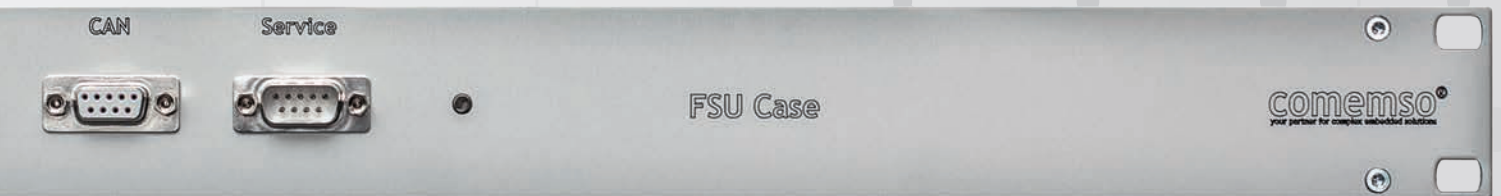
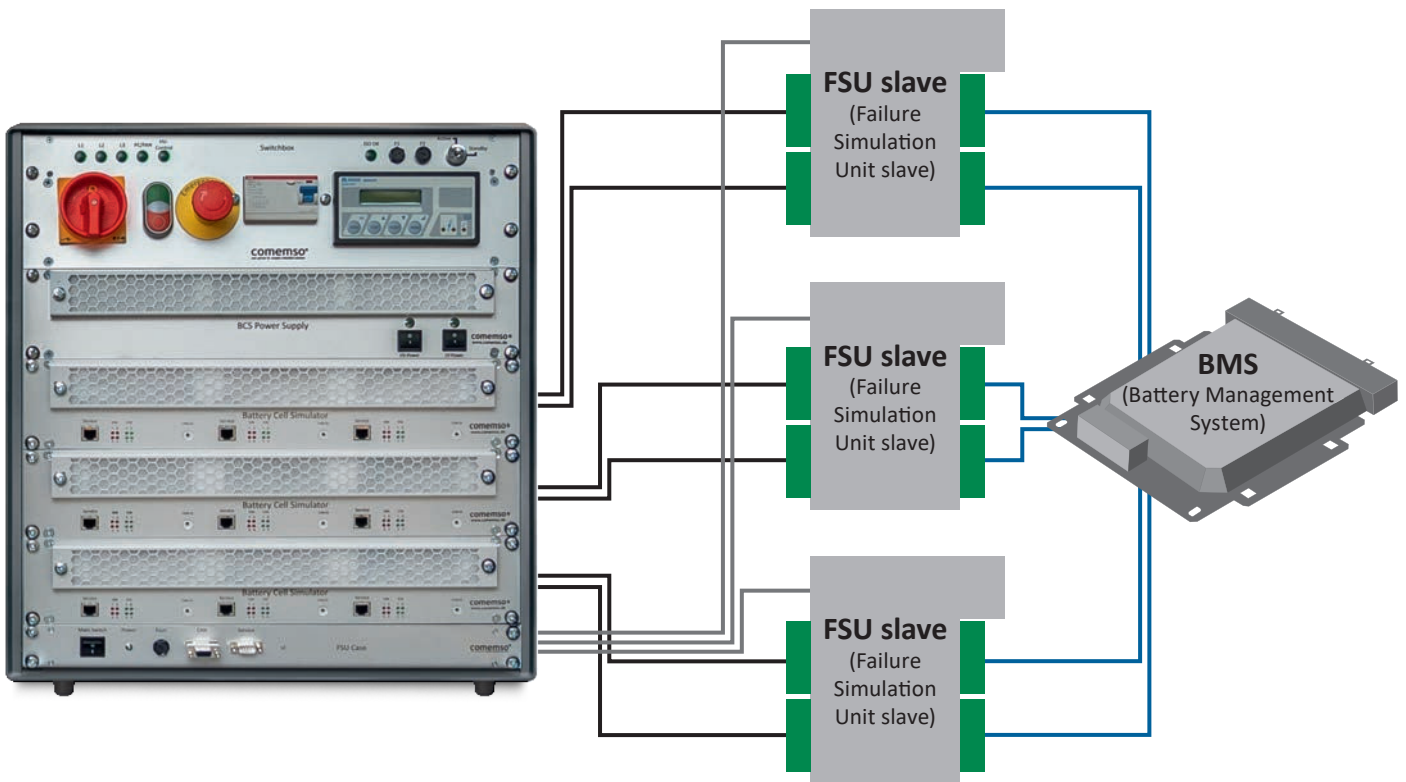


# FAILURE SIMULATION UNIT (FSU)



# FOR SIMULATION OF WIRING FAILURES.

To complete the failure simulation of the Battery Cell Simulator, an additional FSU is used to simulate the breaking of measurement wires between BMS and the cells.



