



## INSTALLATION MANUAL

### TAXITRONIC TX80 SKYGLASS II TAXITRONIC TX80 URBA

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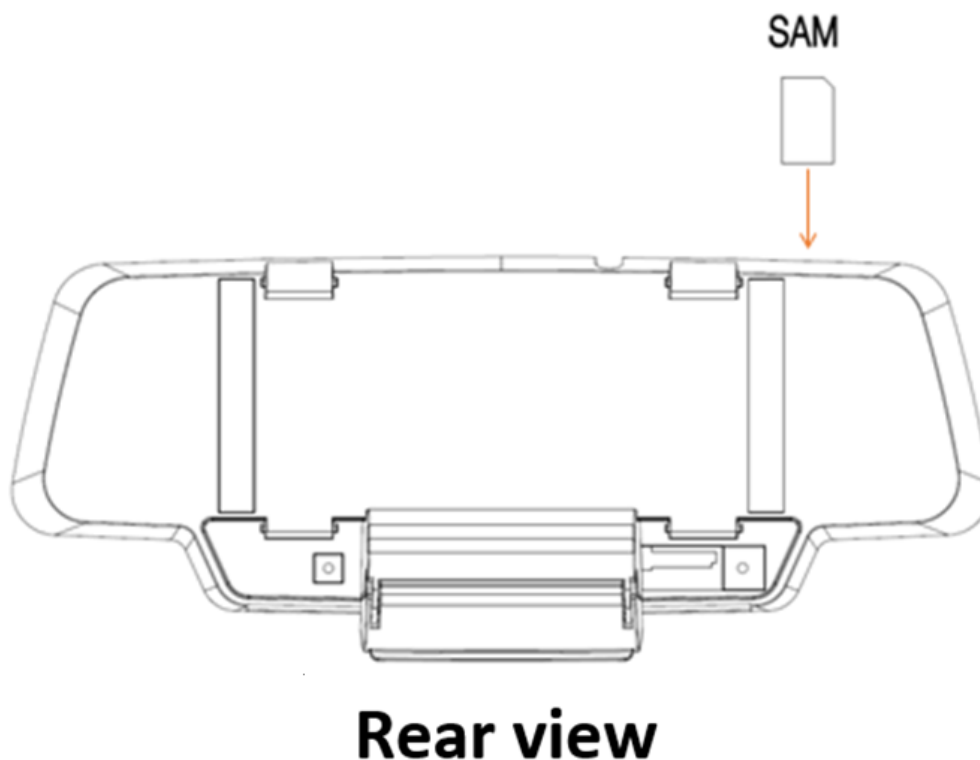
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## 1. INTRODUCTION

This document describes the installation and parameterization of the taximeter TAXITRONIC TX80 SKYGLASS and URBA.

## 2. SAM INSTALLATION (FISCAL CONTROL GERMANY)

To introduce SAM card the device must be opened, then introduce SAM card in the Skyglass groove as there is shown on the plane.



To configure the SAM card, the toolkit manual (SIM/SAM configuration section) indications must be followed. This process must be done after the installation has been completed in the vehicle.

## 3. MOUNTING

### 3.2. MOUNTING AND LOCATION OF TX80

The device will arrive sealed. It is necessary to open it to proceed to the connection. All TC60 connectors are inside the unit, covered by a sealable cover.

The tools necessary for the installation are:

- Screwdriver with head format Z1

All other devices are interconnected with TX80. So, it can't be sealed until the whole installation process is finished.

TX80 must be installed so that passengers can't see or access it. Seals and serial numbers must be easily visible and accessible upon verification at a verification office.

For this reason, it is necessary to take care of the orientation, with the stickers looking to the outside.

Standard positions are inside the glovebox or under the vehicle board. Check the positions established by the manufacturer of each vehicle.

It is necessary that the identification sticker and the seals are easy to inspect. Cables can't cover neither the identification sticker nor the seals.

### 3.2. MOUNTING AND LOCATION OF SKYGLASS

SKYGLASS may be attached in two ways:

- Superimposed on the original rear-view mirror using two velcro strips (check the list of certified mirrors for this subsection method).
- Replacing the original mirror with the SKYGLASS attaching it to the front window flange using an accessory arm (not included).

### 3.2. MOUNTING AND LOCATION OF URBA

URBA may be attached to the dashboard using an adhesive support. If the surface is rough, the adhesion will not be possible. The base of the support can also be fixed on the dashboard with screws.

4. ELECTRICAL INSTALLATION

To access the TX80 connectors it is necessary to open the Connector cover:

1. Take out the screw that seals the cover
2. Connect each cable into its connector
3. Pass each cable through its retention
4. Break the holes in the top cover in order the cables can pass
5. Clos the device
6. Screw the cover

The TX80 has the following connectors:

- (1) CAN Vehicle

Contact number	Function
1	+ 12V
2	+ 5V
3	CAN H
4	CAN L
5	1
6	Ground

- (2) Power Supply

Contact number	Color	Function
1	-	-
2	Green / White	Distance pulses
3	-	L4
4	-	L3
5	-	L2
6	Brown	Emergency signal
7	Violet	Passenger sensor
8	Blue	Contact Key
9	Yellow	Position lights
10	Green	Rooflight (L1)
12	Red	Battery 12V
12	Red	Battery 12V
13	Black	Ground
14	Black	Ground

\* If the emergency signal is not used, Brown cable must be connected to ground.

