• Loss measurements for inverters •

Measuring power losses in AC → DC inverters for EV fast chargers

Application of the measurement system:

Power efficiency evaluation of chargers for electric vehicles at the stages of their development, manufacture and service.

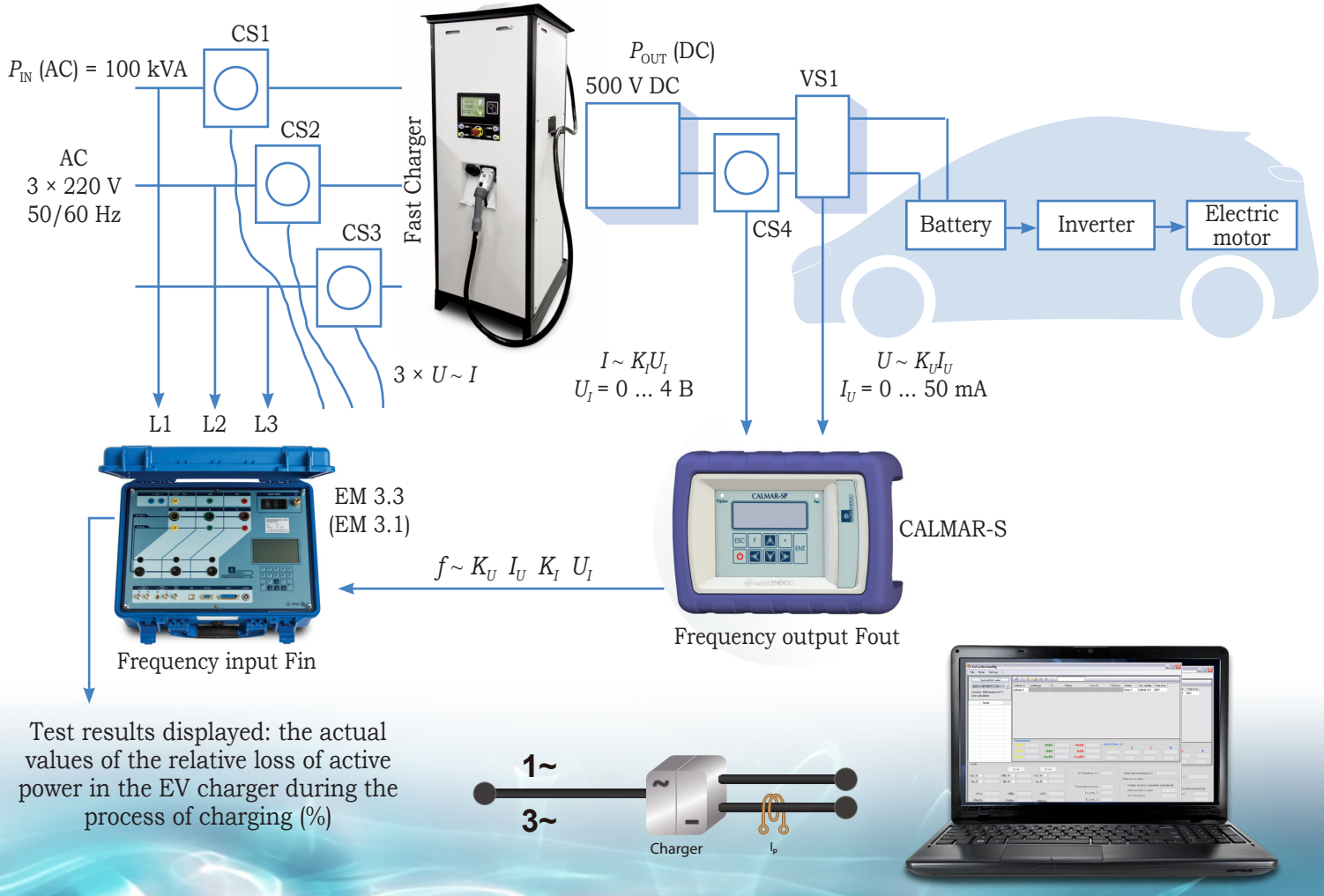
$$K_{loss} = \frac{P_{out} - P_{in}}{P_{in}} \cdot 100\,\%$$

In the course of EMC testing, the system measures:
active and reactive power, THD, cosφ, and unbalance parameters.
The AC/DC energy meter integrated in the EV charger can also be tested.

