



# User Manual

**PLUG-AND-PLAY, IN-VEHICLE TRACKING DEVICE**

**IX-84**

*A simple, comprehensive solution designed for seamless asset tracking and vehicle maintenance in a compact plug-and-play device.*

**[precisemrm.com](http://precisemrm.com)**

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# Introduction

The IX-84 is an innovative plug-and-play OBD-II GPS device designed for easy installation in passenger cars, service vans, and light- to medium-duty trucks. The IX-84 combines an internal GPS receiver, cellular radio, and associated antennas to provide a user-friendly and effective method for capturing and transferring location, engine diagnostics, and utilization data for various types of vehicles. Its autodetect feature makes installation for both light- and heavy-duty vehicles effortless. The PreCise MRM solution provides out-of-the-box, Internet-based reporting along with an advanced data-export interface to integrate with existing asset management solutions. Users can access information regarding their fleets on PreCise MRM's secure website (<http://www.myfleet.precisemrm.com>).



# Features

The IX-84 has the following features:

- On-board diagnostics via OBD-II interface
- Internal cellular and GPS antennas
- Vehicle engine diagnostics and reporting capabilities
- Auto detect J1939 and J1708 for heavy-duty vehicles
- Bluetooth Smart connectivity
- Certified ELD for hours-of-service reporting
- Proactive vehicle maintenance
- Internal backup battery

# Warnings & Cautions

Read and follow all safety rules and instructions before installing or operating this equipment.

- Never operate a vehicle within a closed area. Always ensure proper ventilation before starting the engine.
- Always use eye protection. Use goggles that are ANSI-approved against impacts and shattering.
- To avoid property damage, personal injury, or death, park the vehicle on a flat, level surface, set the parking brake, turn the engine off, and chock the heels before beginning installation.

# Installation Instructions

## Before You Start

Prior to installing the IX-84 module, take the time to familiarize yourself with the installation instructions, theory of operation, and system components. Check the contents of the shipping package and verify the following items are included:

### Included Items

Item	Supply
1	IX-84

### Additional Items\*

Item	Supply
1	Y-cable
2	J1939 Splitter Cable

\*Specific vehicle configurations may require extension cables

## Installation

To install the IX-84, use the following steps: Bullet one goes into this spot here.

- Locate the OBD-II socket in the vehicle.
- Carefully insert the IX-84 into the OBD-II socket. Figure 1 shows the typical location of the OBD-II socket in light- to medium-duty vehicles.
  - **NOTE:** Depending on vehicle specifications, an OBD-II y-cable or J1939 splitter cable may be required for proper installation. PreCise Sales or PreCise Support can help you identify whether these cables are needed or not.
- Once the device is installed, verify it functions properly, as indicated by a blinking green LED. The blinking green light indicates a GPS and cellular connection have been established.

