

ScanGauge ^{By Linear Logic} **III**™

www.ScanGauge.com



User Manual

*Plugs into the diagnostic connector already
built into all 1996 or newer cars and light trucks.*

Version 1.0

WARNING

Use of the ScanGauge while driving could lead to an accident and serious injuries. The primary attention of the driver should always be on safe driving. As with any gauge or other instrumentation system in a motor vehicle, the information should be observed as part of a normal sequence of observations performed in the operation of the vehicle. Changes to the selections in the ScanGauge should only be made when it is safe to do so. The driver must remain attentive to driving the vehicle.

The mounting of the ScanGauge and the routing of the cable connecting it to the vehicle should be done with suitable caution so it does not create an unsafe condition. This includes but is not limited to the following restrictions:

- **Do Not mount the ScanGauge where it can obstruct the view of the driver.**
- **Do Not mount the ScanGauge in a manner that could cause it to be propelled through the vehicle during an accident causing injury, such as over or near an air bag.**
- **Do Not route the cable in a manner that would interfere with the operation of the vehicle controls.**

RIGHTS AND OBLIGATIONS

The ScanGauge may be used on any number of vehicles. The software contained in the ScanGauge is copyright protected by Linear Logic and may not be transferred or disassembled and used in another product, in part or in whole. The artwork used in generation of the circuitry is also copyright protected and cannot be used in part or in whole by any person or entity without the express written permission of Linear Logic.

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Version 1.0

Information in this manual and the specifications and operation of the ScanGauge itself are subject to change without notice.

Installing the ScanGauge

The ScanGauge is simple to install and requires no additional power source other than the OBD II connector.

There are, however, some important considerations when choosing a location for your ScanGauge. Please see the Installation section for detailed information.

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ScanGauge Overview

Package Contents

- ScanGauge
- Deluxe Window Mount
- Quick Start Guide
- 6ft OBDII Cable



Basic Operation and Features

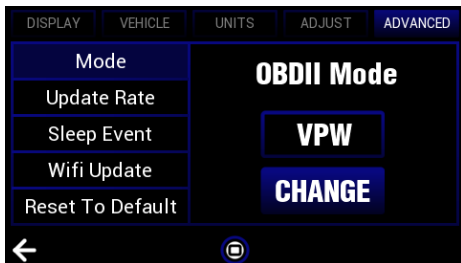
Menu and Selection Buttons

The ScanGauge 3 has a capacitive touch display. At the bottom of every screen is a small icon, pressing this button will bring you back to the home screen at any time. There are tabs at the top of many pages that help to navigate different menu and gauge screens.



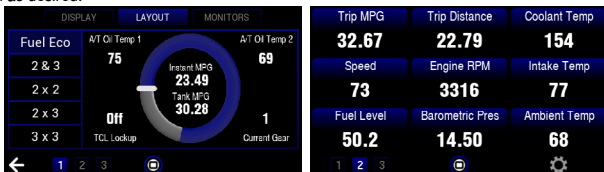
Automatic Mode Recognition

Different vehicles use different types of signaling from their computers. In most cases, the ScanGauge can quickly determine which type your vehicle is using. You don't have to know which type it is for it to be used.



User Customizable Gauges

Up to 50 trip, vehicle specific or special gauges can be entered into the ScanGauge. These are stored in Flash memory and will be retained even if there is a power loss, but the user can change them as often as desired.





SCAN

Use the Scan Tool feature to view and clear trouble codes and turn off the check engine light.

TRIP

Press the trip button to access the built-in Trip computers. The built-in Trip computers give you the ability to view and track useful information about the trip you take as you drive.

GAUGE

Use GAUGE to display up to 9 real-time Digital Gauges

MORE

Press the MORE button to access the settings and configuration options for the ScanGauge.

Flash Memory

The ScanGauge uses a type of memory that doesn't require batteries or a source of power to maintain settings. This means that your settings will not be lost if you disconnect the vehicle battery or disconnect the ScanGauge.

Automatic Sleep Mode

About 12 seconds after turning off the vehicle or pressing a button after the vehicle engine is turned off, the ScanGauge will automatically power down into a sleep mode. Starting the engine or tapping the ScanGauge twice will automatically wake the ScanGauge, and it will return to the gauge screen and display settings it had just before it went to sleep.



If you need to disconnect the ScanGauge, wait until it has gone to sleep before you do it. This will allow trip information to be saved in Flash memory and re-stored when it is reconnected.

Customizable Color Display

Choose from 16 preset colors or program your own for millions of possible colors. The backlight intensity is also adjustable by swiping up or down with 2 fingers from any screen.

Installation

1. Locate the OBDII connector.

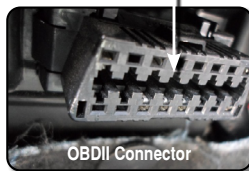
This connector is normally located under the dash on either side of the steering column. It can also be located under the dash on the passenger side in some vehicles. On rare occasions, it is behind the ashtray in the dash or in the armrest. It may have a cover on it that can be pulled off by hand.



2. Locate a place for the ScanGauge.

You can use the Deluxe Window Mount supplied with the ScanGauge to attach it to the location you have chosen. The magnetic attachment allows you to easily remove it and use it to troubleshoot another vehicle and then return it to this vehicle.

The location should be where it can easily be seen from the normal driving position. It should not be placed where it will obstruct the driver's view outside the vehicle or of other gauges.



DO NOT mount the ScanGauge over an air bag cover where it could be propelled by a deploying air bag.

3. Route the cable.

Route the cable from the OBDII connector and plug the small end of the cable into the back of the ScanGauge.



IMPORTANT: A pin in the cable is connected to the vehicle's 12V system. Do not short any pins of the small connector to metal or other ground when the OBDII plug is plugged into the OBDII connector.



