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Vehicle IoT Gateway
VG54 datasheet and user manual

VG54-NA model # 010-0054
VG54-NAE model # 010-0055

Powerful, Easy-to-Use Fleet Telematics

Instantly-Accessible, Real-Time Fleet Visibility

An always-on cellular connection reports data in real-time to the Samsara Cloud. Operators gain instant visibility into the movements and status of their entire fleet simply by logging into the dashboard from their desktop or mobile device.

Designed to Increase Efficiency

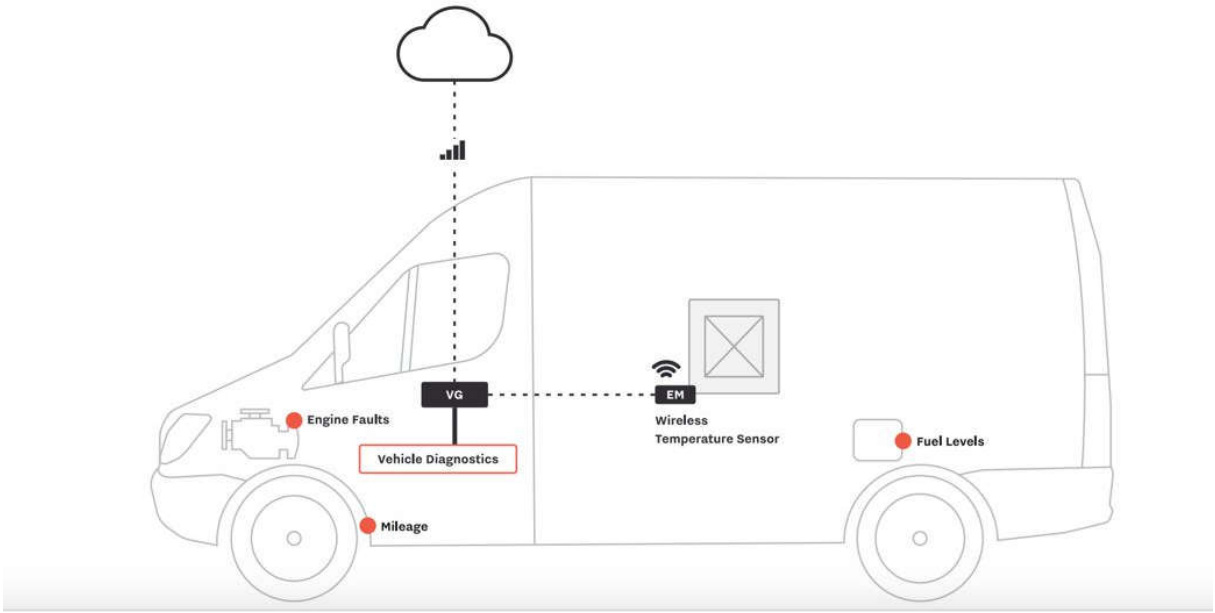
A powerful software platform analyzes each vehicle's behavior, providing operators with insight to fleet utilization, expected maintenance, and fuel efficiency. Analytics and reports are automatically generated in the cloud, providing operations team with the data they need in just a few clicks.

Telematics Beyond GPS

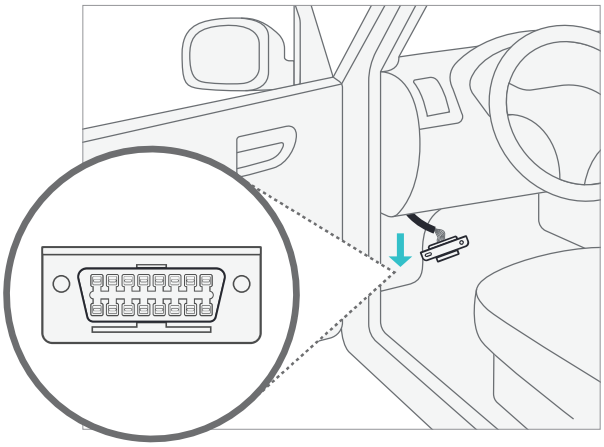
Samsara gateways integrate traffic, temperature, and other sensor data with real time location, streamlining route planning and improving fleet efficiency. Samsara's cloud architecture provides operators with a wealth of actionable data, from real-time traffic and trip history to efficiency reports that save fuel and increase utilization.

Part of a complete solution

Samsara brings complete visibility to physical operations: Monitor the temperature of refrigerated compartments with real-time alerts to prevent spoilage. Protect high-value cargo from extreme temperature, humidity, or shock. And monitor specialized vehicles by adding pressure sensors, flow meters, and more - all from a single system.



