Spartan 3 Extended CAN Format

Requires Firmware 1.08 and above.
The Extended CAN Bus Format is selected by sending “CANFORMAT5” serial command.
Spartan 3’s CAN Bus operates with 11 bit addressing.
Default CAN Baud rate is 500kbit/s, this can be changed by sending “SETCANBAUDx” serial command.
Default CAN Termination resistor is enabled, this can be changed by sending “SETCANRx” serial command.
Default CAN Id is 1024, this can be changed by sending “SETCANIDx” serial command.
Data Length (DLC) is 8.
Default Data Rate is 50 hz, data is sent every 20[ms], this can be changed by sending “SETCANDRx” serial command.

Data[0] = Lambda x1000 High Byte
Data[1] = Lambda x1000 Low Byte
Data[2] = LSU_Temp/10
Data[3] = Status
Data[4] = Lambda Acquire Time[ms]
Data[5] = Lambda Conversion Time[ms]
Data[6]=Pump Current High Byte
Data[7]=Pump Current Low Byte

Lambda = (Data[0]<<8 + Data[1])/1000, unsigned
Sensor Temperature [C] = Data[2]*10, unsigned
Lambda Acquire Time[ms] = To be disclosed, unsigned
Lambda Conversion Time[ms] = Can be considered as response time, unsigned

Status Value (decimal)	Meaning
0	Reserved
1	Waiting for trigger before heating up
2	Sensor is heating up
3	Sensor in normal operation
4 and above	Error states

Pump Current [100nA]= (Data[5]<<8 + Data[6]) , in units of 100nA, divide by 10,000 to get mA, this is a 16 bit signed integer.