4. Turn the vehicle on.

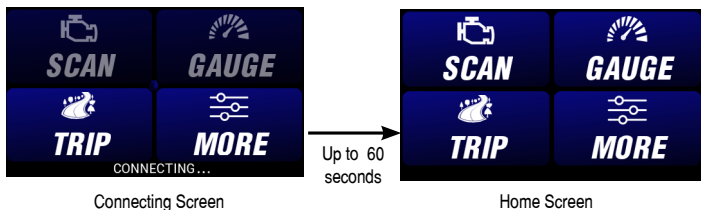
If the vehicle can be run, start it. If it cannot be run, turn the key to the Run position. This is the position it is normally in when the vehicle is being driven.

5. Plug the ScanGauge plug into the OBDII socket.

The ScanGauge derives all the power it needs from the OBDII connector. No other connections are needed for its operation.

Wait for the ScanGauge to connect. When the ScanGauge is first connected, it attempts to communicate with the vehicle. Communications can be established with the key in the Run position, even if the engine is not actually running. It could take up to 60 seconds for the connection to be made after the unit is plugged in with the key in the Run position.

While establishing communications, the screen will display:



If it does not stop saying “Connecting...” or the screen goes blank after 60 seconds, refer to Troubleshooting on page 34.

The TRIP and MORE buttons can be used even if a connection is not established. If communication with the vehicle ECU is not completed within about 75 seconds, the ScanGauge goes to sleep. It will continue to attempt to connect when the vehicle is restarted or tapped twice. When communication has been established, the display will change back to the gauge screen you were on, or to the Home Screen if it was on another page.

6. If this is the first time it has been used on this vehicle, follow the procedures outlined in Setting Up Your ScanGauge, on page 12.

Important Installation Considerations

The ScanGauge has an operating temperature range of 0°F to 160°F (-18°C to 71°C). At higher temperatures, the display will become dark and difficult to read. At lower temperatures, the contrast will be reduced. As long as the temperature doesn't exceed -22°F to 176°F (-30°C to 80°C), the display will return to normal operation when the ScanGauge temperature returns to the normal operating temperature range.

- A location in direct sunlight on the dashboard in a closed vehicle could exceed the normal operating temperature. The use of windshield shades or covering the ScanGauge with something can significantly reduce this temperature. If attached with Deluxe Window Mount, you can also move it temporarily to a location away from the sun.
- DO NOT mount the ScanGauge over an air bag cover where it could be propelled by a deploying air bag.
- A pin (pin 16) in the cable is connected to the vehicle 12V system. DO NOT short any pins of the small connector to metal or other ground when the OBDII plug is plugged into the OBDII connector.
- The location should be where it can easily be seen from the normal driving position. It should not be placed where it will obstruct the driver's view outside the vehicle or of other gauges.

Set Up and Calibrate Your ScanGauge

To get the most out of your ScanGauge, it is important to follow the setup and calibration procedures to ensure your ScanGauge reports accurate information.

This section outlines the various setup options and provides detailed information about calibrating the ScanGauge for the most accurate readings.

Setting Up Your ScanGauge

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Setting Up Your ScanGauge

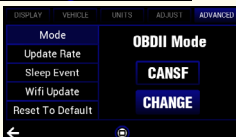
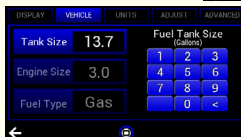
Initial Setup Overview

To properly use your ScanGauge, you must first set up the vehicle parameters. Basic setup parameters include engine size, fuel tank size, fuel type and units of measure. Advanced parameters are also available and are covered later in this chapter.

Access the Setup Options

Your new ScanGauge must first be set up so that it may report accurate information about your vehicle.

To access the Setup Options, press the MORE button from the home screen then press SETUP.



Setup Parameter	Display	Options
Distance Units	DISTANCE	Miles, Kilometers
Fuel Units	FUEL UNITS	Gallons, Liters
Temperature Units	TEMP UNITS	Fahrenheit (°F), Celsius (°C)
Pressure Units	PRESSURE UNITS	PSI, KPA, MM, IN
Engine Size	ENGINE SIZE	Adjust the LITERS size to match the size of your engine
Tank Size	TANK SIZE	Adjustable in .1 Gallon/Liter increments
Fuel Type	FUEL TYPE	GAS, DIESEL, HYBRID, and LPG.
Currency type	CURRENCY	\$, £, ¥, €



It is dangerous to run a vehicle out of fuel and can damage the fuel pump. Do not rely on the fuel gauge or ScanGauge at low fuel levels or low remaining distance or time.

Can the ScanGauge use Imperial Gallons?

ScanGauge uses gallons as a unit label, not a unit of measurement. Because of this, it can read in either US or Imperial Gallons without conversion. Make sure all units entered into ScanGauge are consistent, and the readings should remain accurate for US or Imperial Gallons.

Can the ScanGauge Display Liters per Hundred Kilometers?

By default, ScanGauge will express fuel economy in Kilometer per Liter (KPL), provided you have set fuel to LITERS and distance to KILOMETERS. Pressing the button under Liter/100km will change the reading to LHK and automatically select KM and Liters for the distance and volume measurement.

Advanced Setup Options

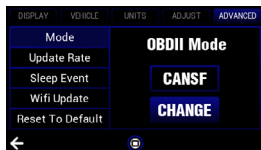
Advanced Setup Overview and Adjustments

The Advanced Setup and Adjustment Options provide additional setup parameters you can use to adjust the functions and features of the ScanGauge to suit both your vehicle and your preferences.

