



The MGS400 is an advanced fleet tracking modem capable of computing complex on board rules and integrating with various add-on modules such as ECM, driver id, temperature monitoring and satellite connectivity.

To ensure proper operation in such an environment, MGS400s were subjected to standard tests defined by the Society of Automotive Engineers (SAE). The specific tests included temperature, shock, vibration, and EMI/EMC. These tests were performed by independent labs and documented in a detailed test report. In accordance with Appendix A of SAE

J1113 Part 1, the Unit is considered a "Functional Status Class B, Performance Region II" system that requires Threat Level 3 Testing.

The following shows the environmental conditions the MGS400 is designed to operate in and the relevant SAE tests that were performed. No formal altitude tests were conducted.

Environmental Specifications:



Temperature

CDMA2000 1x Operating Temperature Range: -20° C to 60° C
Storage Temperature Range: -40° C to 80° C
SAE Test: SAE J1455.

Humidity

5% to 95% relative humidity, non-condensing
SAE Test: SAE J1455

Altitude

Operates at altitudes of up to 10,000 feet and can be stored safely up to 40,000 feet

Features

- On-board alert engine based on advanced exception rules
- 4 inputs / outputs (expandable to 15 i/o's*)
- 2 Serial ports*
- 4 Temperature sensors*
- Driver ID*
- Dual mode Satellite / Cellular*
- ECM (OBDII / J1708)*

*Optional Features

Shock and Vibration

Ground vehicle environment with associated shock and vibration
SAE Test: SAE J1455
Mil Standard 202G and 810F

Bench-Handling (Non-Operating)

4 inch pivot drops on each of the faces on which it may be placed for servicing or installation.
SAE Test: SAE J1455
Mil Standard 810F

Electromagnetic Compatibility (EMC)

EMC compliant for a ground vehicle environment
SAE Test: SAE J1113 Parts 2, 12, 21 and 41

Operating Voltage Range

The MGS400 supports vehicles with 12 or 24 VDC systems including transients and electrical system noise.; this includes ranges from 8.5 to 30 VDC.

SAE Test: SAE J1455

Backup Battery

The MGS400 supports a backup battery input to be used when primary power is lost; the supported voltage range is 9 to 16 VDC

Transient Protection

Input voltage transients typical of large trucks

SAE Test: SAE J1113 Part 11

Electrostatic Discharge (ESD)

No damage or performance degradation after the ESD disturbance.

SAE Test: SAE J1113 Part 13

Power Consumption

Average: 100mA at 13.8 VDC

Peak: 200mA for 50ms transmit burst
(0.1% transmit duty cycle typical)

Stand By 10mA

Physical Specifications:

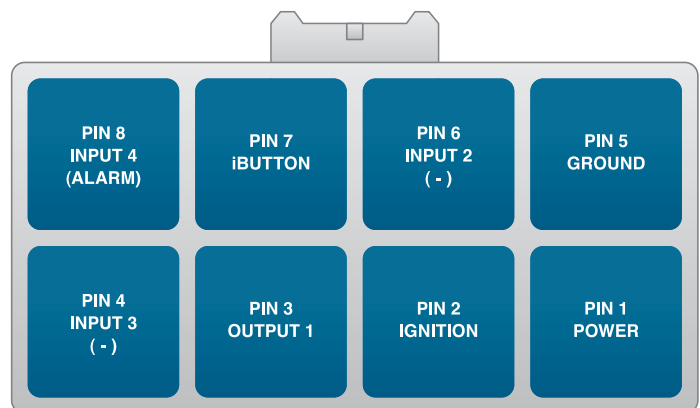
Size

4.5" long x 3.25" wide x 1.1" high

Weight

½ lbs.

Primary Connector:



GPS Receiver

16 channel GPS receiver

Accuracy: 5 meter CEP (with SA off)

Antenna connector: SMA

Note that the MGS400 requires an antenna amplifier that operates at 3VDC; 5VDC amps will not work.

RF Connector

The MGS400's RF connector is SMC.

The impedance is 50 Ohms nominal.