- (3) Impulse Generator

Contact number	Color	Function
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1	Mesh	Ground
2	Red	+ 5V
3	Green	Signal
4	-	-

- (4) Serial Port (IR80)

Contact number	Function	
1	+ 12 V	
2	+ 5 V	
3	TXD	RS232 levels +- 12V
4	TXD	TTTL levels 0 - 5 V
5	RXD	
6	Ground	

- (5) CAN Accessories

Contact number	Color	Function
1	Red	+ 12V
2	-	+ 5V
3	Yellow	CAN H
4	Green	CAN L
5	Blue	ON
6	Black	Ground

- (6) SKYGLASS / URBA Connector

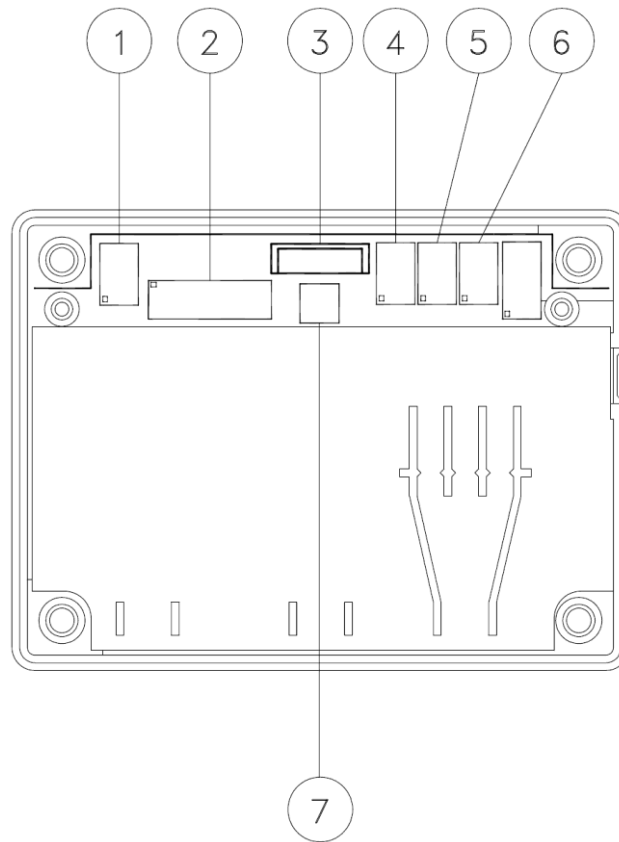
Contact number	Color	Function
1	Red	+ 12V
2	-	+ 5V
3	Yellow	CAN H
4	Green	CAN L
5	Blue	ON
6	Black	Ground

- (7) Serial Rooflight

The connector on the cable has a white mark, which has to be oriented to the pulses connector.

