



- A** CNT01 – 120 Ohm CAN Terminator
- B** CNC03 – 3Way Connector/CCGM Connection cable (30cm, 100cm, xx cm by request)
- C** CNC04 – G1 CAN Connection cable (100cm, xx cm by request)
- D** C3WC01A - 3 Way CAN Connector

**1** Cell Group Module

CAN Cell Group Modules (also known as CGMs) are advanced, microprocessor equipped cell communication galvanically isolated adapters, that allow the Control Unit to communicate with the Cell Modules over the CAN bus instead of directly. Total 32 of them can be used in a single battery pack, which allows to connect the Cell Modules into several small daisy chains instead of one long chain.

**2** Cell Module

Cell Module, mounted on each serial cell or group of paralleled cells. Cell module type from EMUS assortment is selected according balancing current requirement, e.g for 50-100Ah cell is appropriate to choose 0.7A balancing current cell module Small type. It is helpful to calculate by such ratio: cell capacity (Ah) = -0.5- 1% required balancing current. This ratio depends according to cells quality (inbalance), over system thermal management capabilities.

**3** Current Sensor

EMUS support three types of current sensors: busbar dual range, closed loop hall effect and third party "Isabellenhütte" IVT series current sensors.

**4** Control Unit

EMUS G1 Control Unit (or simply Control Unit) is the main controller that autonomously executes all core and utility functions of battery management. It connects to user's PC via USB port and allows to make BMS system configuration via EMUS Control Panel.

EMUS G1 Control Unit is also equipped with a non isolated CAN interface. This interface is multipurpose and enables the Control Unit to:

- Communicate with other CAN equipped EMUS G1 BMS components
- Control certain third-party charging devices
- Transmit BMS activity data (either periodically or by request)
- Receive new configuration parameter values and other special messages