1

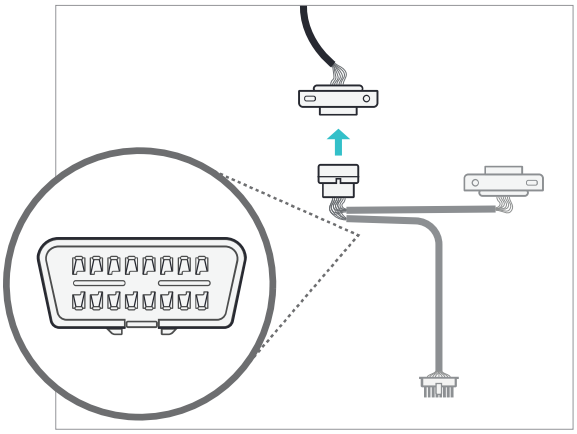


EN Locate vehicle's diagnostic port and detach it from its original location.

FR Localisez le port de diagnostic du véhicule et détachez-le de son emplacement d'origine.

ES Localice el puerto de diagnóstico del vehículo y retírelo de su ubicación original.

2

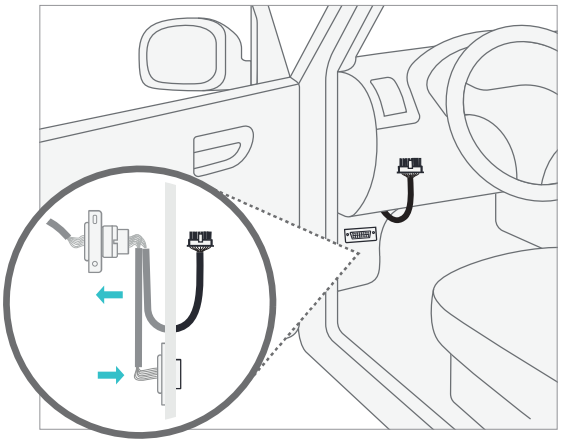


EN Connect the Samsara cable. Vehicle's diagnostics remain accessible via the unconnected port.

FR Connectez le câble fourni par Samsara. Les diagnostics sont toujours possibles en utilisant la prise non connectée.

ES Conecte el cable de Samsara. Aún podrá acceder al diagnóstico del vehículo a través de la entrada no conectada.

3

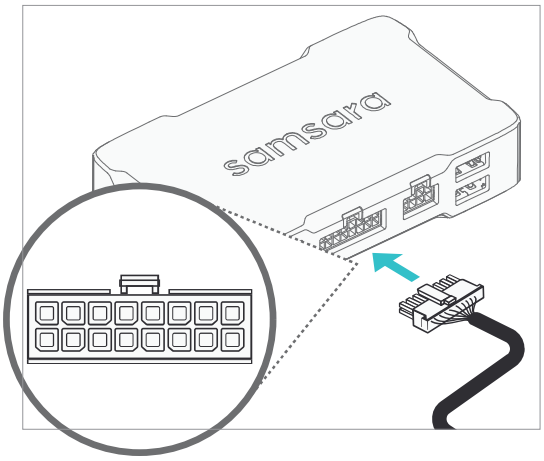


EN Fasten unconnected diagnostics port to vehicle's original port location.

FR Attachez la prise de diagnostic non connectée à l'endroit où se trouvait initialement le port du véhicule.

ES Coloque la entrada de diagnóstico no conectada en la ubicación original de la entrada del vehículo.

4

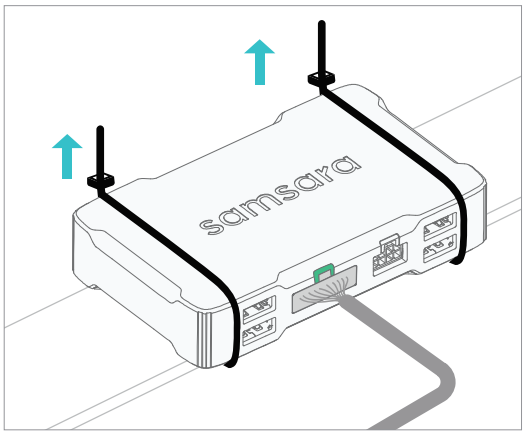


EN Plug the Samsara cable gateway connector into the gateway. It will click when fully inserted.

FR Branchez le connecteur du câble fourni par Samsara pour boîtier télématique au boîtier télématique jusqu'à entendre un clic.

ES Conecte el conector correspondiente del cable de Samsara al terminal telemático. Si está conectada correctamente, escuchará un clic.

