Specifications

DC.chargeSTRESSOR**Pro** features

TTCN-3 based test cases for DIN 70121:2012-08

TTworkbench Express Licence

Test cases modifiable by customers

SLAC testing

supports real charging

analysis of the PWM
(pulse width modulation) signal

simulation of error currents possible

short circuit tests possible

developed in cooperation with VDE

Hardware components

19" Flightcase

3kW DC Load

integr. Oszilloscope

emergency stop

integr. 19" TFT Display with keyboard

integr. 7" Touch for easy-to-use execution of
pre-defined test campaigns

combo type 2 inlet

The world's first DIN70121 charging spot tester!

Finally, cars are becoming electric. For the first time the world has agreed globally on standards for electric vehicles (EV) and the corresponding charging infrastructure (EVSE). ISO/IEC 61851, ISO/IEC 15118 and DIN 70121 are the most prominent specifications in this context with regards to the communication between EVs and the charging spots.

For the successful roll-out of these new standards test systems are required to ensure interoperability of EVs and EVSEs globally.

Auronik and akkuteam have teamed up for the mission to develop a „golden device" for the validation of interoperability between EVs and EVSEs. This so-called „Stressor" series of e-mobility test systems is now being launched by its first product, the DC.chargeSTRESSOR which is a conformance tester for DC charging stations according to DIN70121 compliant communication.

Future products will cover testing of EV communication compliance as well as ISO15118 testing for DC and AC charging.

The new DC.charge STRESSOR

The application purpose of DC.chargeSTRESSOR is to provide an electric vehicle simulator and communication conformance tester to ensure interoperability between charging spots and electric vehicles regarding DIN70121 compliant signalling. DC.chargeSTRESSOR facilitates manufacturers to develop standard compliant charging spots without the need of a real EV for testing purposes.

DC.chargeSTRESSOR Pro comes with a test suite covering the full set of requirements of the DIN70121:2012-08 spec. It utilises the international standardised testing language TTCN-3 in combination with the test automation platform TTworkbench from Testing Technologies.

DC.chargeSTRESSOR Xpress is intended to be used for tests in the field. It executes pre-defined test campaigns and saves results on SD card for later analysis. The Xpress version does not include a TTworkbench licence and the 19" display.

Beside the provided conformance test suite customers can modify existing test cases or add new test cases e.g. regarding stress, robustness or boundary tests etc.

Also included is a straight forward test campaign covering a standard charging procedure. This straight forward test campaign executes the following communication sequence:

- ✔ Supported App Protocol
- ✔ Session Setup
- ✔ Service Discovery
- ✔ Service and Payment selection
- ✔ Contract authentication (cyclic)
- ✔ Charge parameter discovery (cyclic)
- ✔ Cable check (cyclic)
- ✔ Precharge (cyclic)
- ✔ Power Delivery
- ✔ Current Demand (cyclic)
- ✔ Power Delivery
- ✔ (Optional) Welding Detection (cyclic)
- ✔ Session Stop

Throughout the whole testing cycle extensive logging of data and signals is being processed. These include measurement of voltage and current, PWM duty cycle and logging of XML data of all sent and received messages. Log files are being stored on SD card, thus allowing for easy post processing and analysis with TTworkbench or other 3rd party applications.

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