ScanGauge provides a number of advanced setup parameters, including the ability to adjust the reported speed to compensate for oversized tires, the ability to set the fuel cutoff level, perform wifi firmware update, as well as the update rate at which ScanGauge reports data.

This section provides a brief overview of each of the advanced parameters but may not cover the full scope of the subject the setting applies to.

For more information, visit: www.ScanGauge.com/support.



Accessing the Advanced Setup Options

The Advanced Setup Options are located within the SETUP menu. To access the Advanced Setup Options screens, press the lower right MORE button on the Home Screen. Next press the lower left SETUP button.

Once on the Setup Screen, press the ADVANCED tab at the top of the screen. You can scroll through the available advanced setup functions: Mode, Update Rate, Sleep Event, WiFi Update, and Reset to Defaults.

Accessing the Adjust Setup Options

The Adjust Setup Options are located within the SETUP menu. To access the Adjust Setup Options screens, press the lower right MORE button on the Home Screen. Next press the lower left SETUP button.

Once on the Setup Screen, press the ADJUST tab at the top of the screen. Here you can adjust the settings for Speed, Fuel Cutoff, Fuel Flow, Horsepower, and speaker volume.

Adjustment Parameters

Setup Parameter	Options	Description
Speed Adjustment	-100%-100%	Sets the speed offset to compensate for inaccurate speed readings. See page 17.
Fuel Cutoff Setting	0-99	Sets the fuel cutoff level. See page 18.
Fuel Price	0-99	Sets the fuel price without fill up
Fuel Flow Calc	-99% - +99%	Adjusts the Fuel Flow Calculation to compensate for inaccurate fuel economy readings
Horsepower Adjustment	-99% - +99% (Default 0)	Sets the HP offset to compensate for inaccurate Horsepower readings. See page 19.
Speaker Volume	-99% - +99%	Adjusts the speaker volume for gauge monitors and alarms.

Advanced Setup Parameters

Setup Parameter	Options	Description
Data Update Rate	Slow Normal Fast	Sets the rate in which ScanGauge reports data.
Mode Settings	CANxx ISO VPW PWM KWPx	Sets the protocol to force the ScanGauge to connect with.
Sleep Event	0 RPM COM	Sets the Sleep Event function of the ScanGauge.
WiFi Update	2.4Ghz Only	Connect to your wireless 2.4Ghz network to update your ScanGauge.

Set Speed Adjustments

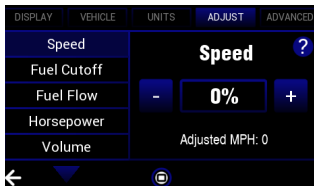
The speed indicated by ScanGauge can be adjusted to compensate for changes in tire size, gear changes, tire wear or any other factor that may affect the accuracy of your vehicle's speedometer. It is important to note that this adjustment only affects the ScanGauge's indicated speed and distances, and it does not affect the vehicle speedometer or odometer readings.

While viewing the SPEED Screen, the + and - buttons can be used to increase or decrease the selected adjustment in 1% steps.

One accurate way to set the speed is to use a GPS. With one person driving, the other person observes the speed on the GPS and adjusts the percentage until the bottom number matches the GPS. For more information about the various methods of calculating your speed adjustment, visit us online at www.ScanGauge.com/quick-tips/.



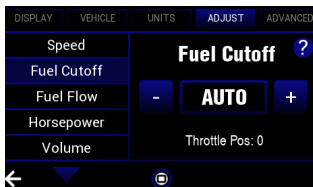
IMPORTANT: OBSERVE ALL SPEED LIMITS AND DRIVE SAFELY WHILE MAKING THESE ADJUSTMENTS. THE DRIVER MUST NOT BE DISTRACTED BY TRYING TO MAKE THESE ADJUSTMENTS WHILE DRIVING.



Set the Fuel Cutoff Level

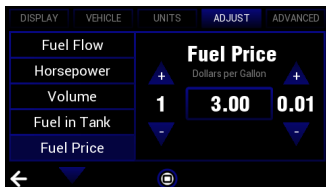
Some vehicles will turn the fuel injectors off while coasting – this is known as Fuel Cutoff. ScanGauge attempts to detect the fuel cutoff condition by comparing the open/closed loop indicator and the throttle position. If ScanGauge improperly detects fuel cutoff, then you may see fuel economy being reported as 9999 MPG or 0.00 LHK.

The CUTOFF parameter allows you to set the point at which ScanGauge can determine the throttle is closed and in the fuel cutoff condition. By default it is set to AUTO which is usually correct for most vehicles but may need to be adjusted. This setting is not critical but is best at about 4 above value shown on the Throttle Position when the accelerator is not pressed at all. You can choose to disable the fuel cutoff sensing feature of the ScanGauge by setting the Cutoff value to OFF.



Fuel Price Adjustment (without Fill Up)

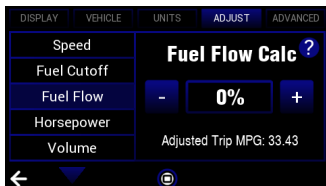
You can adjust the price per gallon/liter without doing the fill up. From the home screen press MORE then SETUP and select the ADJUST tab at the top. Scroll down to "Fuel Price" and change the cost by using the left plus and minus to change the dollar amount and the right side plus and minus button to adjust the cents.



Set the Fuel Flow Adjustment

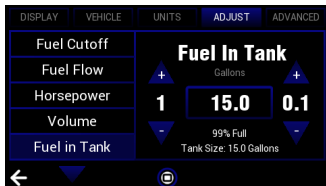
The ScanGauge is usually accurate out of the box, this setting can adjust the readings if you feel they are off.

You can adjust by pressing the + and - button.



