	Doc Type: CAN Specification			Project ID: 0704
	Project name: e-Cars Now!			
	Editor: MBA	Version: O	Date: 09-Feb-2009	Page 1 of 2
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The CANbus is used for the BMS broadcasts various measurements and control parameters.

CAN Communication Settings

The CAN data rate is 125 kbit/s.
The frame format is the CAN base frame with 11bit ID (CAN 2.0A)


In the following the byte numbers start from Zero. All multiple-byte values are sent "Little-Endian" format (lowest byte first).

BMS TRANSMITTED MESSAGES

CAN ID 300h: BMS Pack Summary

Transmission interval: Once per second
Number of Frames: 1
Length: 8

Byte	Type	Description	Units (per lsb)
0	unsigned char	Incremental message counter for receive supervision purpose. Overflows from 255 to 0.	1
1	unsigned char	Pack State of Charge (SOC). Full charged battery at 100% SOC	1 %
2	unsigned char	Pack State of Health (SOH). Calculated as a percentage of AH specs for a new battery pack. Note: Could be above 100%	1 %
3	unsigned char	Max Package Temperature. Returns the temperature of the cell box with the highest temperature.	1 °C
4-5	unsigned short	Pack voltage. Total voltage for the complete battery package.	100 mV
6-7	signed short	Pack current. Current charged or discharged from the complete battery package, where discharge is a negative value. Format is binary two's complement.	100 mA

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CAN ID 310h: Status/Errors

Transmission interval: New transmission at flag changes else with 2 seconds interval

Number of Frames: 1

Length: 8

Byte	Type	Description	Units (per lsb)
0	unsigned char	Task Flags Bit Meaning 0 StartUp State 1 Charge State 2 Discharge State 3 Equalising Cells 4 Battery disconnected (Error state) 5 Not used 6 Not used 7 Not used	Bitwise or of flags
1-2	unsigned short	Problem Flags Bit Meaning 0 Cell Overvoltage Problem 1 Cell Undervoltage Problem 2 Cell Temp. too High 3 Cell Temp too Low for charging 4 BMS Int. Communication problem 5 BMCU – LMU Communication problem 6 Charge Current too High 7 Discharge Current too High 8 Short circuit detected problem 9 Leak detected 10 Not used 11 Not used 12 Not used 13 Not used 14 Not used 15 Not used	Bitwise or of flags
3-7		Reserved or later removed.	

Other CAN possibilities

Charger control

CANOpen protocol (NMT, Sync, TPDO and RPDO frames)