

UltraGauge MX V1.3

The OBDII standard describes certain parameters which can be accessed via the OBDII. Many of the parameters are left to the manufacturer's discretion to support or not. This is why the gauges available through UltraGauge are vehicle dependent. All Manufacturers have the ability to access additional vehicle parameters beyond those specified in the OBDII. For example, there is no OBDII parameter for Transmission Temperature; however, some manufacturers can access this parameter.

Fundamentally there are two types of parameters:

1. **Standardized OBDII parameters;** roughly 135. Many are not very useful and of the 135, manufacturers typically provide 1/3 or less. Ultragauging inherently offers around 60 of these parameters. Standardized OBDII parameters are typically related to emissions.
2. **Manufacturer specific parameters:** These are parameters that the manufacturer has inserted for their own purposes. Many are duplicates of the Standardized gauges, while others are wholly separate and not included in the standardized OBDII parameters. These parameters are not focused on emissions and can be any useful parameter the manufacturer has seen fit to insert.

Many manufactures access these parameters through the OBDII. Others access the parameters through proprietary, non-standard pins inserted into the OBDII connector. Only manufacturers which use the same interface as OBDII have parameters that can be accessed by the UltraGauge MX. Typically Ford, GM, and vehicles with CAN interfaces can be accessed. All vehicles sold in the USA since 2008 are required to support CAN, and many supported CAN prior to 2008. This is not necessarily true for vehicles sold into non-USA markets.

Manufacturer parameters typically cannot be accessed on Vehicles with 9141 and KWP2000 protocols/interfaces. In general foreign vehicles prior to 2008 will use the 9141 or KWP2000 protocol. Our [vehicle gauge estimator](#) can also be used to determine the protocol used by most vehicles. The UltraGauge MX can be used to access all of the ~135 standardized OBDII parameters, if supported, even on vehicles with 9141 or KWP2000 protocols. It's important to understand that while the OBDII defines ~135 parameters, manufacturers only support a fraction of this; the older the vehicle, typically the fewer parameters supported.

The ability to access manufacturer specific parameters is very similar to the X-gauge feature found in ScanGauge™. All Codes which function in ScanGauge™ will function in UltraGauge with minor modifications.

In order to access parameters, beyond the provided pre-programmed parameters, it is necessary to program Ultragauging with codes and it is for this reason the Ultragauging MX is only recommended for users which are very comfortable with technology and have the time to devote to tracking down codes for their vehicle. Information regarding parameters and their access and interpretation is not made public by manufacturers. This information over time leaks out or is found via reverse engineering.

To simplify use, the UltraGauge MX is offered pre-programmed with 8 common manufacturer parameters for various vehicles. There is no guarantee that all the pre-programmed parameters will work with your year, make and model vehicle. Those that are not supported by your vehicle will show "Err". It is best to search vehicle specific forums to understand if such parameters are accessible in your specific vehicle. Ultragauging.com does not have any additional gauges/codes beyond those provided as part of the pre-programming options.

The UltraGauge MX is simply a tool that provides the potential to access these parameters and provides no assurance that such parameters are actually available or accessible. The pre-programmed parameters can be fully reprogrammed by the user.

The UG MX supports 8 manufacturer programmable parameters. The following tables represent the various pre-programming options. However, not all parameters may work for your particular year and model. If your vehicle does not support the code for the parameter, "Err" will be displayed. Also, the preprogrammed codes may not be correct but are accurate to the best of our knowledge.

Early FORD (non-CAN) PreProgrammed Parameters	Description
Kilometers Per Hour	Much more accurate version of the OBDII standardized version (see Special Bit below)
Fuel Level %	Fuel Tank Level percent of full. Allows Auto Fill function for vehicles which previously did not support it., See "Special Bit" below
Transmission Temperature °F	Temperature of the transmission fluid °F
Barometric Pressure	Atmospheric Pressure in Inches of Mercury
Converter Torque	ft.lbs
Fuel Rail Pressure	PSI
Transmission output shaft RPM	RPM
Engine Coolant Temperature °F	Same as standardized OBDII coolant temperature