5



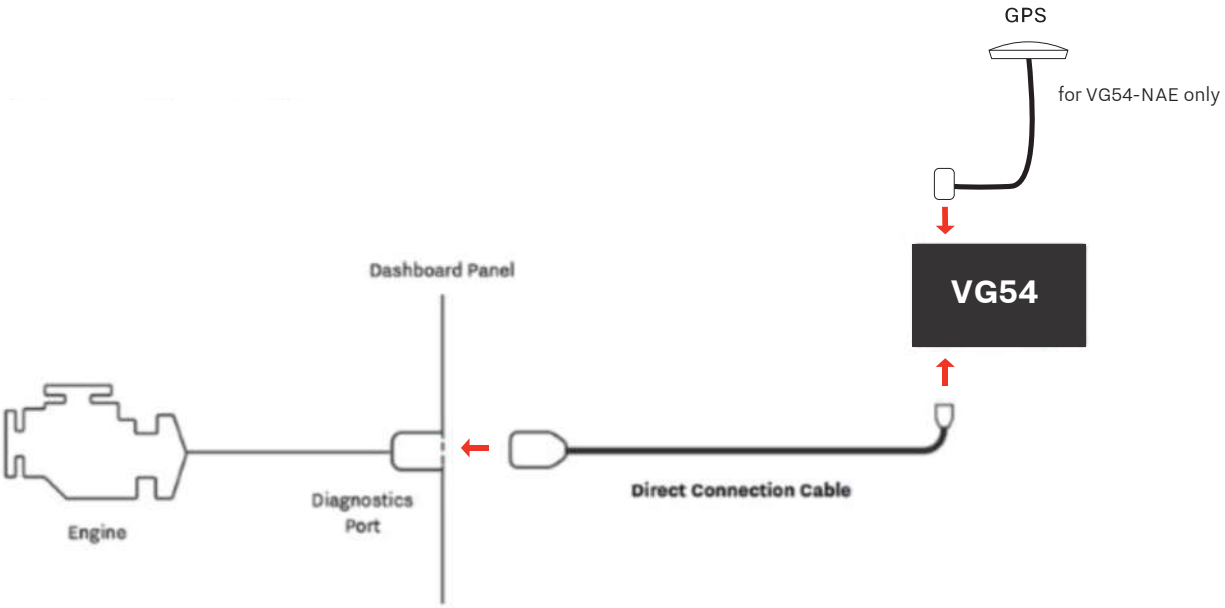
EN Fasten connected Gateway in a secure position behind the dashboard using zipties.

FR Fixez le boîtier télématique connecté dans une position sûre. Vérifiez que le voyant lumineux du boîtier télématique est vert. Cela peut prendre 1 à 3 minutes.

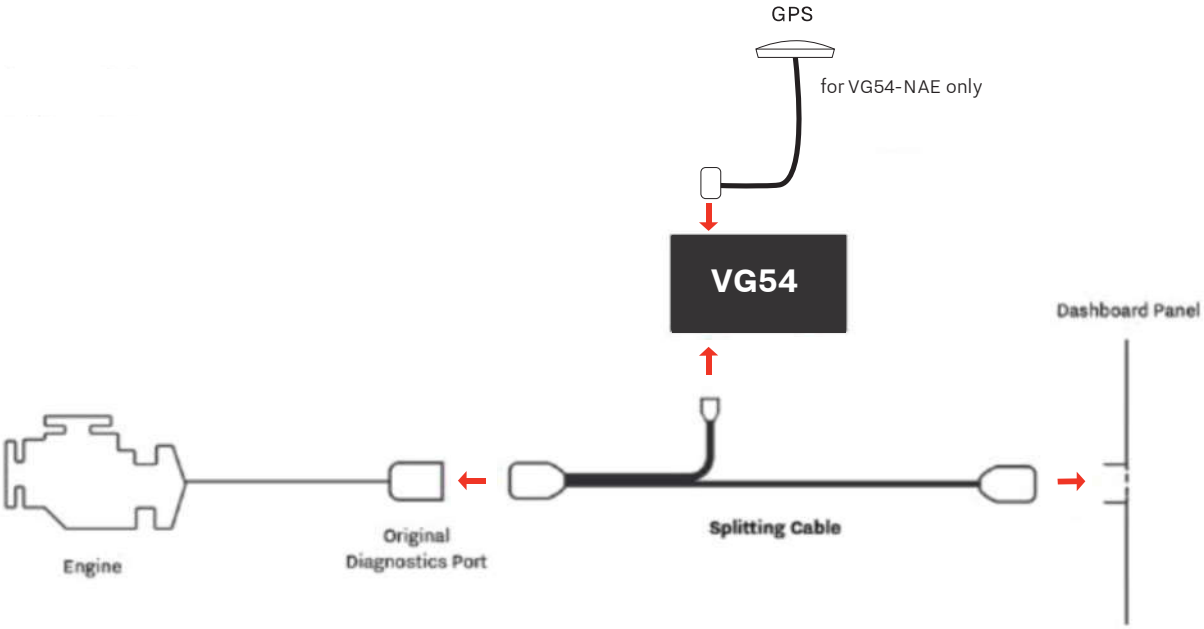
ES Sujete la puerta de enlace conectada en una posición segura. Verifique que la luz indicadora de la puerta de enlace se ponga en verde. Esto podría tardar entre 1 y 3 minutos.

