FAILURE SIMULATION UNIT (FSU)

CAN   Service   FSU Case   comemso®
your partner for complex embedded solutions

electric mobility
south-west

INVENTED IN GERMANY
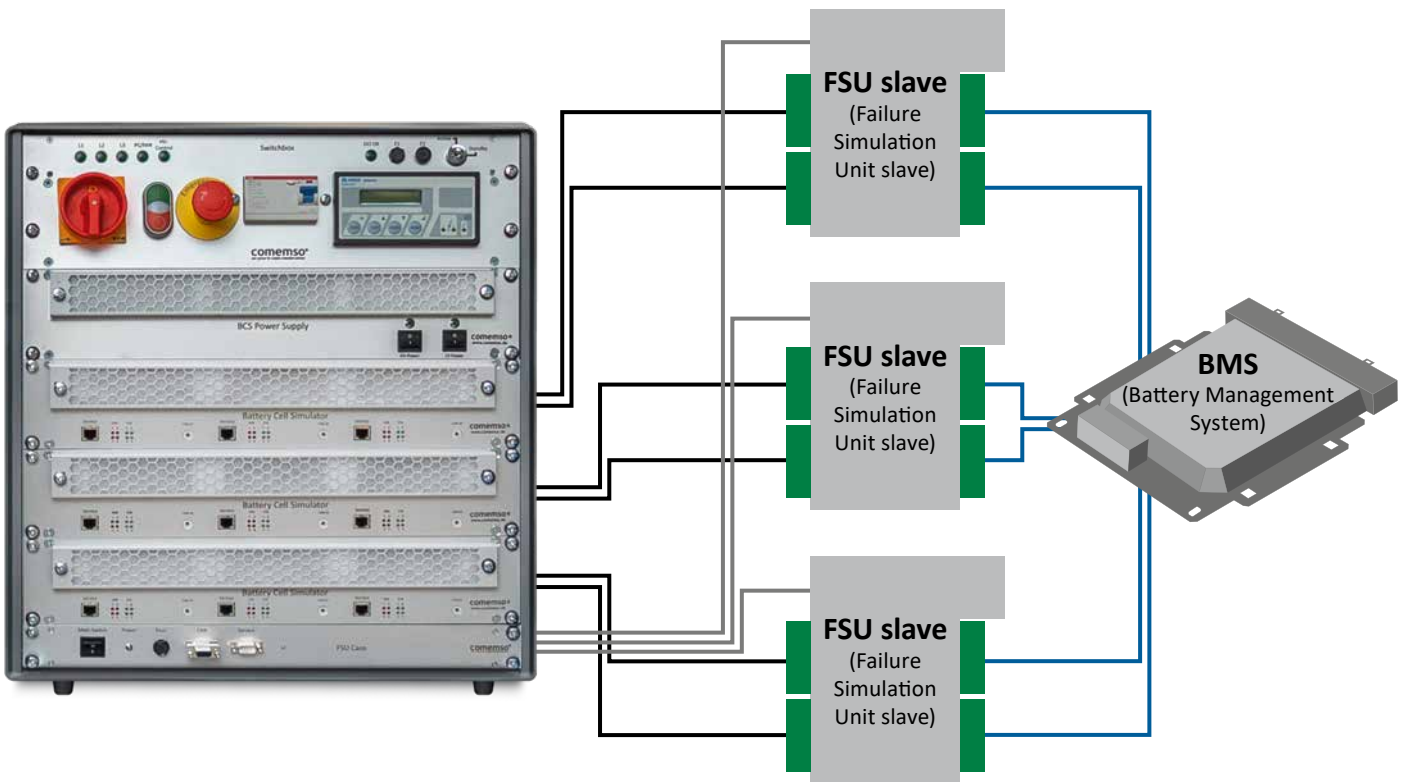
FOR SIMULATION OF WIRING FAILURES.

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 500 kBd / 1 MBd	Up to 10 slaves per master (via ethernet cable)
Temperature range:	Lab conditions	Cable break of measurement line
Connector:	115 V / 230 V	Different settings for each measurement line
Cascading of 12 emulated cells to a stack (per slave)		

Close-up view.