Ford 7.3L Diesel* PreProgrammed Parameters	Description
Engine Oil Temperature °F	Engine Oil Temperature in °F
Fuel Injector PSI	The pressure of the fuel at the injectors in PSI
IAT °F	Intake Air Temperature °F
Exhaust Pressure	Exhaust pressure in PSI
Boost Pressure	Turbo Boost Pressure in PSI
Glow Plug %	Glow Plug %
Barometric Pressure	Inches of Mercury
Engine Coolant Temperature F	Same as standardized OBDII coolant temperature
* See discussion on Ford Diesels here: http://www.ultra-gauge.com/customer_support/knowledgebase.php?article=28	

Ford 6.4L Diesel* PreProgrammed Parameters	Description
Barometric Pressure	Inches of Mercury
Fuel Level %	Fuel Tank Level percent of full. Allows Auto Fill function for vehicles which previously did not support it. See "Special Bit" below
Transmission Temperature °F	Temperature of the transmission fluid °F
Engine Oil Temperature °F	Much more accurate version of the OBDII standardized version
Exhaust Pressure	Exhaust pressure in PSI
Exhaust Temperature °F	Temperature of the Exhaust prior to Catalyst °F
Boost Pressure	Turbo Boost Pressure in PSI
RPM	Same as standardized OBDII RPM
* See discussion on Ford Diesels here: http://www.ultra-gauge.com/customer_support/knowledgebase.php?article=28	

Ford 6.0L Diesel* PreProgrammed Parameters	Description
Barometric Pressure	Inches of Mercury
Fuel Level %	Fuel Tank Level percent of full. Allows Auto Fill function for vehicles which previously did not support it. See "Special Bit" below
Transmission Temperature °F	Temperature of the transmission fluid °F
Engine Oil Temperature °F	Much more accurate version of the OBDII standardized version
Exhaust Pressure	Exhaust pressure in PSI
Boost Pressure	Turbo Boost Pressure in PSI
Misfire Count Bank 1	Total accumulative Misfire Count for Bank1
RPM	Same as standardized OBDII RPM
* See discussion on Ford Diesels here: http://www.ultra-gauge.com/customer_support/knowledgebase.php?article=28	

Ford (with CAN) PreProgrammed Parameters	Description
Barometric Pressure	Inches of Mercury
Fuel Level %	Fuel Tank Level percent of full. Allows Auto Fill function for vehicles which previously did not support it. See "Special Bit" below
Transmission Temperature 1 °F	Temperature of the transmission fluid °F
Transmission Temperature 2 °F	Temperature of the transmission fluid °F (Using alternate code)
Transmission Torque	Transmission Torque in Ft.lbs
Cylinder Head Temperature	Cylinder Head Temperature in °F
EGR Duty Cycle	EGR Duty Cycle %
RPM	Same as standardized OBDII RPM
This pre-programming is Ford CAN other than those specific engine sized vehicles above	

Early GM (non-CAN) PreProgrammed Parameters	Description
Run Time	Elapsed seconds since engine start
Knock Retard	degrees
Barometric Pressure	Inches of Mercury
Air Fuel ratio	
Oil Life remaining	Percentage of oil life remaining
Engine Torque	ft.lbs
Transmission Temperature	Temperature of the transmission fluid °F
Engine Coolant Temperature	Same as standardized OBDII coolant temperature

GM with CAN (~2008+) PreProgrammed Parameters	Description
Run Time	Elapsed seconds since engine start
Knock Retard	degrees
Barometric Pressure	Inches of Mercury
Air Fuel ratio	
Oil Life remaining	Percentage of oil life remaining
Engine Coolant Temperature	Same as standardized OBDII coolant temperature
Engine Torque	ft,lbs
Transmission Temperature	Temperature of the transmission fluid °F (Some GM vehicles use an alternate Code: TDATA: 07E222194001)

Toyota Tundra/Tacoma with CAN (2005-2011)	Description
Kilometers Per Hour	Same as the Standardized KPH. Note that the pre-programming is incorrect and the width of this must be set to 8bits. RPOS=1808, not 1810
Barometric Pressure	Inches of Mercury
Air Fuel ratio	
Transmission Temperature F	Temperature of the transmission fluid °F. Math should be changed to X:0001 /:0100 +:FFD8 Output Format: 10
Transmission Temperature C	Temperature of the transmission fluid °C . Math should be changed to X:0001 /:0100 +:FFD8
Injector Time	Injector on time in milliseconds
Lock up Converter Status	1=Locked up, 0=Not locked
Evaporative System PSI	Pressure of the Evaporative system in PSI

