

MVS-4

INSTALLATION

INSTRUCTIONS



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Introduction

The SerVision IVG-400 is a mobile DVR that is designed to be installed in vehicles. Up to four cameras, six input sensors, and two activators can be connected to the IVG-400. Once connected, these devices can be monitored and controlled remotely through the IVG-400.

This document explains how to install the IVG-400 in a vehicle.

Connection Diagram

The following diagram indicates where the various connectors are located on the IVG-400 unit.

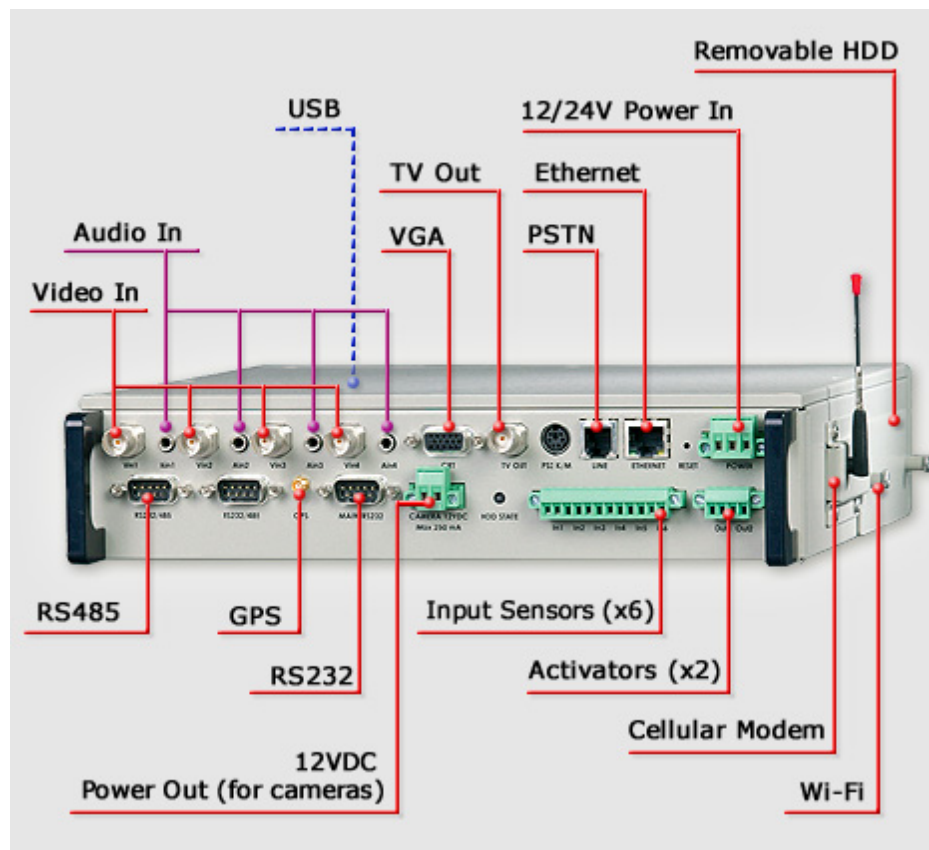


Figure 1 - Connection diagram

Hardware Requirements

The following hardware is included with the IVG-400:

1. Two side supports
2. Six screws to attach the side supports to the unit

Selecting a Location

The following additional hardware is required to install the IVG-400 and connect cameras to it:

1. Screws to connect the unit to its anchoring surface
2. Cellular modem
3. 16 AWG red and black cable to connect the unit to the vehicle battery
4. Coax cable to connect the camera to the IVG-400

Additional hardware is required for the following optional features:

1. Camera control:
 - Flat ribbon cable with D-type 9-pin female connector (Pin 6-TX positive, Pin 7-TX negative)
2. Connecting a sensor:
 - Two wires to connect the output to the IVG-400 dry contacts (normally included with the sensor)
3. Connecting an alarm:
 - 16 AWG red and black cable to connect the alarm to the IVG-400, and, for release 1, to a relay
 - For release 1: A 12VDC power relay, such as the Fujitsu FTR-MYAA012A



Figure 2 - Flat ribbon cable with D-type 9-pin female connector



Figure 3 – Fujitsu FTR-MYAA012A relay

Selecting a Location

IVG-400 should be placed in the coolest available location in the driver's cabin of the vehicle. Some options are:

- Under a seat
- Immediately below the ceiling
- Beside the driver's seat, under the window

Power Connection and Usage

The IVG-400 draws its power from the vehicle battery. Its current consumption is 1.5AMP at 12V DC or 0.75AMP at 24V DC.