FSU master front

Main switch   Fuse

LED signal (I/O)   CAN   Service

FSU master rear
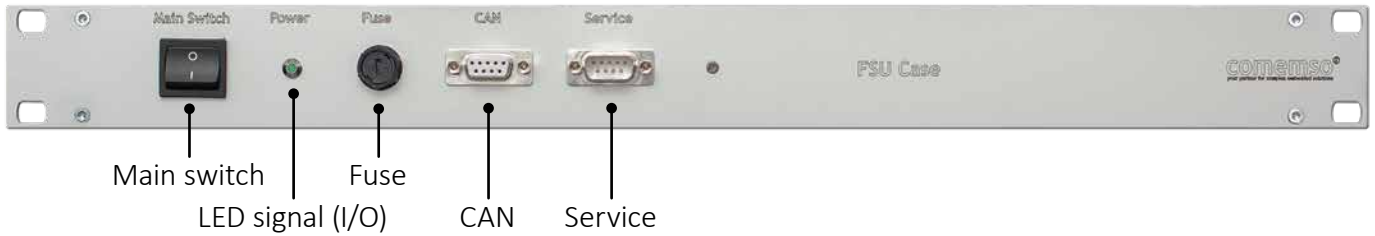
Module slots   CAN   Power connector
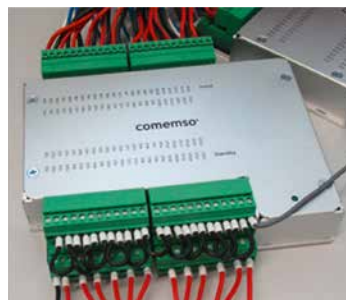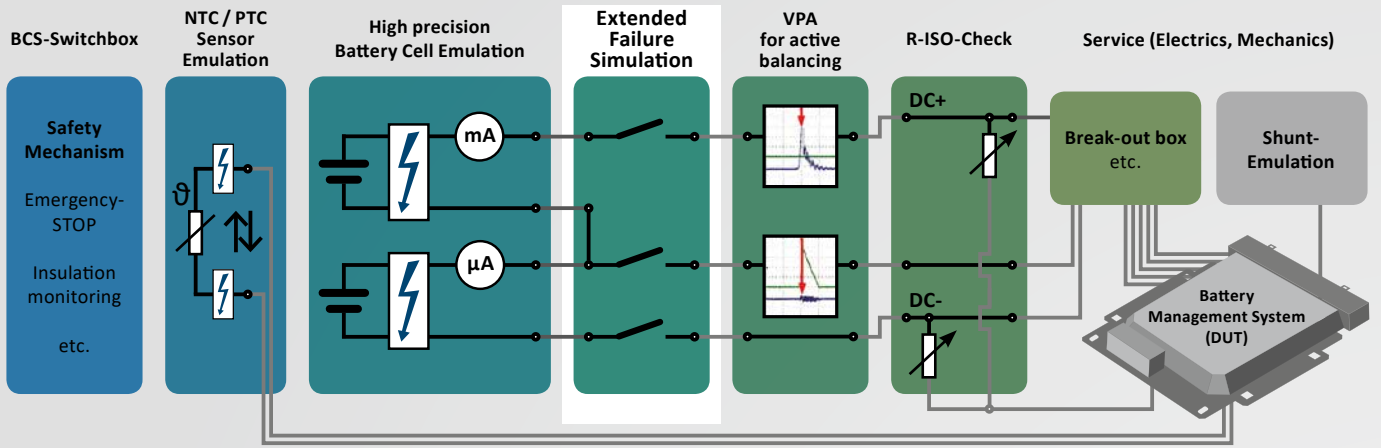
FSU slave for 12 cells

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
Cable break of voltage measurement cable. Cause: Mechanical stress.		**Setting** **BCS:** Set cell ´n´ to LOAD_ONLY mode **FSU:** Open relay ´n´ **BCS:** Set cell ´n´ back to NORMAL mode

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

| BCS-Switchbox | NTC / PTC Sensor Emulation | High precision Battery Cell Emulation | Extended Failure Simulation | VPA for active balancing | R-ISO-Check | Service (Electrics, Mechanics) | |

Safety Mechanism

Emergency-STOP

Insulation monitoring

etc.

mA

µA

DC+

DC-

Break-out box etc.

Shunt-Emulation

Battery Management System (DUT)

Extended fault insertion for your Battery Cell Simulator.

FSU master with control fitting to the BMS test application

FSU slave units and space for your DUT

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