing charging stations or wallboxes. The benefit for the customers is: the CC613 fits into the existing space, making it easy to retrofit.

The enclosure has been modified and an Ethernet interface has been integrated so that the controllers can be directly connected to an Ethernet network. This offers customers a cost advantage, as additional USB Ethernet adapters are not required.

The CC613 charge controller is also based on the IEC 62955 standard, which describes the fault current sensor. According to the standard, AC residual currents may no longer be triggered, as this function must be performed by the upstream RCD type A.

Additional monitoring – increased electrical safety

The emergency opener has also been built into the existing enclosure. This means that, in the event of a power supply failure in the charging station, the plug can still be removed without having to install another component in the station. On the one hand, this reduces the amount of wiring and, on the other hand, it also reduces the space required, which is a major advantage in small, compact wallboxes.

Continuous PE monitoring, another new function, ensures that the PE connection is properly connected. This is an advantage that helps to increase electrical safety and reduces the risk of electric shock in the event of a fault.

Another advantage is the integrated weld check detection. This checks whether the contactor or the load switch is stuck. To do this, the voltages upstream and downstream of the contactor are monitored. If a voltage is present behind the contactor when the contactor is open, an error message is issued.

The already known PLC (Powerline Communication) with ISO 15118 for implementing plug & charge has been retained as has the DC residual current detection with externally connected current transformer and the regular software updates for feature enhancements.

The integrated DLM (dynamic load management) has been extended with further functions but can also be overwritten by higher-level systems. This gives the customer the possibility to control larger systems either locally using the controllers themselves or using an existing (building) management system.

Extension module AUX613

In addition to the controllers, the AUX613 extension module for the charge controller will be available to customers at the end of the 1st quarter of 2020. This device uses the same housing as the CC613 and is therefore just as compact. In the first step, the AUX613 will contain an Ethernet switch that is connected to the CC613 via the USB interface. This reduces the amount of wiring required for communication with the billing system, as star topology is no longer necessary, and the Ethernet cables can be set up as a ring.

The AUX613 series allows for extensions. It is conceivable, for example, that a Wi-Fi module or additional inputs or outputs could be integrated in the next step.

Bender is taking the next step and providing its customers with solutions that meet the requirements of a sustainable and intelligent charging infrastructure while taking into account the normative and legal requirements. With continuous further development of the controller platform and software updates, any changes to the applicable standards in the future will also be covered to the greatest possible extent. This allows customers to focus on developing their charging stations and their sales – Bender will continue to pave the way for electric mobility into the future. ■

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INFO

More information: **https://www.bender.de/en/products/charge-controller/cc613-charge-controller**