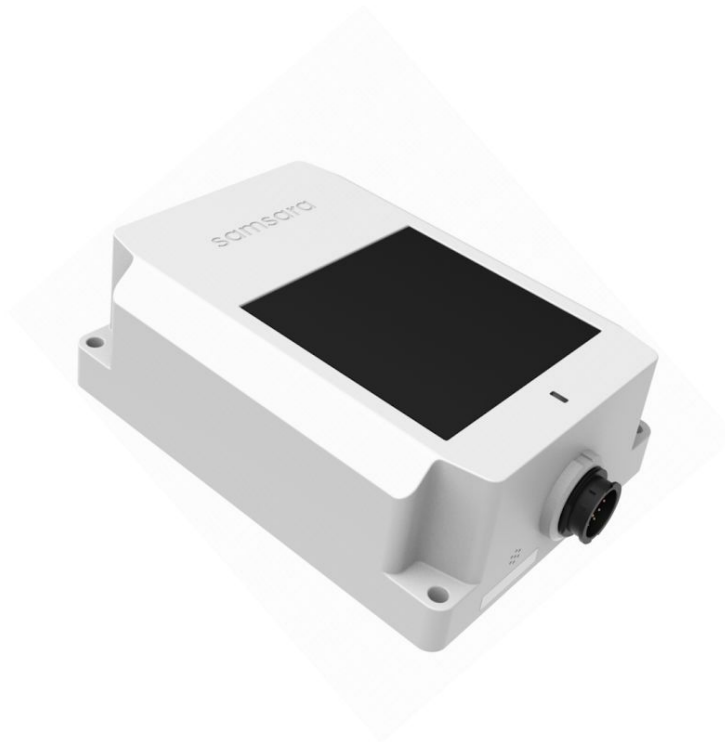Vehicle IOT Gateway AG24 Datasheet
Model # 010-2024

Asset Tracking IoT Gateway

AG24 DATASHEET

OVERVIEW

The AG24 Asset Tracking IoT Gateway is ideal for monitoring dry-van and refrigerated trailers, heavy equipment, and high-value mobile assets. It features a waterproof and ruggedized enclosure, a variety of sensor and interface accessories, and multiple built-in power options.

The AG24 enables improved operating efficiency, asset theft recovery, and streamlined regulatory compliance. It is part of Samsara's complete sensor system that combines asset tracking, fleet management, safety, and compliance solutions in a single platform.

PRODUCT HIGHLIGHTS

- A flexible solution for semi-trailers (including reefers), heavy equipment, and mobile assets
- Real-time GPS location and sensor data with live updates
- Two way reefer control
- High-capacity battery with solar recharging for unpowered applications
- Ruggedized, weatherproof enclosure with flexible data inputs
- Easy-to-use wireless accessory sensors

DESIGNED FOR RAPID RETURN ON INVESTMENT

- Monitor and increase asset utilization
- Optimize asset pool inventory and location
- Recover lost or stolen assets
- Reduce inventory management and yard-walk time
- Lower temperature-related loss claims
- Simplify regulatory compliance

TYPICAL APPLICATIONS

	Powered Assets	Refrigerated Assets	Unpowered Assets
Asset Type	• Dry van trailers • Construction equipment (backhoes, bulldozers, cranes, etc) • Forklifts • Remote generators	• Thermo King trailers • Carrier trailers	• Dumpsters • Rail cars • Intermodal containers • Message boards • Portable toilets • Scissor lifts • Boom lifts

Technical Specifications

Cellular Data Connectivity

Cellular Data	4G LTE cellular connectivity, with 3G fallback where LTE coverage is unavailable. LTE: quad band 2/4/5/12. 3G: dual band 2/5. Operating area: United States, Canada, Mexico
Offline Storage	Built-in flash memory logs data when Internet connectivity is unavailable.
Secure Communications	All Internet connectivity secured via SSL with 256-bit AES encryption (military-grade).

Location Tracking

GPS	Advanced positioning system simultaneously reads from multiple independent satellite systems including GPS and GLONASS global navigation satellite systems. Internal antenna for discreet installation. Optional external antenna available for non-standard mounting configurations. Industry leading -162 dBm sensitivity with 1 second time-to-fix (hot start).
Real-time tracking	Powered deployments feature real-time location updates (up-to-the-second, with live map view)

Power

Sources	Designed for use with external power, intermittent external power, or self-powered applications (via internal battery and built-in solar panel)
External Power	12-30V DC Power draw: 90 uW (sleep) to 900 mW (peak)
Battery	12.5 Ah internal battery capacity From 5 years (2 check-ins/day, no accessory sensors) to 2 months (12 check-ins per day, with accessory sensors). See Deployment Configurations section of this datasheet for application-specific battery life.
Solar Charging	Built-in solar panel maintains battery charge indefinitely with up to 12 checkins per day (vertical or upward-facing mounting, outdoors, North America south of 57º longitude).