Contact number	Function	
1	Ground	
2	+ 12V	
3	TXD	TTL 0 – 5 V
4	RXD	TTL 0-5 V

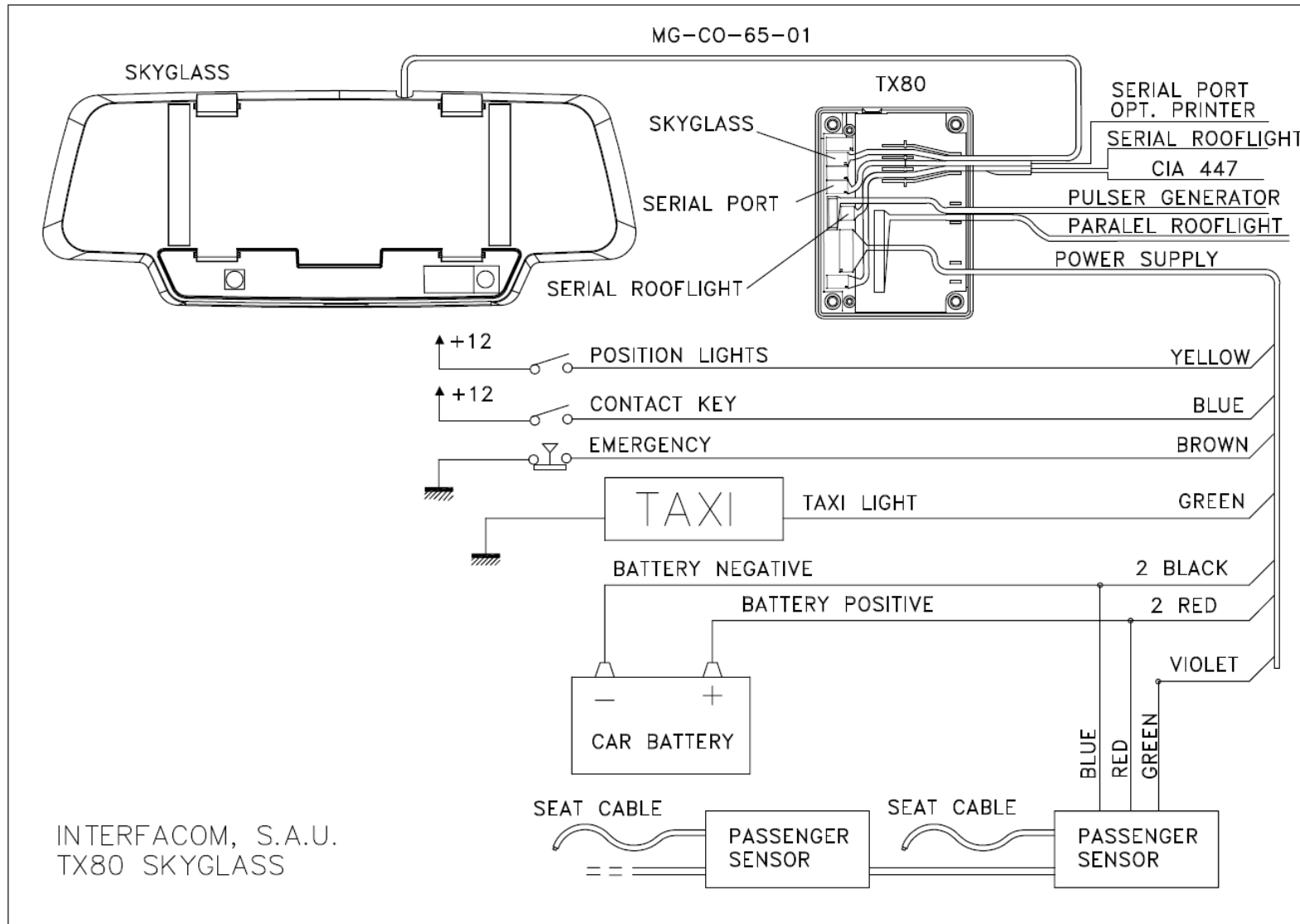
TX80 CONNECTORS



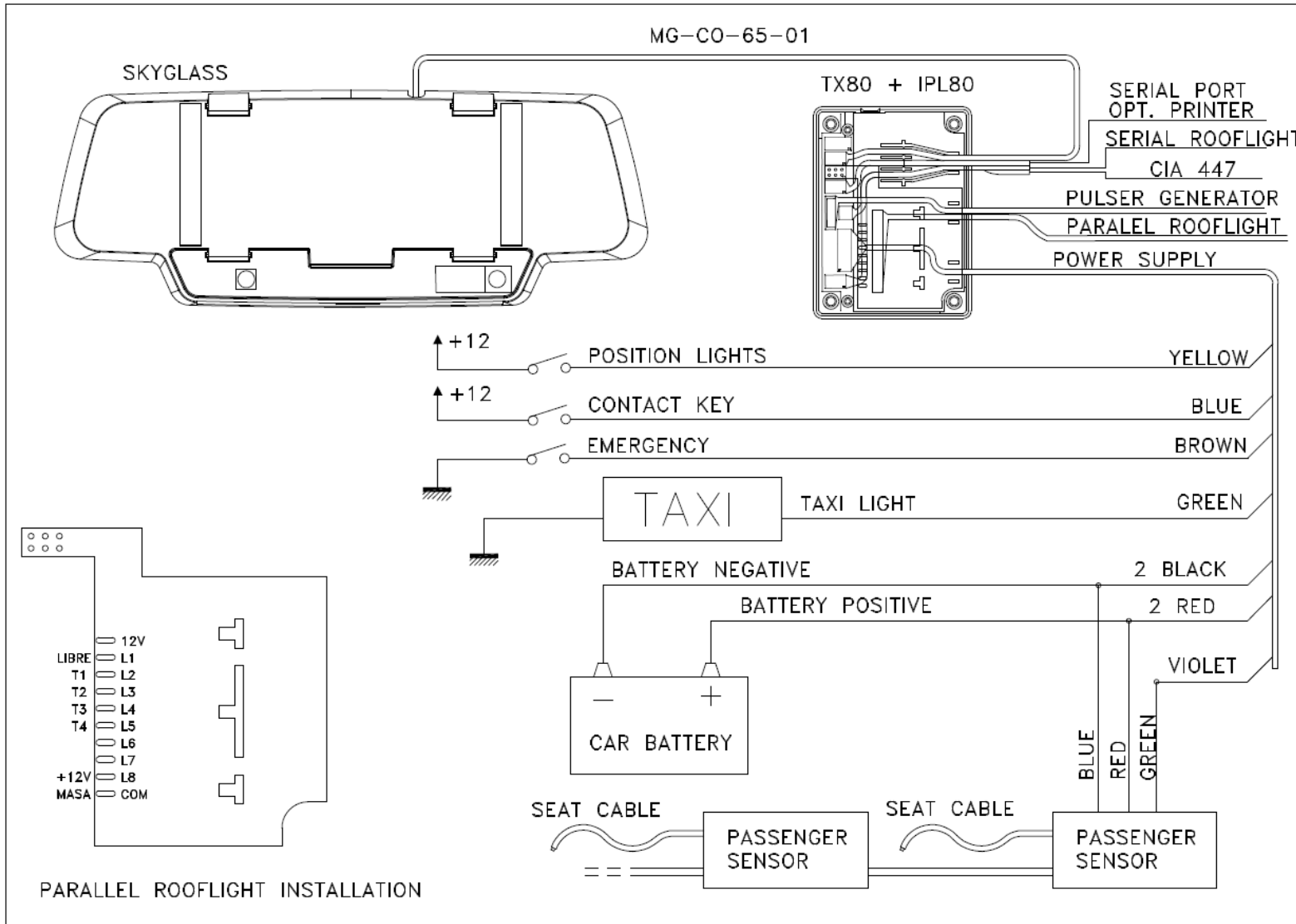
IPL80 CONNECTION

IPL80 must be connected to CAN accessories (5) connector. The rooflight cables must be connected to IPL80 as the rooflight installation diagram shows.