## Figure 1: OBD-II Socket Location in Light- to Medium-duty Vehicles

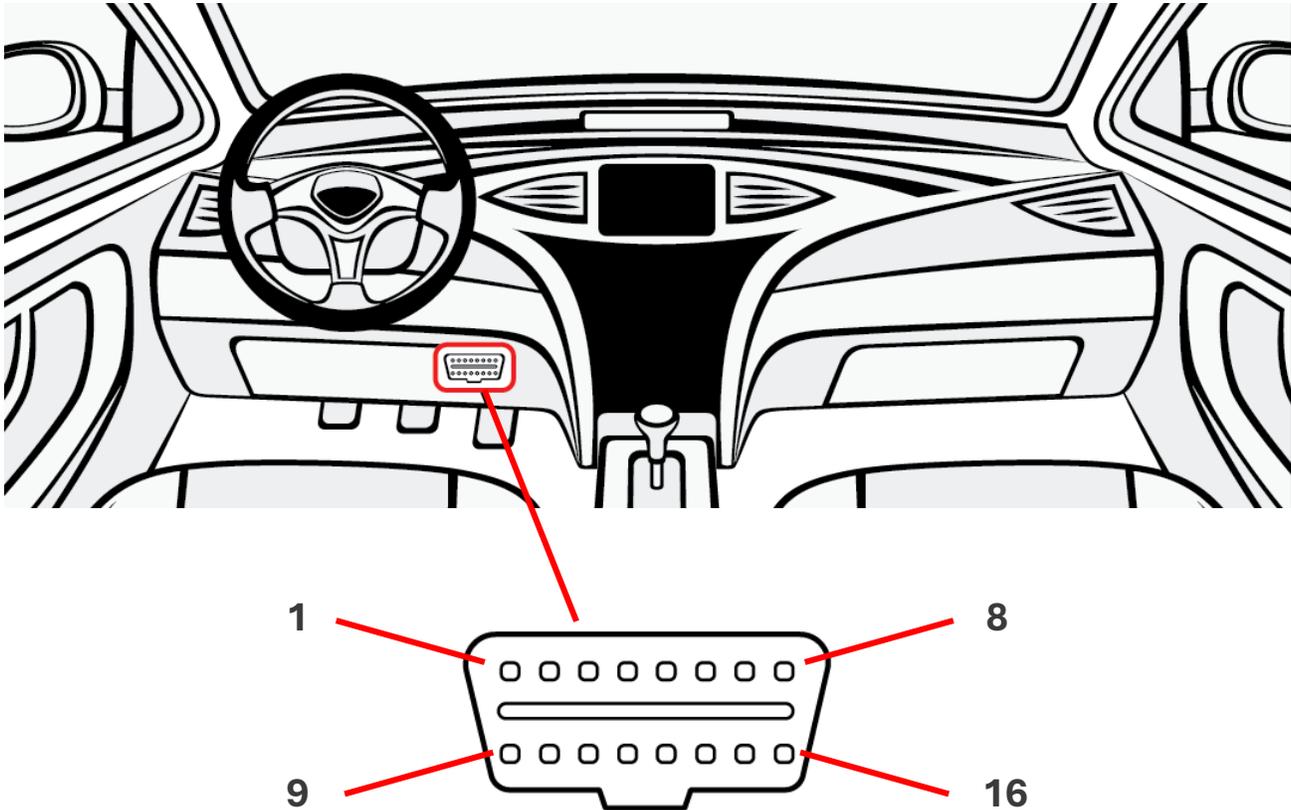


Figure 1: Example of OBD-II Socket Location in Light- to Medium-duty Vehicles

## Device LED Codes

Each IX-84 has a green and a red LED light visible on the right side of the device when looking at it with the OBD-II connector pointed towards the ground. The LED behavior can indicate whether there is an issue with the device or if it is operating normally. Use the following table to identify the LED codes:

### LED Event Codes

LED Status	Error Description
Green LED blinks regularly	Device is working normally
Green LED blinks fast	Ignition is ON and device is charging (working normally)
Red LED blinks 1 time in series	Bluetooth error
Red LED blinks 2 times in a series	Cellular error
Red LED blinks 3 times in a series	GPS error

# IX-84 Specifications

## Physical Information & Power

Item	Definition
Physical Information	L x W x H: 2.55 in x 1.92 in x 1.02 in Housing: ABS Weight: 51.9 mg
SIM card/Interface/IO	Internal 3V SIM OBD connector J1939, CAN, OBD-II
Output Power	UMTS 850/1900: 0.25W UMTS 900/2100: 0.25W GSM850/GSM900: 2W DCS1800/PCS1900: 1W
Environment	Operating: -10°C to 60°C Storage: -40°C to 85°C Humidity: 90% non-condensing
Electrical	8V to 24V 300mAh Li-Ion polymer 50uA Snooze Mode 2mA Snooze Mode (Network On) 30mA Active Mode (Network + GPS On)

## Software

Item	Definition
Application Interface	Host Protocols: AT Commands UPD/API TCP/API BTLE 4.0 Protocol
GPRS Packet Data	GPRS multi-slot class 12 EDGE multi-slot class 12 WCDMA 3GPP release 5
GSM Functionality	GSM SMS: PDU, MO/MT Cell Broadcast
Multi-Band Operation	Dual-Band: UMTS/HSDPA 850/1900Mhz Quad-Band: GSM/GPRS/Edge 850/900/1800/1900Mhz

# MANUFACTURER LIMITED WARRANTY AND LIMITATION OF LIABILITY

Manufacturer warrants that on the Date of Purchase, this Product will conform to Manufacturer's published specifications for the product, which are available from Manufacturer on request, and Manufacturer warrants that the product is free from defects in materials and workmanship. This Limited Warranty extends for twelve (12) months from the date of manufacture. Manufacturer will, at its option, repair or replace any product found by Manufacturer to be defective and subject to this Limited Warranty.

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To obtain warranty service, you must ship the product(s) to the specified Manufacturer location within thirty (30) days from expiration of the warranty period. Contact customer service to obtain an RMA number and write the number on the shipping container. You must prepay shipping charges and use the original shipping container or equivalent. Return shipping charges within the United States, Canada, and Puerto Rico, will be paid by Manufacturer. This Limited Warranty will apply only to a product purchased and located in the United States, Canada, or Puerto Rico.

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