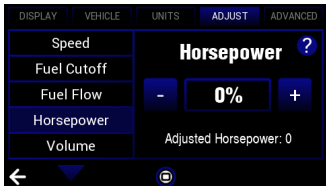
Set the amount of Fuel in the Tank

The Fuel in Tank adjustment lets you enter how many gallons of fuel that is currently in your tank without doing the fillup procedure.



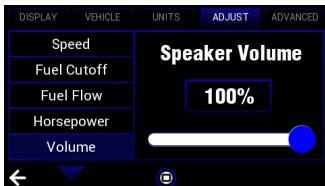
Set a Horsepower Adjustment

ScanGauge reports Horsepower (HP) as a built-in digital gauge. This parameter allows you to make adjustments to the HP reading that the ScanGauge reports.



Set the Speaker Volume

The speaker volume for monitors and alarms can be adjusted here using the slider.

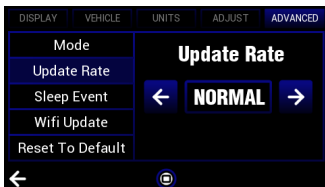


Update Rate

You can adjust the rate in which ScanGauge reports data. The effect of this setting is most visible in the Gauge Screen.

The update rate defaults to NORMAL. In some cases, a faster update rate can be used. If this causes some updates to be skipped or irregularly operate, FAST should not be used. In some cases, even NORMAL can be too fast and lead to poor operation.

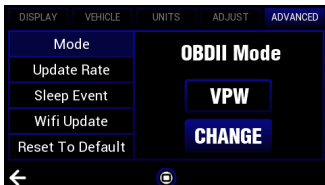
In these cases, SLOW should be used. PWM and all the CANxx modes can usually use FAST rate. VPW, ISO and KWPx modes may have a problem with a rate higher than NORMAL.



Set Mode

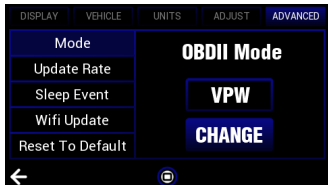
The ScanGauge will automatically detect the mode that the vehicle uses, in some rare instances you may need to force the mode to connect.

This menu will also show you which mode the vehicle is currently connected to once it is connected. To force a connection to another protocol press CHANGE then using the arrows select the mode you wish to connect to and press FORCE.



Set the Sleep Event

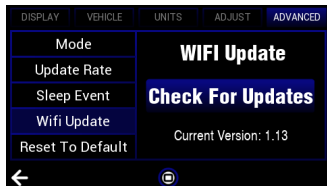
By default, the ScanGauge will shut down when it sees 0 RPM. This may not be the desired setting if your vehicle is a Hybrid or has an auto stop/start feature, which will report 0 RPM when the vehicle is stopped. When you select HYBRID in the fuel type (TYPE) parameter in the Basic Setup procedure (see page 12) When using ScanGauge with the Sleep Event parameter set to COM, there is a small risk that the vehicle's ECU and ScanGauge will stay on and drain the battery. You must be sure the ScanGauge goes to sleep properly when the engine is turned off. This can take about 15 seconds



WiFi Update

The ScanGauge can update to the latest firmware using WIFI on a 2.4ghz connection.

To update navigate to the ADVANCED tab on the setup menu. Press WiFi update and then press Check For Updates. This will prompt you to select your wireless network and type in your password. You can choose to save the password or type it in each time. Once you have entered your information it will check for available versions and show your current version. If you have the latest version there is no need to update. If you have an older version you may select the newer one and press SELECT. This will start the download and installation. Once it is completed it will automatically restart the ScanGauge.



Reset to Defaults

You can reset your ScanGauge to factory defaults and clear all custom settings and saved data.

There are several options which are detailed below. After selecting which reset you would like to perform using the left and right arrows, press RESET and the ScanGauge will ask to confirm before making any changes.



ALL: This option will reset all changes you've made to the ScanGauge including the options below.

WIFI: This option will reset any WIFI options you've set including network name and passwords.

TRIP: This option will reset all trip information.

XGAUGE: This option will reset all auto scan and manual entry XGauges that you have programmed.

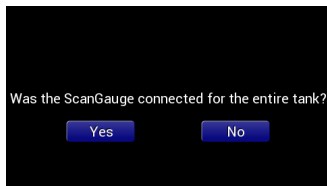
SETTINGS: This option will reset all setting options including colors, units of measure, engine size, tank size, brightness, and volume.

Filling Your Fuel Tank

When you add fuel to your tank you can keep track of your tank information along with helping the ScanGauge to calibrate the fuel use calculation.

From the home screen press MORE then FILLUP. This will bring you to the fill up screen. If you filled until the pump stopped itself you can press FULL on the bottom right, if you did not fill completely press PARTIAL. After your selection you can enter the amount of fuel you added. You can adjust the tank size from this screen along with the fuel cost to keep track of costs while driving. After you have made your selections press SAVE and it will ask if your fill up is complete. If you need to make changes you can press No.

The ScanGauge will ask if it was connected for the entire tank of fuel. If it is your first fill up after plugging in the ScanGauge or if a later fillup that the ScanGauge may have been unplugged during any part of the trip press no. If it has been plugged in since your last fill up press Yes. This screen will not always display on every fill up.



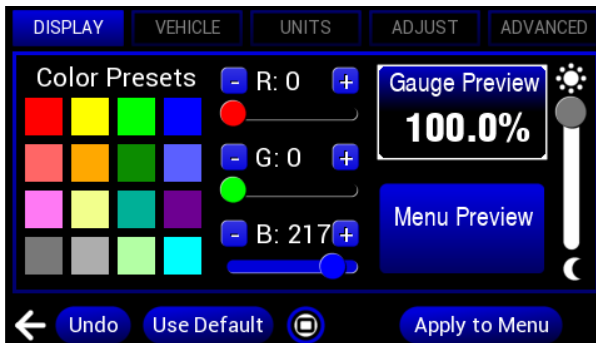
Backlight and Display

Backlight and Display Options

You can customize the backlight and display colors of your ScanGauge. Options include the ability to set the intensity of the backlight, choose a standard built-in color for the display, and create your own custom color for the gauges and menu.