* Typical battery lifetimes provided. Actual battery life is affected by extreme cold, cellular signal strength, and accessory sensor utilization.

2-way Reefer Unit Integration

Reefer control functions	Monitor set point Change set point Remote on / off Monitor alarms Read engine hours
Reefer models supported	Thermo King SR2, SR3, SR4 Carrier* Transicold Vector, APX, standard, advanced

* Requires software update, available 2018

Enclosure

Material	Gateway: UV-stabilized polycarbonate Mounting plate: Powder-coated and corrosion-resistant stainless steel
Dimensions	105 x 152 x 47.5 mm (4.1 x 6.0 x 1.9 inches)
Weight	510 g
Operating temperature	Operation: -40° to 80°C Battery charge: 0° to 50°C
IP rating	IP 67 (weatherproof and water resistant up to 1m submerged)

Data Interfaces

Interfaces	CAN Bus (500kbps, 250 kbps) Digital inputs (2x). Maximum voltage 30V, Vil 1.2V, Vih 2V Digital output (1x)* RS232, RS485 serial inputs* Analog sensor inputs (4-20mA, 0-5V, requires Samsara Input Module) *Requires additional software, contact Samsara for availability information

Samsara Cloud Software Features

Software Features	Map-based location tracking with live updates Real-time alerts (SMS, email) Operational reports: Utilization, inventory, and time on site FSMA-compliant temperature reports Reefer monitoring and control interface Developer APIs

Deployment Configurations

Power Cable	7-way trailer cable harness	Refrigerated trailer cable harness	None
Check-in Rate	Powered: live Unhooked/off: every 2 hours	Powered: Live Reefer: Live control Sensors: every 2 hours	Powered: N/A Unpowered: 2x/day
Battery Life	3 months (solar: indefinitely)	3 months (solar: indefinitely)	4 to 5 years

Ordering Information

Gateway

HW-AG24	Samsara Asset Tracking IoT Gateway (requires license and accessory harness)

Accessory Cables (one per gateway required)

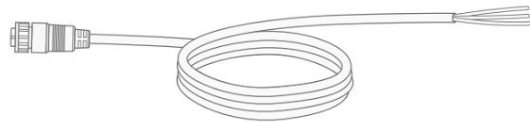| CBL-AG-A7WY	Dry-van trailer cable harness for AG24 with 7-way power connection
CBL-AG-ARFR	Refrigerated trailer cable harness for AG24 with 2-way reefer interface and 7-way power connection
CBL-AG-ACAP	End cap for AG24 for un-powered applications

samsara

Asset Gateway - AG24
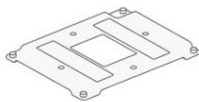
DRY TRAILER INSTALL GUIDE
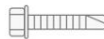
What's included:
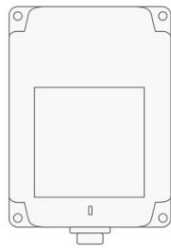
1× Asset Gateway