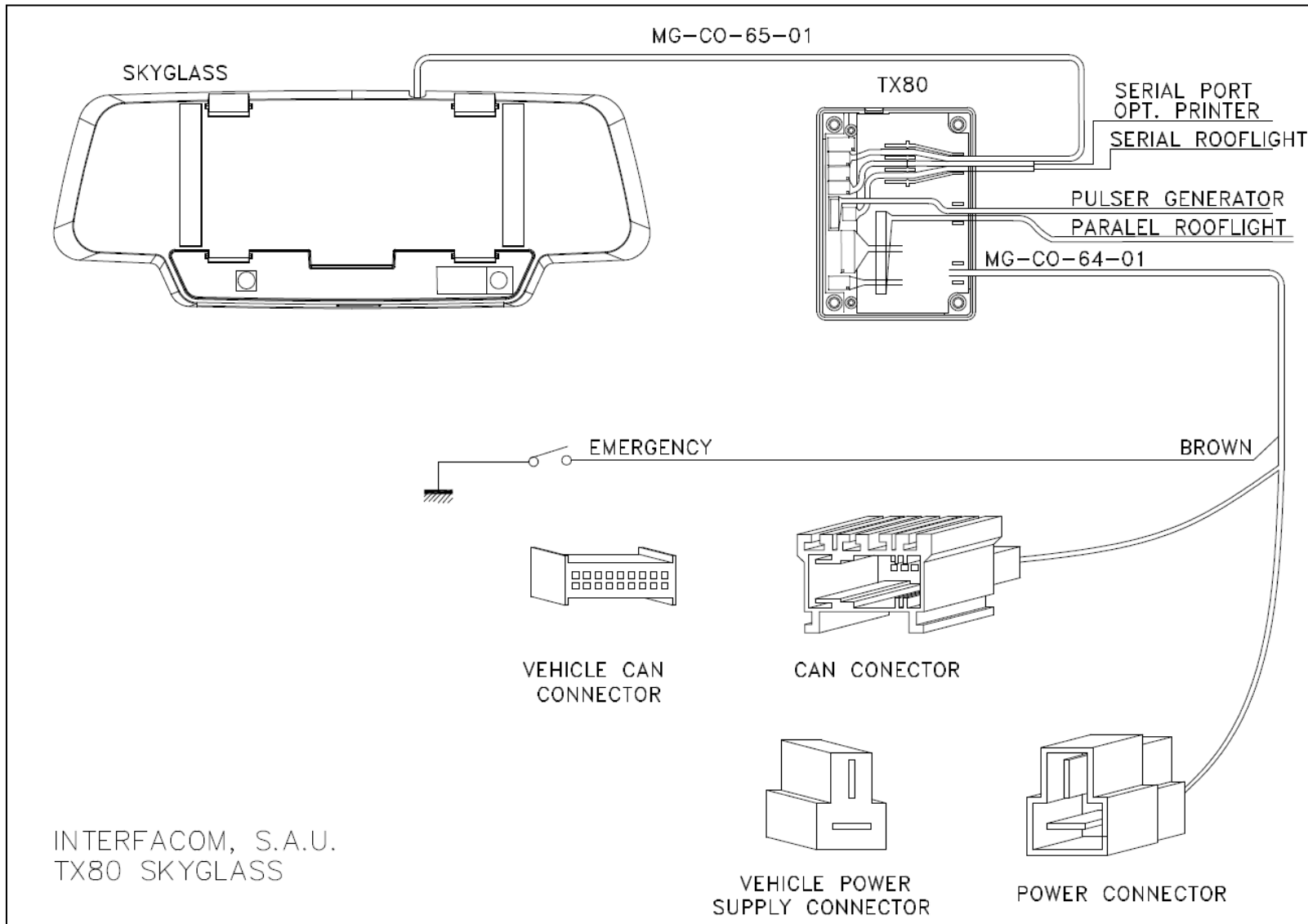
COMPLETE INSTALLATION



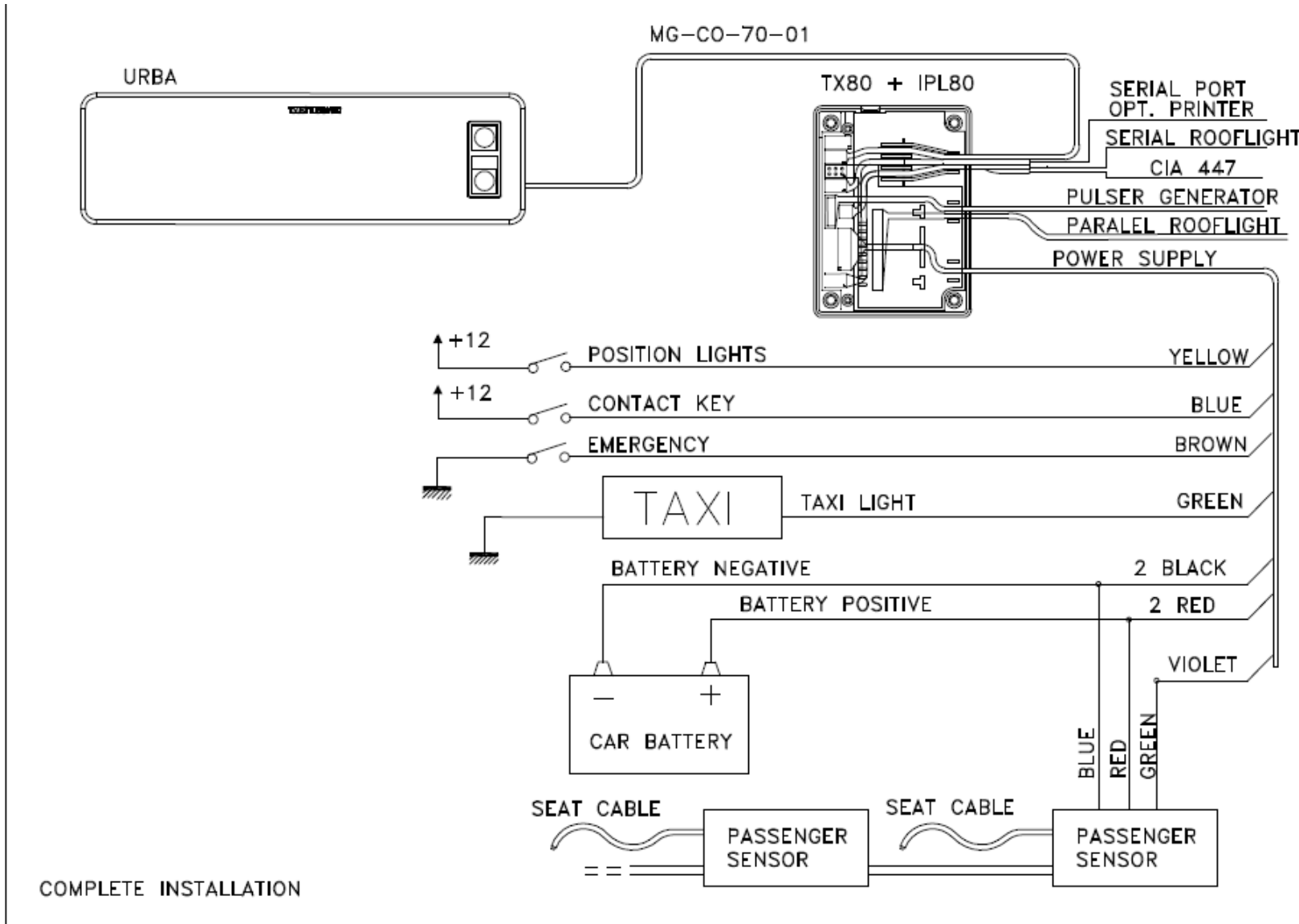
PARALLEL ROOFLIGHT INSTALLATION



INSTALLATION IN A VEHICLE WITH CIA447 PROTOCOL

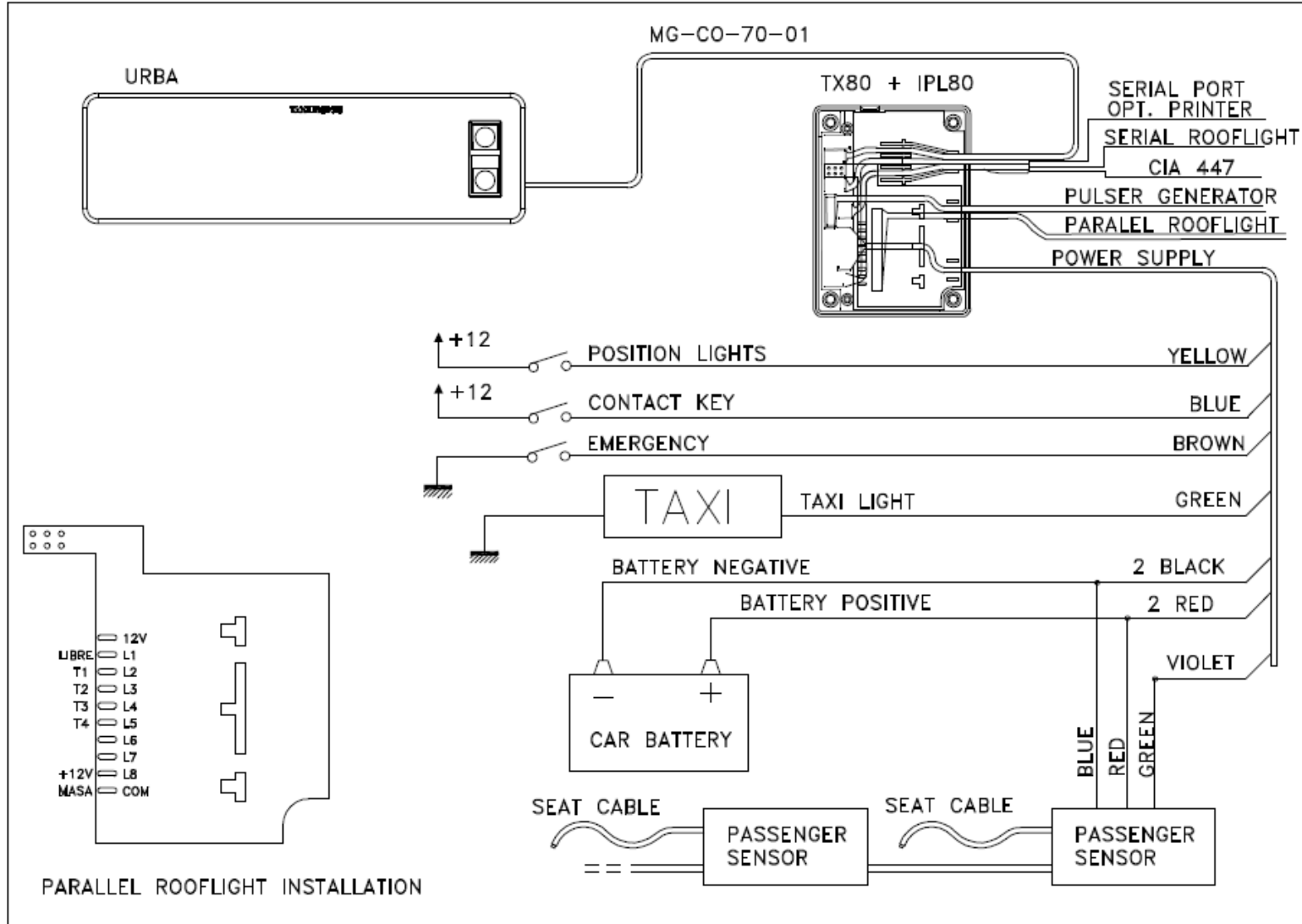


COMPLETE INSTALLATION



COMPLETE INSTALLATION

PARALLEL ROOFLIGHT INSTALLATION



## RECOMMENDATIONS FOR THE ELECTRICAL INSTALLATION

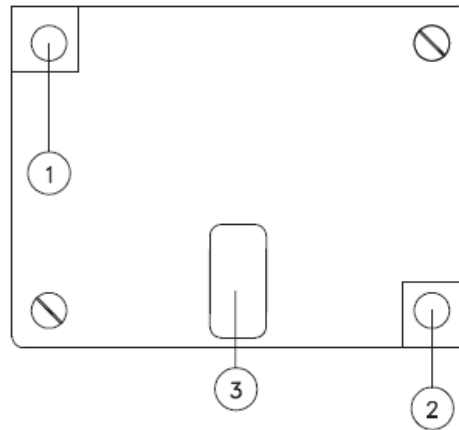
- Disconnect the positive terminal on the battery until the whole electrical installation is completed.
- Any manipulation of the taximeter or of the external lights must be done while the taximeter is disconnected from the power supply
- Always take the positive and negative directly from the battery to avoid false contacts and to obtain a more filtered power supply.
- Always connect the cables to the battery by means of a terminal, never by winding the wires onto the contact.
- If the cables cross a plate to reach the taximeter, they should go through a protective rubber casing.
- If the cables are too long, they should be cut to the required length and not rolled up under any circumstances.
- If the vehicle has a radio transmitter, separate its installation from that of the taximeter as far as this is possible.
- If it is possible no element that is connected to the taximeter should be fixed to the same support as the aerial of the radio.
- If there is enough length on the connection cable between the TX80 and the SKYGLASS, the excess should be collected by making an eight and tie that with a flange, never making a spiral.
- If the URBA installation is made using an adhesive, the dashboard needs to be clean and dry. Clean it with a mix of isopropyl alcohol and water.

## 5. SEALING

### 5.1. TX80 SEALING

Seal N°1 and 2:     Seals the taximeter box, so it seals the electrical installation.

