

<b>Firmware/Software Version:</b>	PE3 V3.03.02 and higher
<b>Relevant Hardware:</b>	All PE3 controllers with installed CAN Bus
<b>Additional Notes:</b>	<p>This document defines the CAN based parameters that the PE3 is broadcasting for the firmware listed above.</p> <p>The PE3 ECU contains a 120 ohm termination resistor.</p>

#### CAN Bus Details

- 250 kbps Rate
- Broadcast parameters are based on SAE J1939 standard
- All 2 byte data is stored [LowByte, HighByte]  
 $Num = HighByte * 256 + LowByte$
- Conversion from 2 bytes to signed int is per the following:  
 $Num = HighByte * 256 + LowByte$   
*if (Num > 32767) then*  
 $Num = Num - 65536$   
*endif*

CAN ID (hex)	Name	Rate (ms)	Start Position	Length	Parameter	units	Resolution	Range	Type
0CFFF048	PE1	50	1-2	2 bytes	Rpm	rpm	1 rpm/bit, 0 offset	0 to 30000 rpm	unsigned int
			3-4	2 bytes	TPS	%	0.1 %/bit, 0 offset	0 to 100%	signed int
			5-6	2 bytes	Fuel Open Time	ms	0.01msec/bit	0 to 30 msec	signed int
			7-8	2 bytes	Ignition Angle	deg	0.1 deg/bit, 0deg offset	-20 to 100 deg	signed int
0CFFF148	PE2	50	1-2	2 bytes	Barometer	psi or kpa	0.01/bit, 0 offset		signed int
			3-4	2 bytes	MAP	psi or kpa	0.01/bit, 0 offset		signed int
			5-6	2 bytes	Lambda	lambda	0.001/bit, 0 offset		signed int
			7.1	1 bit	Pressure Type		2 states/1 bit, 0 offset	0 - psi, 1 - kPa	unsigned char
0CFFF248	PE3	100	1-2	2 bytes	Analog Input #1	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
			3-4	2 bytes	Analog Input #2	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
			5-6	2 bytes	Analog Input #3	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
			7-8	2 bytes	Analog Input #4	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
0CFFF348	PE4	100	1-2	2 bytes	Analog Input #5	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
			3-4	2 bytes	Analog Input #6	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
			5-6	2 bytes	Analog Input #7	volts	0.001volt/bit, 0 offset	0 to 5 volts	signed int
			7-8	2 bytes	Analog Input #8	volts	0.001volt/bit, 0 offset	0 to 22 volts	signed int
0CFFF448	PE5	100	1-2	2 bytes	Frequency 1	hz	0.2hz/bit, 0 offset	0 to 6000	signed int
			3-4	2 bytes	Frequency 2	hz	0.2hz/bit, 0 offset	0 to 6000	signed int
			5-6	2 bytes	Frequency 3	hz	0.2hz/bit, 0 offset	0 to 6000	signed int
			7-8	2 bytes	Frequency 4	hz	0.2hz/bit, 0 offset	0 to 6000	signed int
0CFFF548	PE6	1000	1-2	2 bytes	Battery Volt	volts	0.01volts/bit	0 to 22 volts	signed int
			3-4	2 bytes	Air Temp	C or F	0.1 deg/bit, 0 deg offset	-1000 to 1000 deg	signed int
			5-6	2 bytes	Coolant Temp	C or F	0.1 deg/bit, 0 deg offset	-1000 to 1000 deg	signed int
			7.1	1 bit	Temp Type		2 states/1 bit, 0 offset	0 - F, 1 - C	unsigned char
0CFFF648	PE7	1000	1-2	2 bytes	Analog Input #5 - Thermistor	C or F	0.1 deg/bit, 0 offset	-1000 to 1000 deg	signed int
			3-4	2 bytes	Analog Input #7 - Thermistor	C or F	0.1 deg/bit, 0 offset	-1000 to 1000 deg	signed int
			5	1 byte	Version Major				unsigned char
			6	1 byte	Version Minor				unsigned char
			7	1 byte	Version Build				unsigned char
			8	1 byte	TBD				