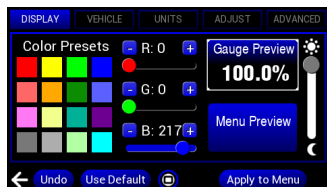
Access the Display Options

To access the Display Options Screen, press the MORE button from the Home Screen. Next, press SETUP and using the tabs at the top select DISPLAY.



Change the Backlight Color

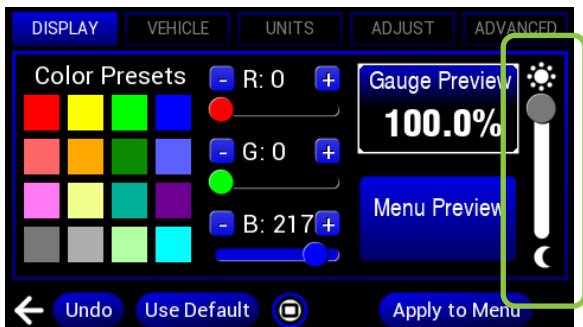
You can select a preset color or mix your own using the RGB sliders.



When you have "Gauge Preview" selected and change the color it will apply that color to the gauges. If you have "Menu Preview" selected it will apply it to the Menus. If you select a color and want to use it for both the Menu and Gauges you can press "Apply to Menu" or "Apply to Gauges" at the bottom right of the screen.


Change the Brightness

You can change the brightness of the display from any screen using two fingers to swipe up or down, or you can change it from the display settings using the slider on the right side of the screen.



Operating Your ScanGauge

The ScanGauge features a simple and easy-to-use, menu-driven design. After each button is pressed, new selections will appear in the display prompting you for what can be done next.

The HOME button  at the bottom center of every screen will take you back to the home screen at any time.

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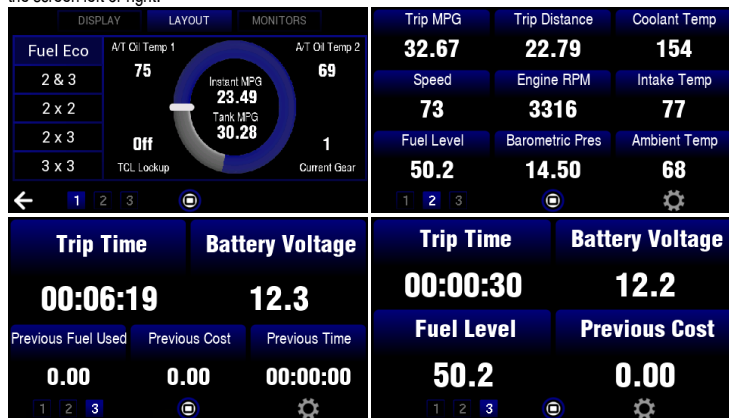
Digital Gauges

Digital Gauges Overview

The ScanGauge can display up to 9 digital gauges at a time. The gauges are updated in real time when your vehicle is running and can be used to monitor the operating condition of your vehicle.

Access the Digital Gauges

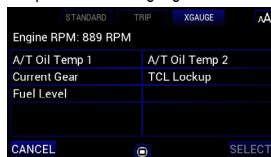
From the Home Screen, press the GAUGE button. The layout of the gauges is easy to change by pressing the gear icon in the lower right of any of the gauge screens it will bring you the display settings. Pressing the center tab at the top labeled LAYOUT will allow you to select your preferred layout. There are three gauge pages you can save and access by pressing the number in the lower left or by swiping the screen left or right.



Selecting the Gauges

Pressing the gauge which you would like to change will allow you to change the gauge that is displayed in that position. Pressing and holding a gauge will allow you to swap it with another gauge on the screen by releasing it on top of the one you want to swap with.

Pressing on any gauge will display 3 tabs at the top of the screen, you can select STANDARD, TRIP, or XGAUGE to view a list of available gauges from each category. When you find the gauge you want to display simply press it twice or highlight it then press select and it will replace whichever gauge you had selected from the gauge screen.



Trip Computers

Trip Computer Overview

The ScanGauge features 4 built-in trip computers. The trip computers automatically store a set of useful information about the trips you have taken in your vehicle and are updated in real time as you drive.

Built-in Trip Computers		
Trip Computer	Display Name	Available Information
Current Trip	CURRENT	Trip MPG
		Trip Fuel Used
Today's Trips	TODAY	Maximum Coolant Temperature
		Distance
		Maximum RPM
Previous Trips	PREVIOUS	Trip Elapsed Time
		Maximum Speed
		Average Speed
		Trip Fuel Cost
Tank Trips	TANK	Tank MPG
		Tank Fuel Used
		Distance
		Tank Elapsed Time
		Average Speed
		Tank Fuel Cost
		Fuel Remaining for Current Tank
		Distance Remaining Before Tank Is Empty
		Time Remaining Before Tank Is Empty

Accessing the Trip Computers

From the Home Screen, press the lower left TRIP button, this will take you to the CURRENT trip which automatically resets itself after the ScanGauge is asleep. You can also press the RESET button and confirm your selection to manually reset the current trip. Using the tabs at the top of the screen you can view TODAY's trip PREVIOUS day's trip and the TANK trip.

