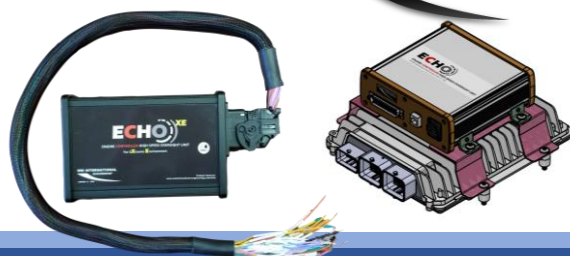




ENGINE CONTROLLER HIGH SPEED OVERSIGHT UNIT

By WM International Engineering, Darien, IL - USA

WM INTERNATIONAL Engineering



ECHO XE control board

launch January 2022

WM International Engineering has launched the **ECHO XE** “Extreme Environment” platform. The ECHO XE is specially designed for deployment in harsh environment and easy integration in production vehicles and aircraft.



The ECHO XP features:

- ✓ IP67-rated.
- ✓ Sealed connectors and enclosure.
- ✓ 12V power input straight from battery.
- ✓ CPU wider operating temperature range -40°C to 150°C.
- ✓ 20% reduction in the footprint.

ECHO CAPABILITIES

- Synchronous **high-speed sampling** up to 200kHz
- 8 analog inputs, 4 digital I/Os, 1 pair of crank and cam inputs
- Powerful 1.5GHz processor resolve data in crank angle domain
- Perform **real-time analysis** with customizable algorithm
- Provide **cycle-to-cycle feedback** to engine ECU via CAN 2.0
- Send live data via the gigabit ethernet port to PC software
- Cylinder pressure feedback control
- Engine calibration fine-tuning
- Fuel injection analysis
- Vibration analysis

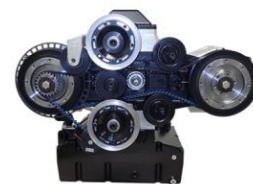
		ECHO	ECHO XE
Mechanical	Foot print	7"x7"x2.5"	5"x6"x2.5"
	Ingress Protection Mark	IP43	IP67
Power Supply	volts	5V	12-24V
	input style	via AC/DC adaptor	via harness
Analog Input	channels	8	8
	resolution	18-bit	18-bit
	max sample rate	200kHz/ch	200kHz/ch
	sampling	simultaneous	simultaneous
	ranges	±10V ±5V 0-10V 0-5V	±10V ±5V 0-10V 0-5V
Analog Output	channels	2	2
	resolution	16-bit	16-bit
	max sample rate	500 kHz/ch	500 kHz/ch
Digital I/O	channels	4	4
	counter/timers	2/2	2/2
	encoder	2	2
Communication	CAN BUS 2.0	1	1
Software	Processor	BC Cortex-A73 1.5GHz	BC Cortex-A73 1.5GHz
	RAM	2GB	4GB

HIGHLIGHT STORY

Enginuity, a power generation OEM, is producing the next-gen micro Combined and Heat Power (mCHP) system that will provide electricity, water and space heating at the same time. The system runs on natural gas and aims to serve millions of American homes. Enginuity is improving its opposed-piston four-stroke engine for their mCHP system and has chosen the **ECHO** platform to assist their further engine development program.



mCHP home system



Enginuity's four-stroke opposed piston engine