1x 7-Way Cable

1× Mounting Plate

4x Self-Tapping Screws

4x Flat-End Screws
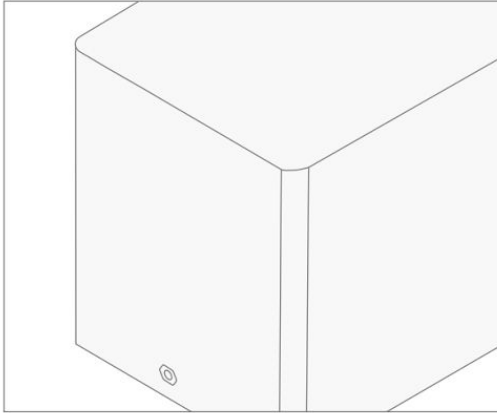
Bullet Connectors

Ring Terminals

Zip Ties

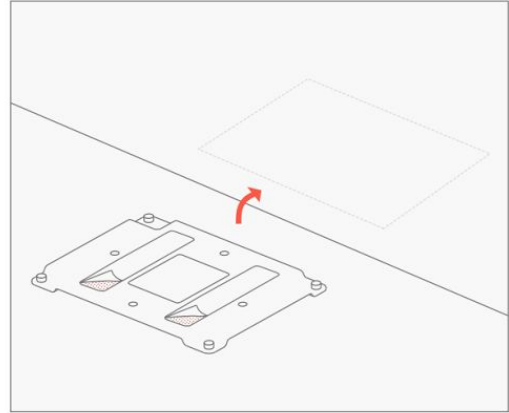Cleaning Wipes

Note: Cables Sold Separately

1

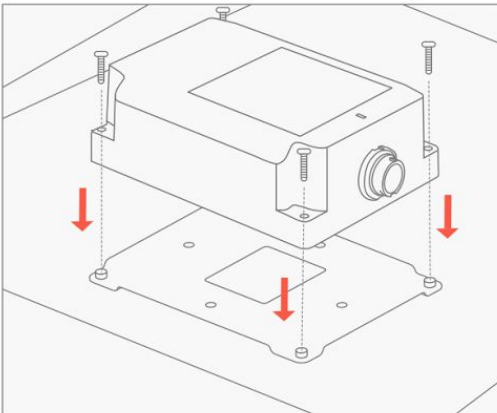Select desired mounting location and clean thoroughly with cleaning wipe.

Mount with sun exposure for best solar charging.
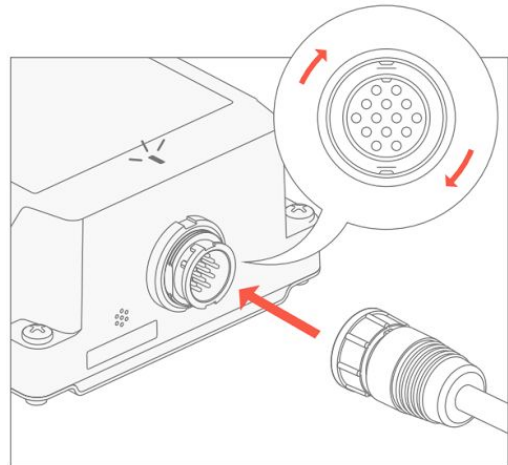
2

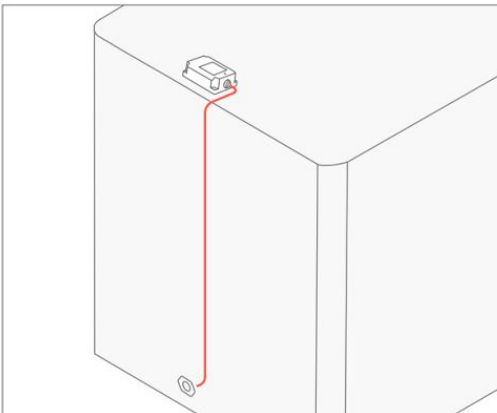Attach mounting plate with adhesive. Secure with 4 self-tapping screws (Bag 1) if desired.

3

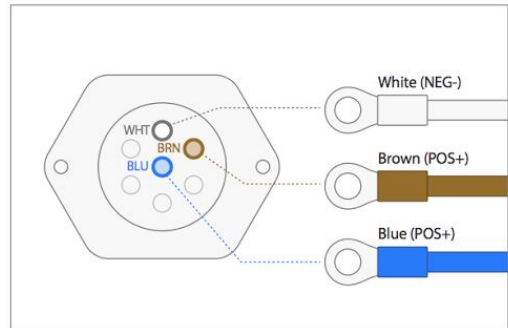Mount AG onto mounting plate with 4 flat-end screws (Bag 2).

4

Plug cable into AG.

5

Run cable to 7-way. Fasten to trailer with zip ties.

6

White (NEG-)

Brown (POS+)

Blue (POS+)

WHT
BRN
BLU

Connect cable to 7-way. AG light turns on for 30 seconds if correct.

AG will operate in real time when power is supplied to the 7-way. When power is not available via the 7-way, AG will run off of internal battery in power-save mode (periodic check-ins, not real time).

FCC Regulations:

Federal Communication Commission Interference Statement

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.

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

IC Regulations:

This device complies with Industry Canada's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

This equipment complies with Innovation, Science and Economic Development Canada RF exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated to ensure a minimum of 20 cm spacing to any person at all times.

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