CURRENT	TODAY	PREVIOUS	TANK
Trip MPG 30.59	Trip Fuel Used 0.18	Trip Distance 5.55	
Trip Cost 0.85	Trip Time 00:04:30	Trip Avg Speed 74	
Coolant Max 149.0	RPM Max 3380	Speed Max 74	
←	RESET	⊙	

The TODAY's trip can manually be changed to start a new day if the ScanGauge didn't recognize a new day started by pressing NEW DAY at the bottom. This will force the TODAY trip into the PREVIOUS day.

CURRENT	TODAY	PREVIOUS	TANK
Todays MPG 32.72	Today Fuel Used 0.00	Todays Distance 0.07	
Todays Cost 0.01	Todays Time 00:00:04	Today Avg Speed 54	
Coolant Max Today 147.2	RPM Max Today 3756	Speed Max Today 54	
←	NEW DAY	⊙	

The TANK trip will display trip information for the entire tank of fuel including "to empty" readings. This is only reset by doing the FILLUP procedure.

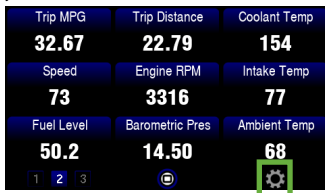
CURRENT	TODAY	PREVIOUS	TANK
Tank MPG 43.38	Tank Fuel Used 1.72	Tank Distance 74.56	
Tank Cost 5.16	Tank Time 02:50:31	Tank Avg Speed 27	
Fuel Remaining 13.3	Miles To Empty 577	Time To Empty 21:04:24	
←	⊙		

Monitor and Alarm

Set the Monitor and Alarm Function

The ScanGauge can monitor sensors and alert you when they are at, above, or below certain conditions.

From the gauge screen, press the gear icon in the bottom right of the screen.



Using the tabs at the top, select MONITORS and press on any Empty slot, or select one you have previously made to edit or delete.

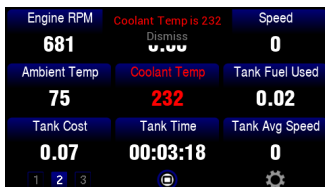
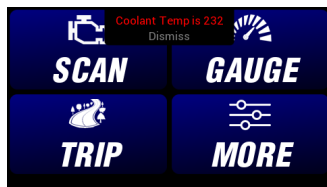
From this screen you can also change the alert sound. To disable the sound you can set the volume to 0 from the settings screen. (see page 20)



Press to highlight the sensor you want to monitor from the STANDARD, TRIP, or XGAUGE tab at the top and press SELECT on the bottom right.



The alarm will pop up on any screen when the parameter is met, you can dismiss the alert and the sound will stop. The gauge will still flash red when the parameter is met.



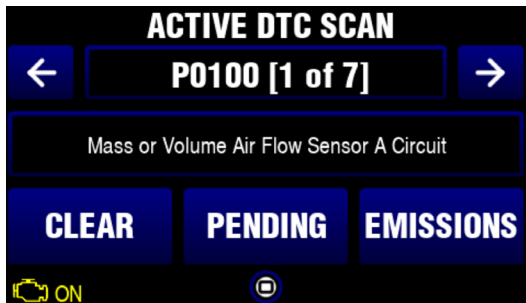
Scan Tool

Scan Tool Overview

The ScanGauge features a built-in Scan Tool that you can use to view and clear Diagnostic Trouble Codes (DTCs) and turn off the Check Engine light.

Access the Scan Tool

From the Home Screen, press the SCAN button in the top right corner to access the built-in Scan Tool. When you press SCAN, the ScanGauge automatically checks your vehicle's computer for any DTCs. Generally, a Trouble Code will cause your Check Engine light to turn on.



No Codes Found

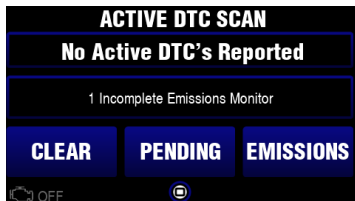
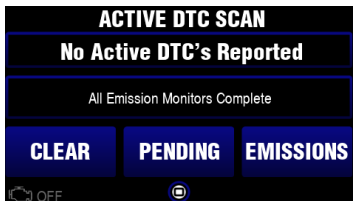
If no codes were found and your Check Engine light is still on, your vehicle may be storing pending codes. You can press PENDING to view any that are available. If no codes are found it will display if any emissions tests are yet to pass.

Trouble Codes Found

If the ScanGauge detects Trouble Codes, the top line will indicate the code and the brackets will display how many codes were found. Using the left and right arrows you can cycle through the codes. The code definition is found below the code.

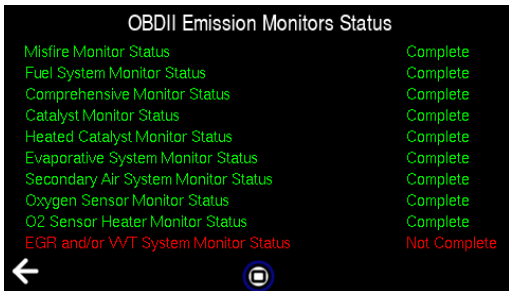
Emissions Tests

If your vehicle has no trouble codes it will display if there are any emissions tests that have yet to pass. This will display in the center. You can press on the EMISSIONS button to view all tests and see which have not yet completed.



Some states are now using the OBDII connector for emissions testing. The good news is that if the vehicle has completed testing its emissions systems since the last time the battery was disconnected or the trouble codes reset, the test takes only seconds to pass. The bad news is if it hasn't completed them the vehicle may not be passed. If you see "All Emission Monitors Complete" in the center after pressing SCAN, all the tests have been run and there are no trouble codes. You are ready to pass the emissions check. If you see "# Incomplete Emissions Monitor", some tests haven't been run or passed, the number indicates the quantity of tests remaining. Even though there are no trouble codes, you may still fail emissions because some required tests have not been completed.

