

# WFT, User Interface Electronics

## Model CT3

- Wheel Force Transducer User Interface Electronics
- Analog, CAN FD, CAN 2.0, Ethernet, and EtherCAT outputs
- Synchronization through IEEE 1588 PTPv2
- Works with both slip ring and telemetry based systems
- Front screen for display of current settings and troubleshooting
- Simple Zero, Shunt Calibration Check, and Zero Angle set-up functions
- Easy embedded webpage access through USB
- Stacking with internal communication and power transferred between CT3s
- Rugged construction



## Description

The CT3 is Michigan Scientific's next generation of *Wheel Force Transducer (WFT) User Interface Electronics*. The CT3 communicates and receives signals from either Michigan Scientific amplifiers or telemetry stator. The amplifier is used in slip ring based systems and non-spinning systems. The telemetry stator is used for both inboard and output telemetry. In real-time, the CT3 performs coordinate transformation, cross-talk correction, offset correction, and polarity correction. The CT3 also has easy to initiate Zero, Shunt Calibration, and Zero Angle features which makes WFT set-up simple and quick.

The CT3 has several options for signal outputs including; CAN FD, CAN 2.0, EtherCAT, Ethernet with IEEE 1588 synchronization, and analog.

Setup options, correct file type creation, firmware updates, and more can be done via the CT3 embedded webpage which can be accessed via USB connection to a computer. When multiple WFTs are used on one vehicle, the CT3 units are stacked together, and communication is shared between electronics.

A display on the front of the CT3 displays the serial number of the WFT connected to CT3, current selected setting, and any error messages that may arise.

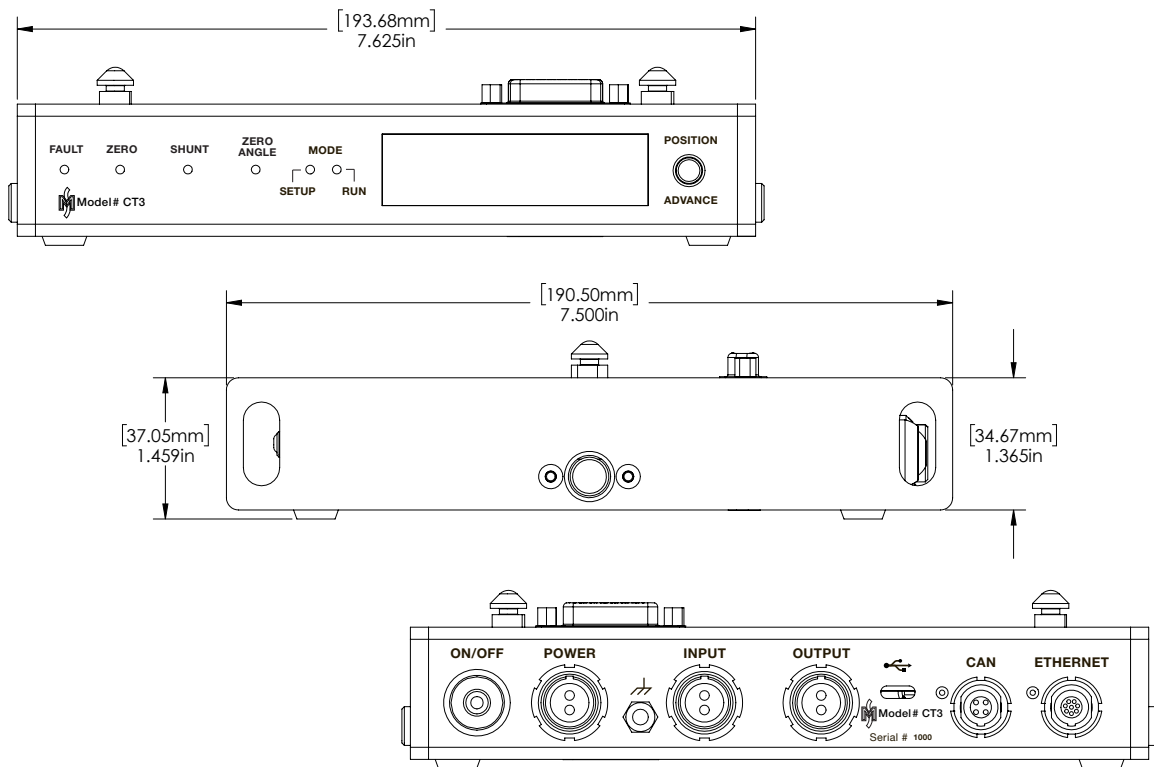
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## Specifications

PARAMETER	SPECIFICATION
Output Formats	CAN 2.0
	CAN FD
	Analog: $\pm 10$ V, $\pm 5$ V, and 0 V to 5 V <sup>1</sup>
	EtherCAT <sup>1</sup>
	Ethernet with IEEE 1588 synchronization <sup>2</sup>
Analog Output Anti-Alias Filter Cut-Off Frequency	3 kHz (-3 dB) typical
Input Power Requirements	9 VDC to 36 VDC
Firmware Upgrade	By user via webpage
Digital to Analog Converter (DAC) Resolution	16 bit
Sample Rate of DAC	32,000 Hz simultaneous
Operating Temperature Range	-25 °C to +75 °C (-13 °F to +167 °F)
Size (L x W x H)	19.37 cm x 19.05 cm x 3.47 cm (7.63 in x 7.50 in x 1.37 in)

<sup>1</sup> Requires add-on Michigan Scientific module

<sup>2</sup> Under Development



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