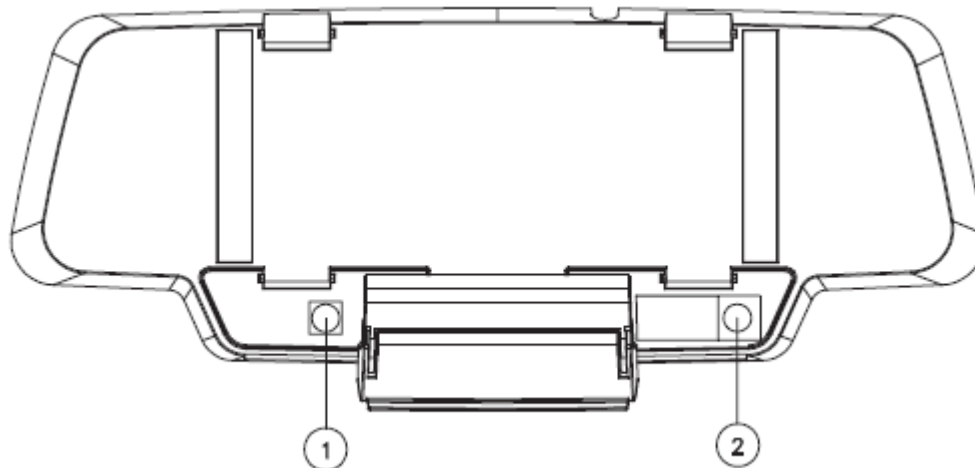
Seal N°3:     Is the manufacturer sealing, preventing access to the electronic board.



### 5.2. SKYGLASS SEALING

Seal N°1: Seals the taximeter box, preventing access to the electronic board.

Seal N°2: seals the cover of the tariff charger connector.

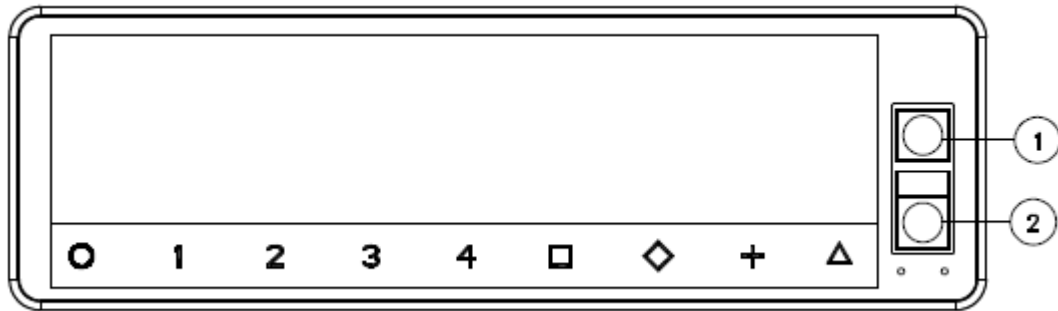


The taximeter kit is normally ready for sealing with a sticker seal. In some regions it is necessary to have a cable seal. If you need this kind of seal, the taximeter kit should include an antiturn angle and screws with a hole for the cables.

5.3. URBA SEALING

Seal N°1: Seals the taximeter box, preventing access to the electronic board.

Seal N°2: seals the cover of the tariff charger connector.



The taximeter kit is normally ready for sealing with a sticker seal. In some regions it is necessary to have a cable seal. If you need this kind of seal, the taximeter kit should include an antiturn angle and screws with a hole for the cables.

6. TECHNICAL CHARACTERISTICS

The general technical characteristics of TX80 SKYGLASS are as follows:

- Power supply voltage
 

Nominal	=	12 V
Max	=	30 V
Min	=	10 V
  
- Maximum consumption without external lights = 1500 mA
- Maximum consumption taximeter off = 6 mA
- Maximum consumption inside battery = 2.5 µA
  
- Maximum power of 36 W for each external light of 60 W, in case that 3 outputs are connected in parallel
  
- Impulse generator power supply = 5 V
- Impulse generator input signal
 

Level 0	=	-1 to 2,5 V
Level 1	=	4 to 25 V
  
- Maintenance of the information disconnected from the vehicle's battery of 5 years
- Overvoltage of 40 V = 10 ms
- Resistance to electrostatic shocks
 

=	6 kV (Contact)
=	8 kV (Air)
  
- Protection against inverse connection
- TX80 Internal connector protective fuse = 1.85 A.
- TX80 External fuse = 4 A.

- Operational temperature:
 

TX80	=	-25 to +70°C
SKYGLASS	=	-25 to +70°C
URBA	=	-25 a +70°C
  
- Storage temperature for keeping the information = - 40 to + 85° C

	Length	Height	Width	Weight
TX80	80	33	60	76 gr
SKYGLASS	286	105	27	476 gr
SKYGLASS PRO	286	105	90	610 gr
URBA	157	48	15	105 gr

- "K" constant of the device from 500 until 80000 pulses per Km/ml.
- Mechanical environment M3
- Climatic environment E3

## 7. IMPULSE GENERATOR

### 7.1. INTRODUCTION

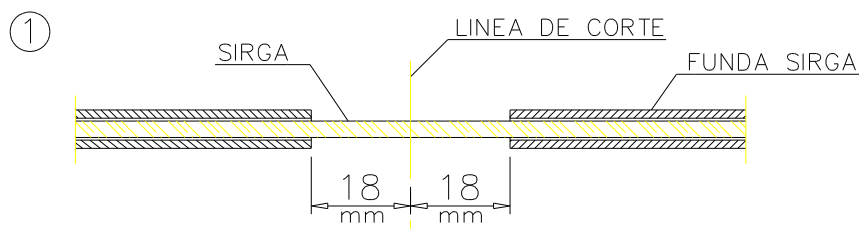
For the vehicles with mechanical speedometer, you have to use a pulse generator that is managed by the taximeter.

The pulse generator is inserted in the cable of the speedometer and converts the mechanical movement of this cable in an electrical signal, which is amplified and filtered by the taximeter.

### 7.2. INSTALLATION

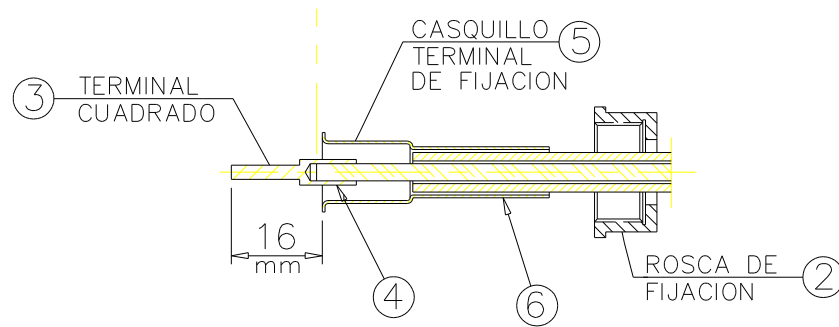
#### 7.2.1. ASSEMBLY OF THE SPEEDOMETER CABLE AND PULSE GENERATOR

First of all, part of the protecting cover of this cable must be removed and the cable must be cut (item 1).

