



Emtron CAN Predefined Dataset 1

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1.0 Parameter Scaling

ALL data/parameters transmitted from the ECU over CAN have units defined by the corresponding parameter calibration table(s). This can be setup and adjusted through the PC tuning software Emtune.

1. All Data is unsigned
2. All Data is 16 bits
3. Low byte of each word (16bit) is transmitted first.

Examples:

Temperature in degrees Celsius or Fahrenheit

Pressure in kPa, PSI, InHg

Speed in Kph, mph, m/s

Type	Units	Min Value	Max Value	Conversion Raw to Displayed Value
Position	%Posn	-100.0 %	100.0 %	Display = ECU value x 0.1 - 100 OR ECU value A: 0000 becomes -100.0 % ECU value B: 2000 becomes 100.0 %
Pressure	kPa/PSI	0.0	6500.0	Display = ECU value x 0.1 OR ECU value A: 0 becomes 0.0 kPa/PSI ECU value B: 1000 becomes 100.0 kPa/PSI
Temperature	°C / °F	-50.0	250.0	Display = ECU value x 0.1 - 50 OR ECU value A: 0 becomes -50.0 °C / °F ECU value B: 1500 becomes 100.0 °C / °F
Lambda	La	0.000	2.000	Display = ECU value x 0.001 OR ECU value A 0 becomes 0.000 La ECU value B 1000 becomes 1.000 La
Speed	Kph/mph	0.0	6500.0	Display = ECU value x 0.1 OR ECU value A 0 becomes 0.0 kph ECU value B 1000 becomes 100.0 kph
Ignition Angle	°BTDC	-100.0 °BTDC	100.0 °BTDC	Display = ECU value x 0.1 - 100 OR ECU value A 1000 becomes 0.0 °BTDC ECU value B 2000 becomes 100.0 °BTDC
Voltage	V	0.000	20.000	Display = ECU value x 0.001 OR ECU value A 0 becomes 0.000V ECU value B 20000 becomes 20.000V

Type	Units	Min Value	Max Value	Conversion Raw to Displayed Value
Rate of Change1	%/sec	-100.0	+ 100.0	Display = ECU value x 0.1 - 100 OR ECU value A 0 becomes -100.0 %/sec ECU value B 1000 becomes 0.0 %/sec Or ECU value B 2000 becomes +100.0 %/sec
Rate of Change2	rpm/sec	-20000	20000	Display = ECU value x - 20000 OR ECU value A 0 becomes - 20000 rpm/sec ECU value B 20000 becomes 0 rpm /sec Or ECU value B 40000 becomes + 20000 %/sec
G-Force	G	-10.00 G	10.00 G	Display = ECU value x 0.01 - 10 OR ECU value A 0 becomes -10.00 G ECU value B 1000 becomes 0.00 G or ECU value B 2000 becomes 10.00 G
RPM	RPM	0	300000	Display = ECU value x 1 OR ECU value A 0 becomes 0 RPM ECU value B 20000 becomes 20000 RPM
Pressure Diff	kPa/PSI	0.0	6500.0	Display = ECU value x 0.1 - 1000 OR ECU value A: 10000 becomes 0.0 kPa/PSI ECU value B: 8000 becomes - 200.0 kPa/PSI
Counter		0	65535	Display = ECU value OR ECU value A 0 becomes 0 ECU value B 10 becomes 10
VVT Position	Deg	-100.0	+100.0	Display = ECU value x 0.1 - 200 OR ECU value A: 2000 becomes 0.0 Deg ECU value B: 2304 becomes 30.4 Deg (Cam Advanced) ECU value 3: 1871 becomes -12.9. Deg (Cam Retarded)

Type	Units	Min Value	Max Value	Conversion Raw to Displayed Value
Percentage1	%	0.0	100.0	Display = ECU value x 0.1 OR ECU value A 0 becomes 0.0% ECU value B 1000 becomes 100.0%
Percentage2	%	-100.00	100.00	Display = ECU value x 0.01 - 100 OR ECU value A 0 becomes -100.00% ECU value B 10000 becomes 0.00% ECU value C 20000 becomes +100.00%

2.0 Predefined Dataset 1 Transmit Packets

All 16 bit values have low byte transmitted first by the ECU. Sequential addressing is used. All parameters are transferred in the units defined inside the ECU. These can be rescaled if required by the receiving device.

2.1. Predefined Packet 1

Custom Packet 1 contains 10 Message Objects each with a different sequential address. This can be selected on CAN1 or CAN2 and on any of the 6 channels within that CAN node. In total the Custom Packet 1 transmits 40 parameters on one CAN Channel.

NOTE: If all 6 channels were used within one CAN node a total of 240 parameter could be transmitted

Message 1:

Address: 1250 (Emtron preferred. User Adjustable)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1250	1-2	Engine Speed	rpm
1250	3-4	Engine Manifold Pressure	Pressure
1250	5-6	Engine Temperature	Temperature
1250	7-8	Engine Inlet Temp	Temperature

Message 2:

Address: 1251 (Sequential based on address in Message 1)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1251	1-2	Throttle Position 1	Position
1251	3-4	Estimated Charge Temp	Temperature
1251	5-6	Gear	NA
1251	7-8	Battery Volts	Voltage

Message 3:

Address: 1252 (Sequential based on address in Message 2)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1252	1-2	Oil Pressure	Pressure
1252	3-4	Oil Temperature	Temperature
1252	5-6	Fuel Pressure	Pressure
1252	7-8	Fuel Temperature	Temperature

Message 4:

Address: 1253 (Sequential based on address in Message 3)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1253	1-2	Exhaust Pressure	Pressure
1253	3-4	Fuel Pressure Differential	Pressure Diff
1253	5-6	Crankcase Pressure	Pressure
1253	7-8	Coolant Pressure	Pressure

Message 5:

Address: 1254 (Sequential based on address in Message 4)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1254	1-2	Lambda 1	La
1254	3-4	Lambda 1	La
1254	5-6	Lambda Target	La
1254	7-8	Drive Speed	Speed

Message 6:

Address: 1255 (Sequential based on address in Message 5)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1255	1-2	Lambda 1 Short	Percentage2
1255	3-4	Lambda 2 Short	Percentage2
1255	5-6	Lambda 2 Long	Percentage2
1255	7-8	Lambda 2 Long	Percentage2

Message 7:

Address: 1256 (Sequential based on address in Message 6)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1256	1-2	Injector Duty Cycle	Percentage1
1256	3-4	Ignition Angle	Ign Angle
1256	5-6	Baro	Pressure
1256	7-8	ECU Temp	Temperature

Message 8:

Address: 1257 (Sequential based on address in Message 7)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1257	1-2	dTPS	Rate of Change1
1257	3-4	dRPM	Rate of Change2
1257	5-6	Fuel Cut Level	Percentage1
1257	7-8	Ignition Cut Level	Percentage1

Message 9:

Address: 1258 (Sequential based on address in Message 8)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1258	1-2	Ethanol Content	Percentage1
1258	3-4	G-Force Lat	G-Force
1258	5-6	G-Force Long	G-Force
1258	7-8	G-Force Vert	G-Force

Message 10:

Address: 1259 (Sequential based on address in Message 9)

Transmits 8 bytes/4 parameters.

Addressing Mode = Sequential.

CAN Address	Byte Position	Parameter	Unit
1259	1-2	Crank/Cam Error Counter	counter
1259	3-4	Max Engine Speed	rpm
1259	5-6	Sync Position	Percentage1
1259	7-8	DTC Count	counter