Some states allow the vehicle to pass emissions even if certain tests have not been completed. The ones that are allowed differ from state to state. Although the ScanGauge cannot tell you which ones your state allows, it can tell you which ones have not been completed.



Advanced Features

The ScanGauge includes the XGauge feature which can display vehicle specific sensors as live data. This feature allows you to automatically scan for available parameters and also manually enter them as needed.



TM

Program Custom Gauges with X-GAUGE™

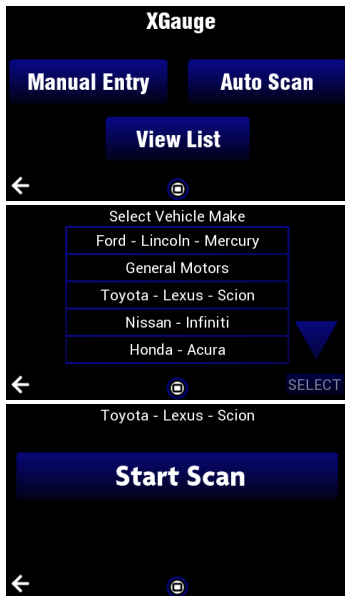
X-GAUGE Overview	30
Auto Scan for X-GAUGE	30
Manual Entry for X-GAUGE	31

Overview

While all OBDII compliant vehicles supply a “standard” set of data that ScanGauge can read, some makes and models of vehicles can supply additional information beyond the standard set of data.

Your ScanGauge features the exclusive X-GAUGE™ Programmable Gauge System that provides you a method to tap into this additional information. The X-GAUGE feature allows you to extend the capabilities of your ScanGauge to include things like: vehicle specific gauges and special function gauges.

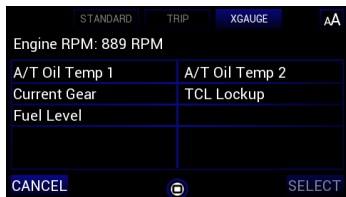
Programming a new X-GAUGE and saving it to your ScanGauge is simple and easy. The ScanGauge can perform an Auto Scan to see which codes are available, it also allows you to manually program in codes that may not be included with the ScanGauge. An extensive library of X-GAUGE codes for many different vehicles can be found on our Web site at www.scangauge.com/support



Auto Scan for XGauges

From the Home Screen, press the lower right MORE then press XGauge in in the lower left.

Next, press Auto Scan and select your vehicles manufacturer and press SELECT, then Start Scan. The ScanGauge will automatically determine which XGauges are available in your vehicle and will display them on the next screen. Once you see the list, you can select any of the sensors listed or press SELECT ALL then press SAVE. You can also view the list of XGauges previously found and add or remove any from the gauge screen list.



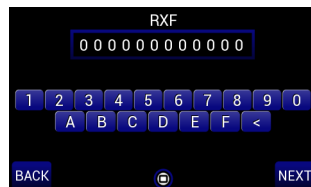
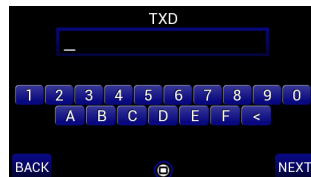
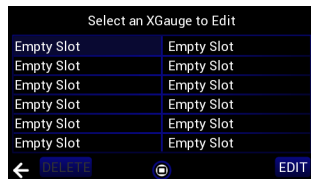
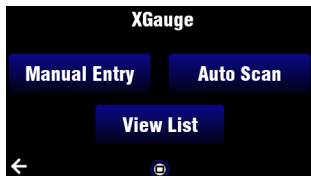
The XGauges will now be viewable from the gauge screen. While on the gauge screen press on whichever gauge you would like to change and at the top of the screen you will see a tab labeled XGAUGE.

Programming Your Own X-GAUGE

In most cases the Auto Scan will find everything, but occasionally you may need to enter an XGauge in manually. The ScanGauge also allows you to program your own XGauge with the Manual Entry. These codes can be found on our website at:

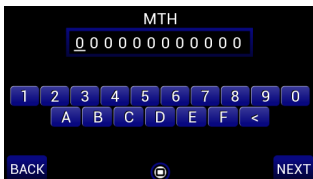
<https://www.scangauge.com/support/x-gauge-commands/>

From the home screen, press MORE then XGauge then Manual Entry and select an Empty Slot or select a slot you want to overwrite and press EDIT. Enter the TXD value and press NEXT then enter the RXF value and press NEXT



Programming Your Own X-GAUGE Continued

Enter the RXD value and press NEXT followed by the MTH value, after entering that and pressing next it will bring you to the NAME screen. You can enter any name you like for this value and it will be what is displayed on the XGauge list in the gauge screen.



Troubleshooting

This section provides basic troubleshooting information. For more comprehensive information, please visit us online at: www.ScanGauge.com/support.

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Basic Troubleshooting

Where to Get Support

Below is a list of the more common troubleshooting tips. For a more comprehensive list of troubleshooting tips, tricks and frequently asked questions, please visit us online.