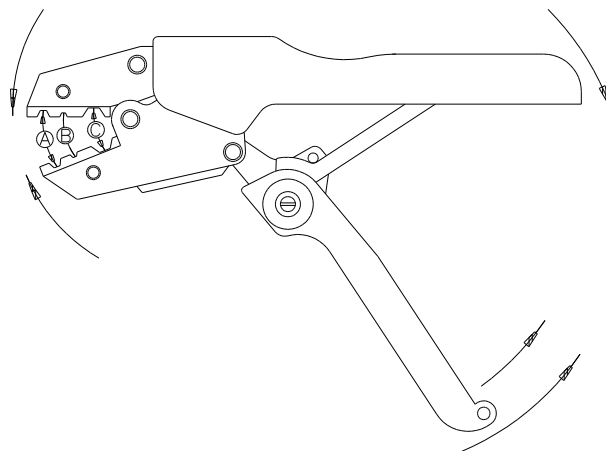


A fixing ring (item 2) must be put in each of the two edges of the cable. The square terminals (item 3) are placed on the cable and are fixed by pressing on the zone indicated with (4). This is done in position "A" or "B" of the pliers depending on the diameter of the square terminal.

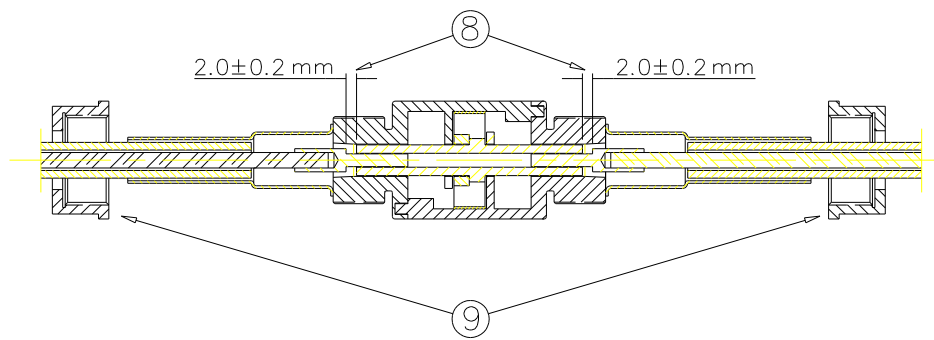
Afterwards put the cover ends (item 5) and press them on the part indicated in item 6 in the position "C" of the pliers.



⑦ ALICATES

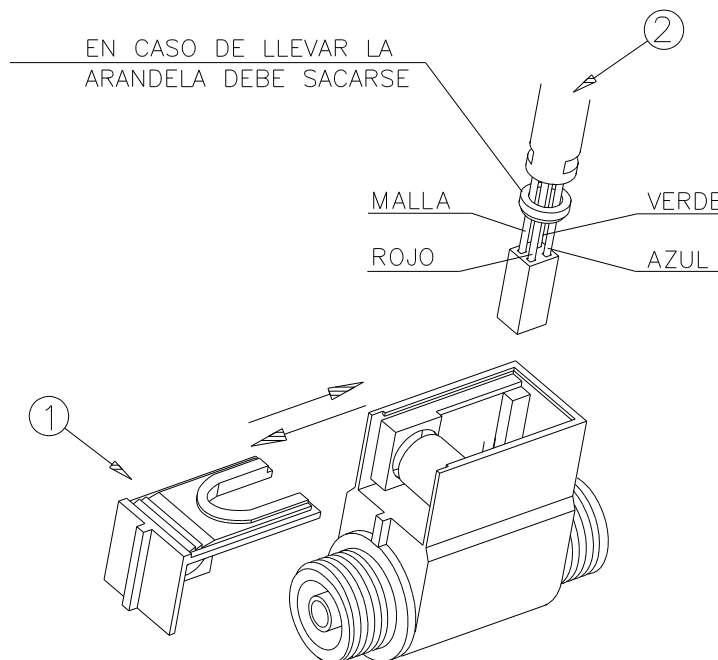


Finally, all pieces are assembled by screwing together the two fixing rings considering that the separating space indicated by (8) must be sufficient.

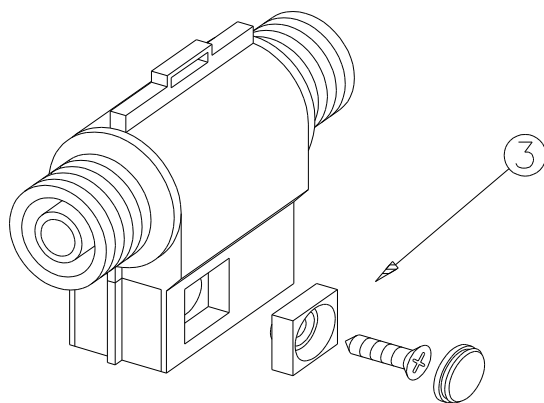


### 7.2.2. CABLE CONNECTION, COVER CLOSING AND PULSE GENERATOR SUPPORT

To connect the pulse generator cable, it is necessary to open the pulse generator cover (item 1) after taking the closing screw out and moving the cover in the right direction indicated by the arrow. Connect the cable as indicated on item 2, considering the polarity of the connector.