Toyota Tundra/Tacoma with CAN (2012-2015)	Codes
Transmission Torque Converter Temperature (The pre-programming provided is for 2005-2011. It will be necessary to replace the provided codes with these codes)	TDATA: 07E02182 MTCH: 6182 RPOS: 2808 RCTRL:21 TCTRL:92 X: 0001 /: 0001 +: FFD8 Output format: 10 (for °F) Output format: 00 (for °C) Left/Right is 31
Transmission Pan Temperature (The pre-programming provided is for 2005-2011. It will be necessary to replace the provided codes with these 2012-2015 codes)	TDATA: 07E02182 MTCH: 6182 RPOS: 1808 RCTRL:21 TCTRL:92 X: 0001 /: 0001 +: FFD8 Output format: 10 (for °F) Output format: 00 (for °C) Left/Right is 31

Toyota Tundra/Tacoma with CAN (2016+)	Codes
Transmission post Torque Converter Temperature (The pre-programming provided is for 2005-2011. It will be necessary to replace the provided codes with these 2016+ codes)	TDATA: 0701221628 MATCH: 621628 TCTRL: 93 RPOS 2010 RCTRL: 31 X: 0001 /: 0100 +: FFD8 Output format: 10 (for °F) Output format: 00 (for °C) Left/Right is 31
Transmission Pan Temperature (The pre-programming provided is for 2005-2011. It will be necessary to replace the provided codes with these 2016+ codes)	TDATA: 0701221627 MATCH: 621627 TCTRL: 93 RPOS 2010 RCTRL: 31 X: 0001 /: 0100 +: FFD8 Output format: 10 (for °F) Output format: 00 (for °C) Left/Right is 31

Toyota LandCruiser 200	Description
Transmission Torque Converter Temperature	Temperature of the transmission Torque Converter fluid °C
Transmission Pan Temperature	Temperature of the transmission Pan fluid °C
Alternator Duty Ratio	Alternatory % Duty Ratio
Gear Position	Current Gear Position
Torque Converter Lock Up Status	1=Locked up, 0=Not locked
Actual Fuel Temperature	Tank Fuel Temperature in °C
Return Fuel Temperature	Return Fuel Temperature in °C
Engine Coolant Temperature	Engine Coolant Temperature in °C

Honda with CAN	Description
Transmission Temperature	Temperature of the transmission fluid °C
Transmission Temperature	Temperature of the transmission fluid °F
Misfire Count	Total Engine Misfire Count
A/C PSI	Pressure of the Air-conditioning System in PSI
ECM Volts	Voltage at the ECM
Oil Life remaining	Percent
Air Fuel ratio	
Alternator Amps	Alternator output Amps

Prius Gen II	Description
Kilometers Per Hour	Much more accurate version of the OBDII standardized version (see Special Bit below)
Fuel Level %	Fuel Tank Level percent of full. Allows Auto Fill function for vehicles which previously did not support it. See "Special Bit" below
Battery Voltage 1	
Battery Voltage 2	
Battery Amps	
SOC %	Battery State of Charge %
Upper Battery Temp °F	
Lower Battery Temp °F	

Prius Gen III (2010-2015)	Description
Miles Per Hour	Much more accurate version of the OBDII standardized version (see Special Bit below)
SOC %	Battery State of Charge %
Battery Amps	
Friction Brake Sensor	0.00-4.50 (Shows actual friction braking amount) Error in Math, change to: X: 0002 /: 0001 +: FFCE Change Abbreviation to FBS
Battery Air Intake Temp °F	
RPM	
A/C Watts	A/C Power usage in Watts
ICT °F	Intake Coolant temp (Unconfirmed)

Since the creation of the Gen III pre-programming option, there is much better information and more available gauges. Please do an internet search for Gen III codes.

The units for the above can be changed by reprogramming. For example, Degrees F can be set to Degrees C, PSI to kPA, etc.

The UltraGauge MX can be used on vehicles other than those listed above, but there are no preprogrammed parameters available at this time.