Components of the measurement system:

- Reference standard Energomonitor 3.3 (accuracy cl. 0.1) or Energomonitor 3.1 (accuracy cl. 0.02)
- Reference DC Volt/mA Calibrator CALMAR-S (accuracy cl. 0.01)
- 3 instrument AC current transformers 10 ... 200 A (CS1, CS2, CS3), accuracy cl. 0.2
- 1 instrument DC current transformer125 A (CS4), accuracy cl. 0.5, U_{OUT} 4 V
- 1 instrument DC voltage transformer 50 ... 500 V (VS1), accuracy cl. 0.5, I_{OUT} 50 mA

Block diagram



Measuring power losses in DC → AC inverters

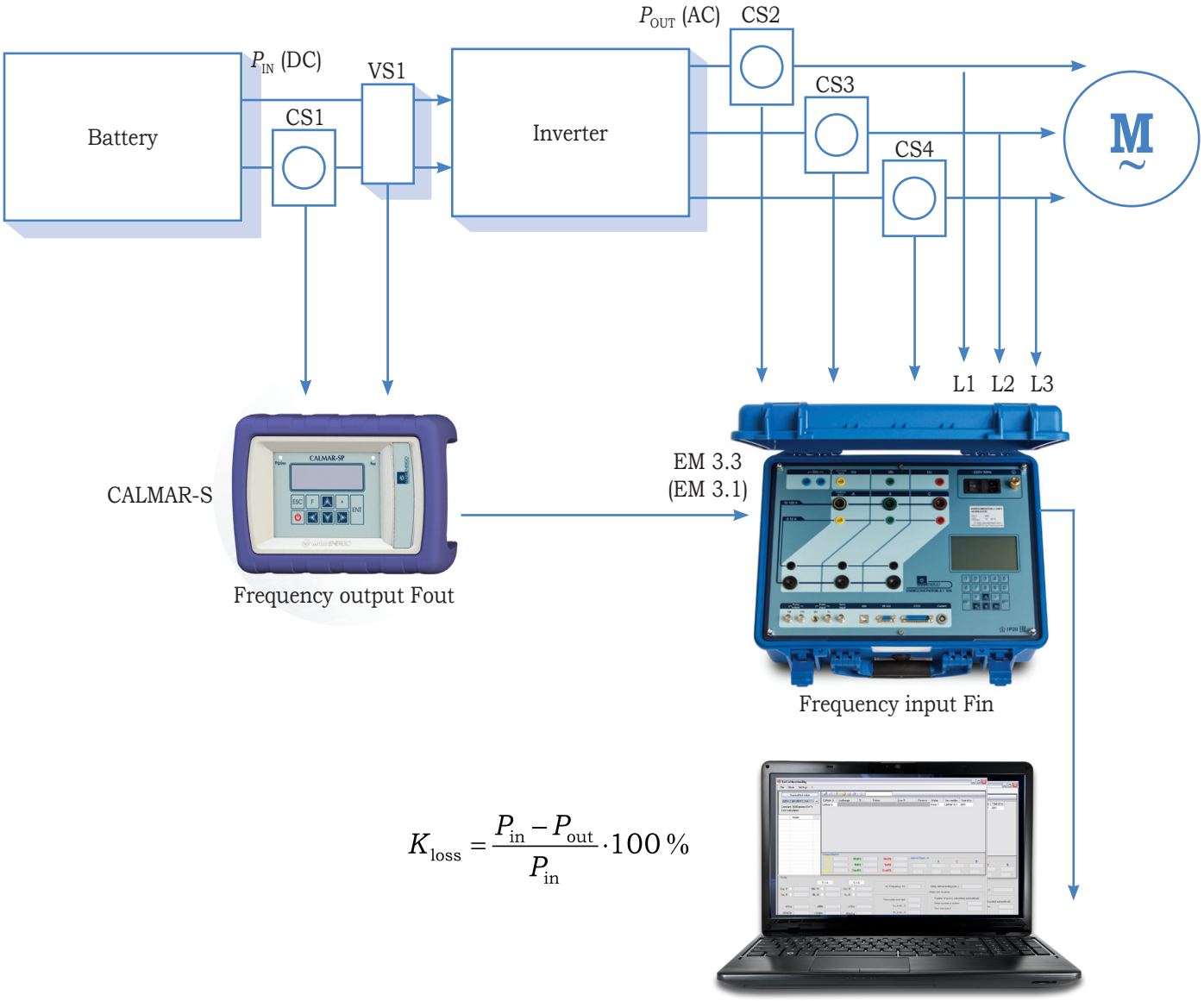
Application of the measurement system:

Power efficiency evaluation of inverters used in electric vehicles, solar panels etc. together with the battery.

Components and operation principle are the same as described on p 1.

- Reference standard Energomonitor 3.3 or EM 3.1
- Reference DC Volt/mA Calibrator CALMAR-S
- DC current transformer(CS1)
- DC voltage transformer (VS1)
- AC current transformers(CS2, CS3, CS4)

Block diagram



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