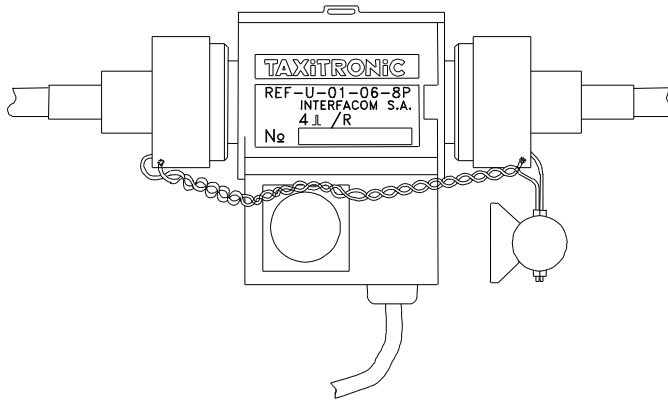


Finally put the pulse generator cover back, fix it or seal it, if it is necessary (item 3) and place the pulse generator in the corresponding holder.



### 7.3. SEALING

The pulse generator installation can also be sealed, as shown in the image.



### 7.4. TECHNICAL CHARACTERISTICS

The main technical characteristics of the pulse generator are:

- Sensor type: Hall effect cell
- Number of pulses / revolution: 4 with double impulses train
- Feeding voltage: 4 to 18 V
- Consumption at 5 V: 10 mA

## 8. VEHICLES WITH ELECTRONIC IMPULSE SIGNAL

The distance signal supplied by the car can be connected in two possible ways:

- By connecting this signal to the Green/White wire on the Power Supply cable
- By using the dedicated impulse generator connector, with a shielded cable, or even mechanical shield, according to local regulations.

The adaptation of the signals of the different vehicles is done by an internal electronic circuit with the following characteristics:

- Hysteresis of the input is configurable
- It adapts to different levels
- Optional Pull-up
- Optional Pull-down
- Constant K is adjustable between 500 and 80000 km-1.

All these adjustments are done from the tariff changer. It is necessary to unseal the device.

## 9. SET UP OF THE DEVICE

Once the installation of the device has been completed, the "CONFIG" message will appear. At this point, the configuration and tariff must be loaded. There are two ways, each one depending on the device:

### 9.1. Skyglass

Necessary equipment:

- Android device with the TOOLKIT APP installed
- Charger
  
- TOOLKIT APP is needed to set the device (check TOOLKIT manual)
- Once set, the tariff must be loaded using the charger (check charger manual)
- Sometimes it will be necessary to upgrade both devices:
  - TX80 is updated through the charger
  - Skyglass may be updated through the charger or the TOOLKIT APP (this last option will do it automatically when the APP does not detect the latest version on the device)

### 9.2. Urba

Necessary equipment:

- Android device with the TOOLKIT APP installed
- TK10
  
- TOOLKIT APP is needed to set the device (check TOOLKIT manual)
- Once set, the tariff must be loaded using TOOLKIT + TK10
- Sometimes it will be necessary to upgrade both devices:
  - TX80 and Urba may be automatically updated through the TOOLKIT APP (when the APP does not detect the latest version on the device)

## 10. ERROR MESSAGES

The possible error messages that may appear on the display are listed below.

- E-2 Roof lights failure: The roof lights are not correctly connected or some of its bulb lights doesn't work. This error is shown if it is enabled in the tariff.
- E-5 The taximeter is out of the configured revision period: This message is shown when the taximeter is out of the configured revision period. It is resolved by setting a new stop date or disabling it.
- E-6 Excess speeding. This error is shown if it is enabled in the tariff.
- E-7 Working time max exceeded: This error is shown when the hours of the shift have finished. The error automatically disappears when you restart the day.
- E-8 Error in the tariff parameters: The taximeter has not the tariff loaded, or the tariff loaded is wrong. The error is solved by charging tariff.
- E-10 Printer failure: The printer is not working, is incorrectly connected or has no paper. This error is shown if it is enabled in the tariff.
- E-11 Serial number error: This error is displayed if the serial numbers are not linked. The error is solved by charging tariff.
- E-12 RAM memory loss: This error is displayed if the device has a depleted battery or there is a malfunction. The error is solved by replacing the internal battery of the equipment.
- E-NS Serial Number Pairing Error: This error is displayed when a TX80 is connected to a device to which it is not paired. This pairing is done when charging tariff.
- E-A Anti Zapper error: A distance pulse error detected. This error is shown if it is enabled in the tariff. The error is solved by charging tariff.
- B-A1 Anti-Zapper lockout: This lockout occurs when several pulse detection errors have occurred within a certain period of time. To exit this lockout, the pulses generation must be stopped (stop the car) and the key must be removed from the ignition.
- B-A2 Anti-Zapper lockout: this lockout occurs when several lockouts have taken place within a certain period. To resolve this lockout, the installation must be checked and the tariff have to be loaded again at the workshop.
- E-TX80 The TX80 is not responding or there is a system fault. The installation and the configuration of the TX80 must be checked at the workshop.

- E-ODOM There is an error in the distance reading on the TX80. The totalizers need to be reset at the workshop.
- E-TIME The date and time on the TX80 are incorrect. The date and time on the device need to be adjusted at the workshop.
- E-BOOT The TX80 is not starting up properly. The software needs to be reprogrammed at the workshop.
- E-VER The TX80 version is not compatible with the display version. The software needs to be reprogrammed at the workshop.
- E-BG96 The version of the GSM/LTE module is not compatible with the Prime version. Contact TAXITRONIC's after-sales service to have it updated.
- E-TOT The totalizers have been lost. The totalizers must be reset at the workshop.
- E-ID Prime ID error. Contact TAXITRONIC's after-sales service.
- E-APN The configuration for the Prime service is incorrect. The correct configuration needs to be set at the workshop.
- E1-TSE The TSE plate is not responding. The TSE installation must be checked by workshop.
- E2-TSE The TSE card is responding, but it is sending incorrect messages. The taximeter needs to be reset.
- E3-TSE CAN communication error. Contact TAXITRONIC's after-sales service.
- E4-TSE The TSE plate is in bootloader mode. The TSE firmware needs to be updated at the workshop.
- E5-TSE The TSE plate contains the verification software. To resolve this, a production program must be loaded in the workshop.
- E-GSM When you register with Prime, you won't have coverage. Wait until the device has signal move to an area with a better signal or check that the device is linked to a vehicle on the Prime website.