SDM-22 Data Acquisition Package User Manual

Sun Devil Motorsports DAQ Team

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1 System Overview

Sun Devil Motorsports' Data Acquisition team is responsible for collecting and analyzing data from the car.

This year we have developed a very poggers DAQ package.

2   Usage

To begin logging data, plug in the battery cable of the main board into the ECU's 5V output. If powered on, the onboard LED on the main board's Teensy will be lit up. Data will be logged to the Teensy's micro SD card on the main board. The most recent run will have the largest run number on the micro SD card.

Do not have USB power and 5V from the ECU plugged in at the same time! Doing so may risk power flowing back into the USB port. This is because VUSB and VCC on the Teensy boards are connected to each other.

Please note that it takes a large amount of force to plug in our connectors.

3   Wiring and Pinouts

3.1   Main Board

3.2   Wheel Boards

3.3   Wire Pinouts

Serial (VBAT)

Red	Black	Blue	Yellow
1	2	3	4
VIN	GND	TX	RX

Serial (3.3V)

Red	Black	Blue	Yellow
1	2	3	4
3.3V	GND	TX	RX

i2C

Red	Black	Blue	Yellow
1	2	3	4
3.3V	GND	SCL	SDA

Analog

Red	Black	Blue
1	2	3
3.3V	GND	Analog

Power

Red	Black
1	2
VCC	GND

CAN

Red	Black
1	2
CANL	CANH

4 Software

5 Packing List

In the DAQ Toolbox:

- Scissors

- Duct Tape

- Electrical Tape

- Voltimeter

- Micro USB Cable

6 Meme