## Technical data

Communication: CAN-Bus 500kBd / 1 MBd

Temperature range: Lab conditions

Connector: 115V / 230V

Cascading of 12 emulated cells to a stack (per slave)

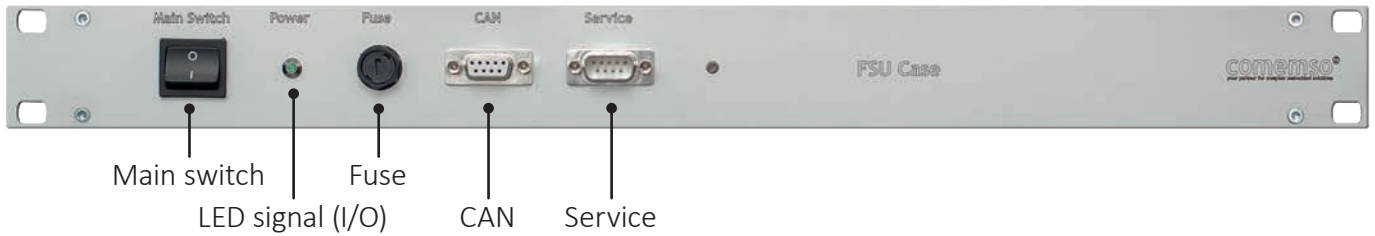
Up to 10 slaves per master (via ethernet cable)

Cable break of measurement line

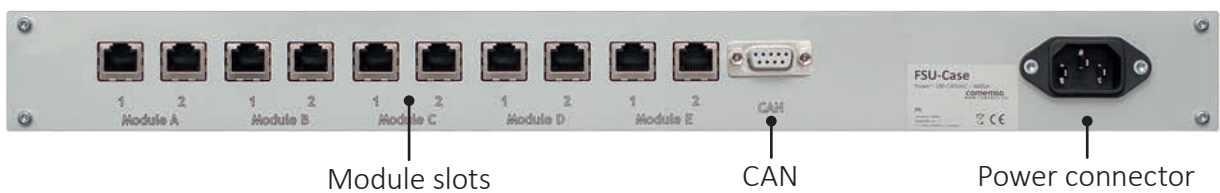
Different settings for each measurement line

## Close-up view.

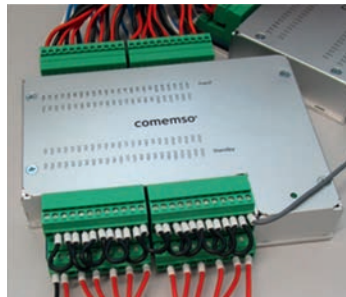
FSU master front



FSU master rear



FSU slave for 12 cells

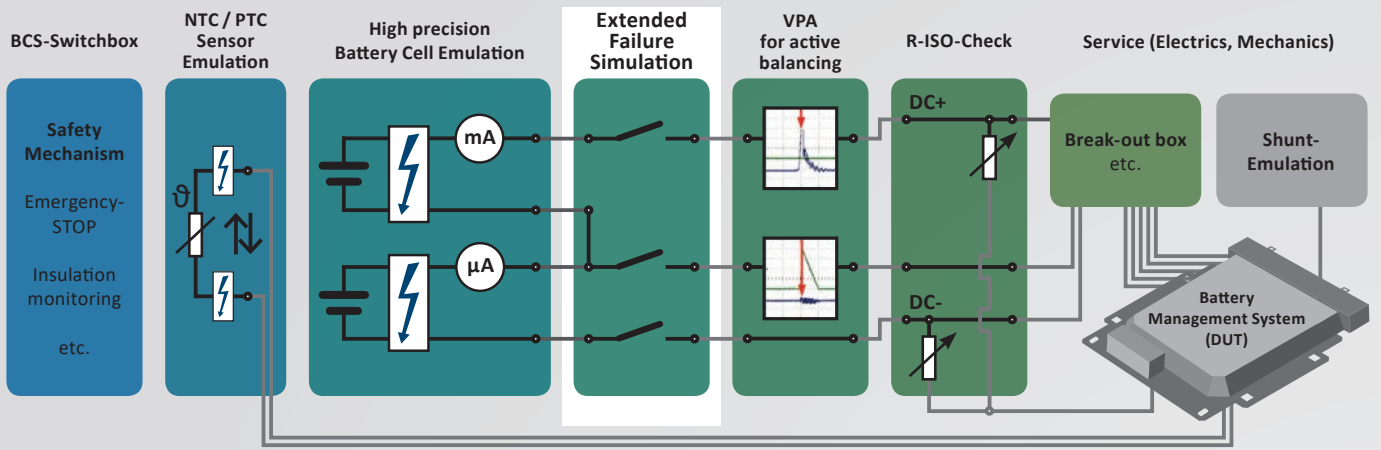


Up to 10 units for  
120 cells possible.

The comemso Failure Simulation Unit (FSU) is used to extend the failure simulation of the Battery Cell Simulation (BCS). The following test cases of the Battery Management System are possible:

Test case failure simulation	Sketch	Realisation
<p>Cable break of voltage measurement cable.</p> <p>Cause: Mechanical stress.</p>	<p>The sketch shows a circuit with three battery cells connected to a 'Cell Controller / Monitor'. A red circle highlights a break in the voltage measurement line between the second and third cells.</p>	<p>The diagram shows the connection between the BCS (Battery Cell Simulation), the FSU (Failure Simulation Unit), and the Cell Controller / Monitor. The FSU is connected to the BCS and the Cell Controller / Monitor. A red circle highlights the connection point between the FSU and the Cell Controller / Monitor.</p> <p><b>Setting</b>  <b>BCS:</b> Set cell 'n' to LOAD_ONLY mode  <b>FSU:</b> Open relay 'n'  <b>BCS:</b> Set cell 'n' back to NORMAL mode</p>

Furthermore a ripple filter is added to the voltage and sense lines of BCS.



All solutions above are comemso products. Further information about the individual products can be found as a brochure at [www.comemso.com](http://www.comemso.com) or on request at [sales@comemso.de](mailto:sales@comemso.de).

## Extended fault insertion for your Battery Cell Simulator.



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