The IVG-400 can be connected to the vehicle battery in one of two ways:

- Directly
- Through the ignition switch

Installing the IVG-400

If the IVG-400 is connected directly to the vehicle battery, it continues operating even when the engine is turned off. For example, with a 55AMP/h battery, the system will continue to function for about 10 hours if the vehicle battery is not recharged.

If the IVG-400 is connected through the ignition switch, it will only operate when the ignition is on. Bear in mind, also, that it will take a few minutes for the IVG-400 to boot up after the ignition is switched on and about 2.5 minutes after the ignition is switched off.

Installing the IVG-400

To install the IVG-400:

1. Connect the two side supports (Figure 4) to either side of the body of the IVG-400, using three screws for each support, as in Figure 5. (The screws are included with the IVG-400.)



Figure 4 - Side support



Figure 5 - Side supports attached to IVG-400 body

2. Place the unit in the desired location and attach it securely by connecting the side supports to the anchoring surface with two or three screws on each side. (These screws are not included with the IVG-400.)

Connecting a Camera

Note: The unit can be placed horizontally or vertically. If it is placed vertically, the modem side must face up.



Figure 6 - Attaching the Unit

3. Connect the system to the vehicle battery using the **PowerIn** connector (see [Figure 1](#), page 1):

- Connect the red wire to the positive (+) connector
- Connect the black wire to the negative (-) connector
- Connect wire to the car ignition

Note: For additional information, see "[Power Connection and Usage](#)," page 2.

4. Insert a cellular modem in one of the PCMCIA slots in the modem compartment (see [Figure 1](#), page 1).

Note: Either the upper or lower slot can be used.

*** Important note:** Do not power off the system without supplying a signal that informs about it (e.g. switching off the ignition)

Connecting a Camera

Up to four cameras can be connected to the IVG-400. To connect a camera to the unit:

1. Install the camera in its desired location in the vehicle.
2. Connect the video output of the camera to a **VideoIn** connector on the rear panel of the IVG-400 (see [Figure 1](#), page 1).
3. **Optional:** If the camera has remote control features (pan, tilt, and/or zoom), these can be activated by connecting the camera controller to an RS232/485 connector on the rear panel of the IVG-400 (see [Figure 1](#), page 1) using a D-type 9-pin female connector ([Figure 2](#), page 1).

Connecting a Sensor

Up to six input sensors can be connected to the IVG-400. To connect a sensor to the unit:

1. Install the sensor in its desired location in the vehicle.

Connecting an Alarm

2. Connect the two contacts of the sensor to the **Sensors** terminal block on the rear panel of the IVG-400 (see [Figure 1](#), page 1), as illustrated in Figure 7.

Note: The wires must be connected to two adjacent contacts in the same group (e.g., the two contacts of "In1"), but the polarity does not matter.