Installation Instructions

Direct Connection Cable



Splitting Cable



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Vehicle Gateway

VG54

Data Sheet

Overview

The VG54 Vehicle IoT Gateway is an advanced sensor platform for fleets, providing operators with real-time location and analytics, sensor data, accessory compatibility, WiFi hotspot connectivity, and ELD-ready hours of service logging.

Designed for plug-and-play installation in a wide variety of vehicles, the VG54 offers a broad array of business-relevant fleet management features in an integrated, easy-to-use solution.

Highlights

- **Location Tracking:** High-precision, improved GPS with real-time visibility
- **Integrated Platform:** Full Extensible platform works with Samsara wireless sensors, camera modules, Samsara USB accessories, and WiFi devices. These are all part of a complete hardware + software solution to enhance efficiency, safety, customer service, and compliance
- **High-speed Wi-Fi Hotspot:** Includes high-speed 4G LTE WiFi hotspot
- **Full Vehicle Compatibility:** Compatible with light, medium, and heavy-duty vehicles

Diagnostic Protocols Supported

Protocols	Supported w/ VG54	Supported w/ VG34
High Speed CAN	Yes	Yes
J-1939	Yes	Yes
J-1708	Yes	Yes
RP-1226	Yes	Yes
Single Wire CAN	Yes	No
J-1850 (VPW, PWM)	Yes	No
Secondary High Speed CAN	Yes	No
ISO-9141 (K-Line, KWP2000, 14230)	Yes	No

Hardware Specs

Material	Polycarbonate
Encasing Size	71mm x 118mm x 23mm
Weight	173 g
USB Port	4 USB 2.0 Ports
AUX Line Port	8 Pin Molex Connector
Diagnostic Port	16 Pin Molex Connector
Supported AUX Lines	5 Lines Supporting Both Digital and Analog
Input Voltage Range (Power)	12-48V
Input Voltage Range (AUX)	0-30V
Temperature Range	-40°C - 85°C

Wireless Connectivity Specs

Cellular:

Accessible Cellular Networks - North America*	AT&T, Verizon, & T-Mobile
Accessible Cellular Networks - Europe*	Vodafone
Cellular Generation Support	NA - 3G, 4G LTE EU - 2G, 3G, 4G LTE
North America (NA) Cell. Band Coverage	LTE: 2,4,5,12,13 3G: 5,2 2G: None
European Cell. Band Coverage	LTE: 1,3,7,8,20 3G: 1,8 2G: GSM 900/1800
FirstNet Cell. Band Coverage	LTE: 2,4,5,12,14 3G: 5,2 2G: None

** All major network coverage includes most supporting roaming networks for each respective network and geography*

Location Tracking:

GNSS (Global Navigation Satellite System) Supported	GPS L1, Glonass L1, & Galileo
Supports External GNSS Antenna	Yes
Supports GNSS DR (Dead Reckoning)	Yes
Supports GNSS Jamming Detection	Yes

Wi-Fi:

Wi-Fi Protocols	802.11 a/b/g/n 2.4GHz and 5GHz

Bluetooth:

Bluetooth Protocol	Bluetooth 5.0

FCC Regulations:

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:
Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure warning
This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

IC Regulations:

CAN ICES-3 (B)/NMB-3 (B)

Canada, Industry Canada (IC) Notices
This device complies with Canada licence-exempt RSS standard(s).
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Canada, avis d'Industry Canada (IC)

Cet appareil est conforme avec Industrie Canada exemptes de licence RSS standard(s).
Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.
This device has also been evaluated and shown compliant with the IC RF Exposure limits under mobile exposure conditions. (antennas are greater than 20cm from a person's body).

Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.
Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition à des appareils mobiles (antennes sont supérieures à 20 cm à partir du corps d'une personne).

Caution:

User should also be advised that:
the maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

Les utilisateurs devraient aussi être avisés que
le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5 725-5 825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

This is a specific product that requires professional installation and configuration, must be performed by trained technical engineers to install the device, the contact information as follows:

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