This installation guidance is for the Tramigo™ T23 Fleet IMMOBILIZER12 and IMMOBILIZER24 Relays.

The Immobilizer feature is used to disable a car’s ignition. This option requires special wiring that must be done carefully to ensure trouble-free operation. With this feature active a car will not start even if the T23 Fleet is removed.

**IMPORTANT NOTICE:**
This is an examplatory installation scheme only. Variation may be required depending to the type of vehicle or machine to which T23 Fleet will be installed. All possible direct and indirect damages caused by the installation are the sole responsibility of the installer or installing body. The installer or installing body is responsible to test and ensure the functionality of their installation. All possible direct and indirect damages caused by the use of the immobilizer are the sole responsibility of the end user. Tramigo™ Ltd’s manufacturer responsibility is limited to the function of Tramigo T23 Fleet unit as stated in the warranty clause that can be found from the User Manual and is not extended in any way for the installation done by a third party.

The installation should always be done only by professional auto-electrician, which have been properly trained to install or service the Immobilizer. We recommend that you do NOT install the Immobilizer yourself, unless you are a professional auto electrician and knowledgeable about the Immobilizer.

The installer or installing body is responsible that the installation complies with local legislation. Additionally if the Immobilizer is to be installed to a vehicle the installer, installing body and the end user are responsible to check the local legislation regarding the execution of the immobilization command and comply with the regulations. Extreme caution must always be used if the immobilization command is executed on a moving vehicle and the immobilizer is installed to disable the engine rather than the starter. SMS can take a while to be received, so the vehicle may be in a dangerous location or travelling at a high speed when the immobilizer is activated. Vehicle’s engine will be shut down, power steering will be lost and the vehicle will be difficult to control.

The disable command is used to activate the immobilizer. **Disable,on** prevents the engine from starting or stops the engine depending on the installation. This will occur immediately if the vehicle is parked or 45 seconds after the ignition has been turned off, and vehicle is not in moving state. **Disable,off** allows the engine to start. You must have SMS coverage to be able to use these commands. **Disable,on,forced** shall immobilize the vehicle regardless of the vehicle state. Please use this command with extra caution.

This feature is supported by firmware v.1.07 or higher

**Command:**
- **Disable,on** - immobilizer will engage only when it meets conditions
- **Disable,on,forced** - immobilize the vehicle as soon as T23 Fleet receives the SMS.
- **Disable,off** - immobilizer has been turned off and vehicle may function again.

**Conditions:**
- Car should be stopped or parked
- Not moving
- Car’s speed is < 15km/h
- Ignition is off
The immobilizer works as follows:

Note you have to use Ignition sensing with the immobilizer option.

<table>
<thead>
<tr>
<th>What To Do?</th>
<th>Report/s to be Received</th>
<th>Effect/Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1. Vehicle is parked, (speed &lt; 15km/h), ignition is off.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send DISABLE,ON command</td>
<td>Tramigo: Disable, vehicle ignition disabled, 18:29 May 31</td>
<td>Immobilizer takes effect immediately. Vehicle will not be starting up after activation. NOTE: not in trip mode – vehicle has been parked with ignition off for 15 minutes</td>
</tr>
<tr>
<td><strong>Scenario 2. Vehicle is moving.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send DISABLE,ON command</td>
<td>Tramigo: Disable, Vehicle ignition will be disabled 45 seconds after the ignition is turned off, 18:32 May 31</td>
<td>Immobilizer will take effect when ignition has been switched off for 45 seconds and the speed is below 15km/h.</td>
</tr>
<tr>
<td><strong>Scenario 3. Vehicle is immobilized and won’t start.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send DISABLE,OFF command</td>
<td>Tramigo: Disable, vehicle ignition enabled, 18:39 May 31</td>
<td>Immobilizer will disengage. Vehicle may be started.</td>
</tr>
</tbody>
</table>

**Installation:**

Vehicle manufacturers warranty may be voided if the install is not done by their staff. Take these instructions and parts to their service center for installation.

**NOTE!** The Relay used in this guide is a Normally Closed Relay with four terminals. Do not use Normally Open Relays. The Relay Pins are shown as below.
And the wires should be as follows:

Procedures of connecting the Relay:

The wires that come with the relay are in 4 different colors, namely **BLACK w/ WHITE STRIPE**, **RED**, **GREEN**, and **YELLOW**. Each color has its designated connections for Immobilizer with T23.

**Note:** If ORANGE wire in relay, do not use it.

The T23 come with the BASIC or FULL T23 I/O cable, which will also be needed for setting up the immobilizer.

1. First, cut the ignition line of the vehicle. Determine which is connected to the Ignition Switch and the Vehicle starter. The Ignition switch is the wire which receives power every time we start the Ignition switch. The other wire will be the vehicle starter.

2. Connect the **GREEN** cable (Pin # 30) of the relay to the wire from vehicle starter. Consequently, connect the **YELLOW** cable (Pin # 87a) of the relay to the wire from Ignition Switch.

3. Connect the **RED** cable (Pin # 85) of the relay to the Vehicle Positive Source, usually the vehicle battery. Also tap the **RED** wire from the T23 I/O cable.

4. Next, connect the **BLACK w/ WHITE STRIPE** cable (Pin # 86) of the relay to the **BLACK w/ WHITE STRIPE** wire of the T23 cable.

5. Lastly, tap the **BLACK** wires from the T23 I/O cable to the vehicle negative ground. Usually, the Vehicle chassis can be used as the negative ground.

For further reference, consult the diagram below for installation of Immobilizer setup.
NOTE:

- Relays Black w/ White Stripe wire can be plain Black wire.
- All inputs (SOS, ignition and sensor) use **3V minimum** and **12V maximum** for unit to detect "ON" state.

Hints and Tips:

- You may want to disable sleep mode so that your unit is always online and ready. When unit is in deep sleep mode it will not be able to process your request and may not be able to receive your command. T23 Fleet will however wake to any movement. To disable sleep mode, send `Set,Sleep,0` to your T23 Fleet.
- There is T23 Fleet IMMOBILIZER12 and T23 Fleet IMMOBILIZER24 for 12V and 24V systems respectively.
- To test your connection unplug the I/O cable from the T23 Fleet, the vehicle should be able to start without the T23.
- If your immobilizer is not working despite the right wirings, try reversing the YELLOW and GREEN wires.
- Three most common places for installing the immobilizer is the starter motor, ignition, or the fuel pump. For petrol engines you can use ignition and for diesel engines starter. However, for forced stopping of the vehicle, fuel pump is the safest but this installation must only be made by authorized installer with fuel pump experience. For new cars not applicable of the previous options, there can be a possibility to immobilize the vehicle computer system or use the existing immobilizer.
- Vehicle GND refers to any metallic part of the chassis.
- Use special cloth black adhesive tape which is used by car manufacturing companies, so the wiring looks like it has not been tampered.

Should there be some unclear details, please email support@tramigo.com