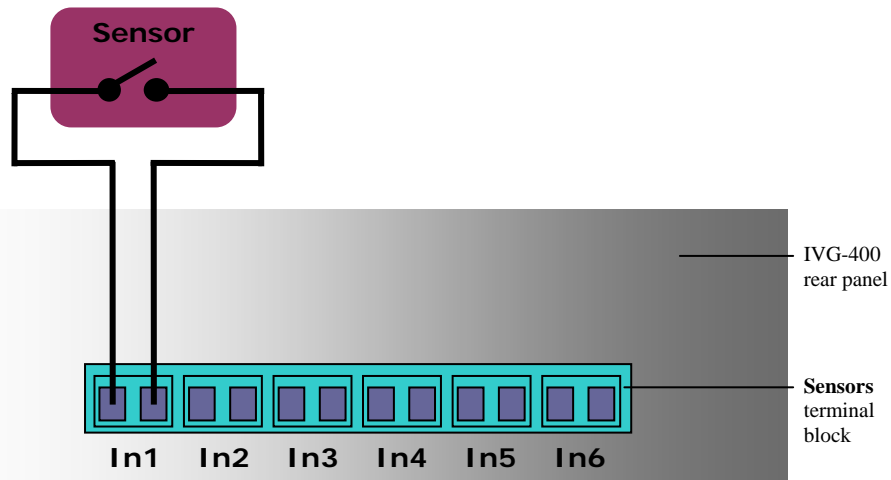


Figure 7 – Connecting a sensor

Connecting an Alarm

Up to two alarms and other devices that are activated in response to detected events can be connected to the IVG-400. Essentially, the IVG-400 functions as an on/off switch for these devices.

A power relay is required for the alarm to be connected to the IVG-400 properly. Release 1 of the IVG-400 does not have a built-in relay. To connect an alarm to a release 1 unit, you must acquire a relay and connect it externally. In release 2 of the IVG-400, the relay is built into the unit. Instructions for connecting an alarm, with or without a built-in relay, are provided below.

Connecting an Alarm in Release 1

To connect an alarm to a release-1 unit, which does not have a built-in relay, follow the instructions below.

Note: The connections are illustrated in Figure 9 below. See [Figure 1](#), page 1, for a diagram of the IVG-400 rear panel, including the locations of the **12VDC Power Out** connector and the **Activators** terminal block.

1. Acquire a 12VDC power relay, such as the Fujitsu FTR-MYAA012A.
2. Install the alarm in its desired location in the vehicle.
3. Connect the right (+) contact of the **12VDC Power Out** connector to **Relay/1**.

Connecting an Alarm

4. Connect **Relay/2** to the positive contact of an output connection (e.g., "Out1") in the **Activators** terminal block.
5. Connect **Relay/3** to the alarm.
6. Connect the other side of the alarm to the positive (+) power.
7. Connect the negative (-) power **Relay/4**.
8. Connect **Relay/4** to the right (-) contact of the output connection (e.g., "Out1") in the **Activators** terminal block.
9. Connect the left (-) contact of the **12VDC Power Out** connector to the same right (-) contact of the output connection (e.g., "Out1") in the **Activators** terminal block.

