WFT, User Interface Electronics

Model CT2

- Analog, CAN and Ethernet outputs
- Automated zero and shunt features
- Rugged construction
- Wide range 10 to 36 volt DC power
- Field upgradable by user
- Transforms data from wheel to vehicle coordinates
- Stackable with communication between systems
- Ethernet communication via laptop or pda and web browser
- Works with data acquisition software to record data directly to a computer

Description

The WFT User Interface Electronics *(CT2)* provides high level CAN, Ethernet, and Analog outputs. The *CT2* accepts either analog or digital signals from the wheel force transducer (WFT). In addition, *CT2* can also accept built in WFT accelerometer signals*. All the signals together can be transmitted to the data acquisition system or computer through the digital outputs.

Setup of the WFT system is done via an embedded web page. Setup can be done by any device capable of running a web browser (i.e. laptop, desktop, pda, etc.), no additional software is required. Firmware upgrades are done by the customer in the field via the same web page

Coordinate transformation of the data, from wheel to vehicle coordinates, is performed automatically when used on the road. For use on a simulator, wheels do not rotate, and data can be sent directly from the WFT without coordinate transformation.

Factory calibration and setup data is read from the WFT at startup. *CT2* updates the WFT with every zero, shunt sequence check, and set-up change. Calibration files are stored in the WFT, so they never need to be downloaded by the user even if power is interrupted. All *CT2* systems can be interchanged with any compatible Michigan Scientific WFT.

When multiple WFTs are used on one vehicle, the *CT2* units are stacked together, and communication is shared between electronics. Power requirements are approximately 10 watts per WFT system.
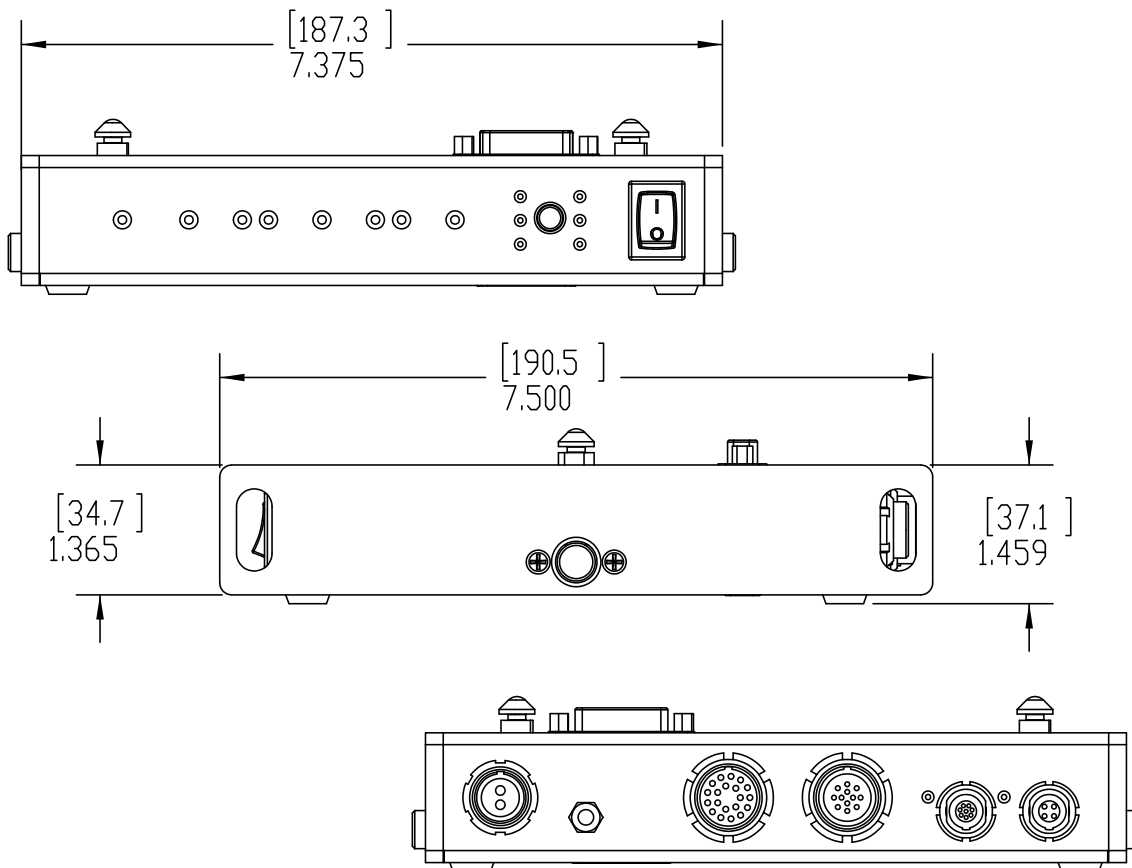
* under development

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Specifications

PARAMETER	SPECIFICATION
Output formats	CAN: Rate Selectable 250.0 to 2500.0 Hz synchronized between CT2
	Ethernet
	Analog: ±10, ±5, ±2.5, and 0-5 Volt
Anti Alias Filter Cutoff Frequency	5,000 Hz (-3 dB) Typical
Input Power Requirements	10-36 Volts, ~.75 Amps @ 13.5 Volts
Software Upgrade	By user via Web Browser
Analog to Digital Converter (ADC) Resolution	16 bit
Digital to Analog Converter (DAC Resolution	16 bit
Sample Rate of ADC	62,500 Hz Simultaneous
DAC update rate	62,500/s Simultaneous
Input to Output Delay	125 µs typical
Operating Temperature Range	-25 to +75°C (-13 to +167°F)
Weight	2 lbs 8 oz
Size (L x W x H)	7.500" x 7.3753" x 1.300"

Rev. A