Online: www.ScanGauge.com/support

Phone: 1-480-656-4089

E-mail: support@linear-logic.com

Problem	Possible Cause	Solutions
Nothing displayed and no backlight	Vehicle has a blown fuse	Replace blown vehicle fuse. The OBDII connector is usually powered off the cigarette lighter/accessory fuse. Check this one first.
Never stops saying "Connecting..."	Vehicle ECU not on	Turn key to RUN or start engine
	ECU not responding properly	Use MORE>SETUP>ADVANCED tab and try Changing to the following modes: FORD Products: PWM or CANSF GM Products: VPW , ISO or CANSF Chrysler Products: ISO, VPW or CANSF Volvo Products: ISO, CANSF or CANLF Others: ISO, KWPS, KWPF, CANSF, CANLF, CANSS or CANLS
	Vehicle is not OBDII, OBD2 or EOBD compatible	None — ScanGauge requires vehicle to be OBDII, OBD2 or EOBD compatible.
Connects and then goes to sleep after 10 to 15 seconds	Engine is not running	Start engine or set the sleep event to COM in the ADVANCED settings tab. (see page 14)

Problem	Possible Cause	Solutions
Unable to clear trouble codes	Vehicle is not responding to the Clear Codes command	Sometimes multiple attempts are needed to clear the codes. You may also try clearing the codes with the vehicle not running, and the key in the on position. Some vehicles don't respond properly to the Clear Codes command and the codes cannot be cleared by the ScanGauge.
Shuts off when engine automatically turns off in a Hybrid vehicle	Fuel type not set to HYBRID	Set the fuel type (TYPE) parameter to HYBRID in the Basic Setup Parameters (see page 12)
Poor MPG and Trip Fuel use accuracy	Some sensor initial accuracy not good (especially Diesel)	Use FILLUP procedure to adjust for sensor errors or adjust the fuel flow reading from the ADJUST tab in settings. (see page 17)
Trip Fuel use is very inaccurate after using fill-up adjustment	Error in adjustment procedure	Recalibrate your ScanGauge. See Calibrating Your ScanGauge on page 17

View Firmware Version and MAC address of Your ScanGauge

From the Home Screen, press MORE then ABOUT. This page will display your version number, our contact information and your ScanGauge MAC ID. On the bottom right you can press Tutorial to view the Tutorial again at any time.



Reset Your ScanGauge

You can reset your ScanGauge to factory defaults and clear all custom settings and saved data.

To Reset Your ScanGauge

From the Home Screen, press MORE then SETUP then press the ADVANCED tab at the top and select Reset To Default on the list of options to the left.

There are several options which are detailed below. After selecting which reset you would like to perform using the left and right arrows, press RESET and the ScanGauge will ask to confirm before making any changes.

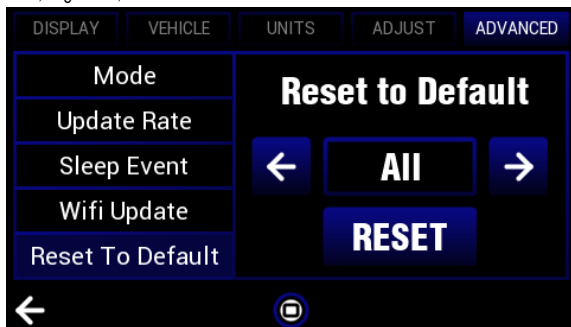
ALL: This option will reset all changes you've made to the ScanGauge including the options below.

WIFI: This option will reset any WIFI options you've set including network name and passwords.

TRIP: This option will reset all trip information.

XGAUGE: This option will reset all auto scan and manual entry XGauges that you have programmed.

SETTINGS: This option will reset all setting options including colors, units of measure, engine size, tank size, brightness, and volume.



ScanGauge Factory Reset

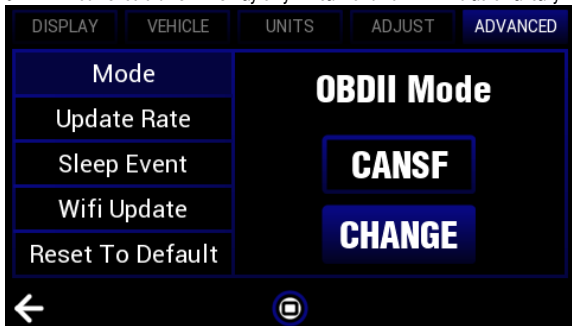
The ScanGauge can be reset to factory firmware and settings. On the back of the ScanGauge there is a small hole and a button inside. With the ScanGauge unplugged you can use a pin or paperclip press inside and there is a small button. Press the button down and plug in the ScanGauge. This will reset the ScanGauge and all settings to the factory firmware.

Read or Set the Operating Mode

ScanGauge allows you to view the operating mode your ScanGauge is using to communicate with your vehicle's ECU. You may also manually set the mode.

From the Home Screen, press MORE then SETUP. Next, press the ADVANCED tab at the top of the screen. The current mode will be displayed in the center of the screen.

To manually set ScanGauge to use a particular mode, push the CHANGE button, and use the arrows to cycle through to the mode you want to attempt to connect to. Find the mode you want and press FORCE. The mode should be set this way only if it cannot be determined automatically.



ScanGauge By Linear Logic **III**™

www.ScanGauge.com



Limited Warranty

Linear Logic will repair this product with new or rebuilt parts, free of charge, for a period of 3 years from the date of original purchase in the event of a defect in materials or workmanship.

Warranty Service can be obtained by sending the product to:

Linear Logic LLC
ATTN: Warranty Service
2222 S Dobson Rd Suite 800
Mesa, AZ 85202

Include your name, address, telephone number and/or e-mail address along with a copy of the Receipt or Packing List.

Also include information about the problem, including the type of vehicle you are using it on and a description of the problem.

An e-mail to ***service@Linear-Logic.com*** may be able to assist in solving a problem and will not diminish your rights to the full warranty.

Limits and Exclusions:

There are no express warranties except as listed above.

Linear Logic SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD.

If a problem with this product develops after the warranty period, you may contact our service department via the mail address or e-mail address listed above for a cost estimate on repairs to the unit.

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www.ScanGauge.com

Version 1.0
SGIII UM