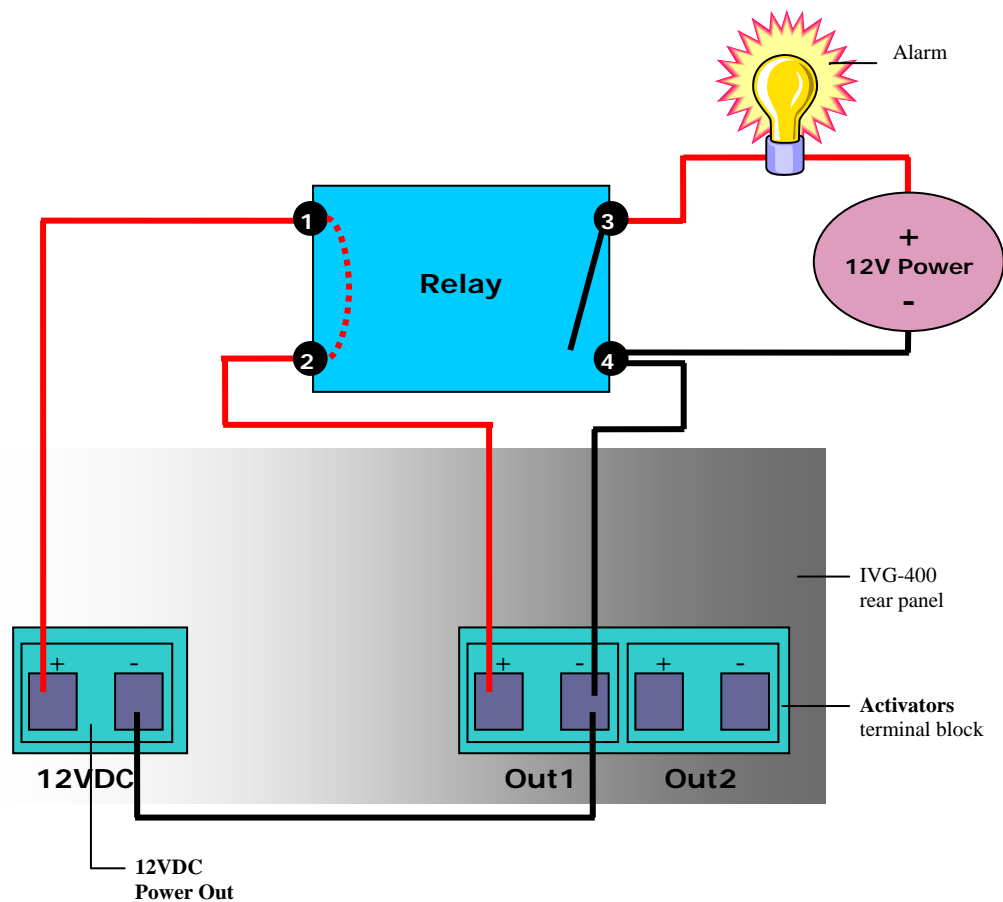


Figure 8 – Connecting an alarm to the IVG-400, release 1

Connecting an Alarm in Release 2

To connect an alarm to a release-2 unit, which has a built-in relay:

1. Install the alarm in its desired location in the vehicle.
2. Connect the alarm to the **Activators** terminal block on the rear panel of the IVG-400 (see [Figure 1](#), page 1) as follows (see Figure 9):
 - Connect the positive (+) power to the alarm.

Connecting an Alarm

- Connect the other side of the alarm to the left contact (+) of an output connection (e.g., "Out1") in the terminal block.
- Connect the negative (-) power to the right contact (-) of the same output connection in the terminal block.

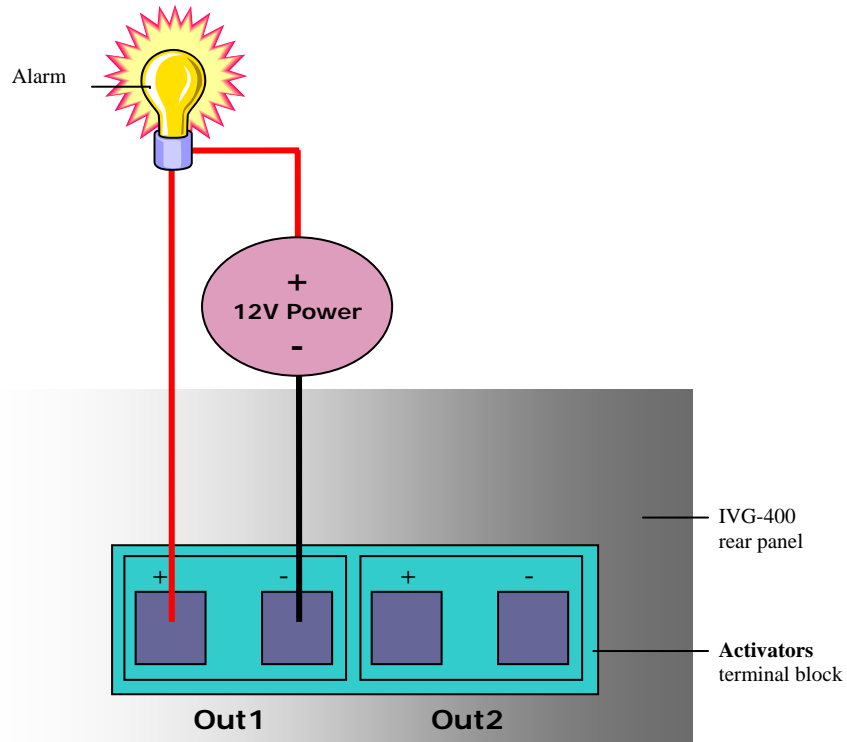


Figure 9 – Connecting an alarm to the IVG-400, release 2