INSTALLATION MANUAL

TAXITRONIC TXD70

INDEX

DRAWINGS LIST

1. INTRODUCTION

This document describes the installation and parameterization of TAXITRONIC TXD70.

2. MOUNTING

2.1. LOCATION OF MX70

TXD70 must be installed so that passengers can't see or access it, but the verification office must be able to access it. Seals and serial numbers must be easily visible and accessible upon verification at a verification office.

Preferred positions are inside the glovebox, under the passenger seat or similar.

It is necessary that the identification sticker and the seals are easy to inspect. For this reason it is necessary to take care of the orientation, with the stickers looking to the outside. Cables can't cover neither the identification sticker nor the seals.

2.2. MOUNTING TXD70

The installation of the TXD70 is to be done on its support (See drawings 1 and 2). The design of the support allows for 3-dimension orientation of the TXD70, so it is adapted to different dashboard designs.

The adhesive base is ready to be adhered to plastics, and supports the temperature ranges inside a vehicle.

The connection is done by only one connector on the back of TXD70. The tools necessary for installing TXD70 are:

- Fixed hexagonal key nº 15.
- Allen key nº2, minimum length of the shaft 100mm.
- Allen key nº3.
- Screwdriver with head H1
- Isopropyl alcohol (If there are previous installation or tariff seals to be removed)

The orientation of TXD70 is fixed by screwing the two Allen screws on the sides (points B and C on drawing 2). The central screw which touches directly on the support ball is not used (see drawings 1 and 2)

The height of TXD70 is fixed by screwing the central hexagonal key (Points A of drawing 2)

2.2.1. LOCATION OF TXD70

It is normally located on the vehicle dashboard, most times centered, so that both the passenger and driver can clearly see it.

MX70 needs space enough to open the printer cover, so that the paper can be changed. It can't be too close to the windscreen, so that the magnetic card can be passed easily. It must not interfere with the vehicle airbag, and it must be fitted as low as possible so as to not obstruct the visibility of the road.

2.3. ELECTRICAL INSTALLATION

TXD70 admits power supplies between 9 and 30 V, which makes it compatible with the current 12V and 24V vehicle batteries.

First perform all the connections with the unit disconnected from the car battery. When all peripherals are connected, and then connect the power supply

If it is necessary to make an intervention in the installation, it is necessary to first disconnect the main power supply cabling or fuse, and then modify the rest of the installation.

Drawing 3 details all the TXD70 connectors.

If you use a serial roof light, look at the position of the white mark in the drawing

Install the cabling and peripherals according to the connections diagram in drawing 4.

If an emergency button is used:

- Solder together the brown wire with the yellow wire of the emergency button, and protect the joint with a thermoretractile cover.
- If the Radiotaxi emergency function is not to be used, the brown wire should be connected to Ground

2.4. CHARACTERISTICS

The dimensions of the units are:

	Length mm	Height mm	Width mm	Weight g
MX70	80	60	32	132
TXD70	179	100	70	624

TXD70 is designed and certified to operate in an environment of electromagnetic class E3 (instruments powered by a vehicle battery) and in a mechanical environment class M3 (high and very high vibration level, such as in a vehicle).

The units are designed to operate indoors, in an temperature range of -25ºC / 70ºC and without condensation, such as inside a vehicle.

2.5. INSTALLATION RECOMMENDATIONS

- Disconnect the battery positive contact until the whole electrical installation is finished.
- Any work on the terminal or accessory must be done with the device disconnected from the battery or without the general fuse.
- Always use the positive and negative directly from the battery, to get a more filtered power supply and avoid false contacts.
- Always connect the cables to the battery with a terminal, never by directly rolling the cables around the battery contact.
- If the cables crosses any edges, like metal edges, the cables must be protected with a rubber protector
- If the power supply cables are too long, they have to be cut to measure. They must never be rolled.
- In case the vehicle has a radio transmitter, separate the transmitter installation as much as possible from the terminal and its wiring. The transmitter and the terminal antennae also are to be as separated as possible.
- Install all the units and connect the power. Finally connect the general fuse.

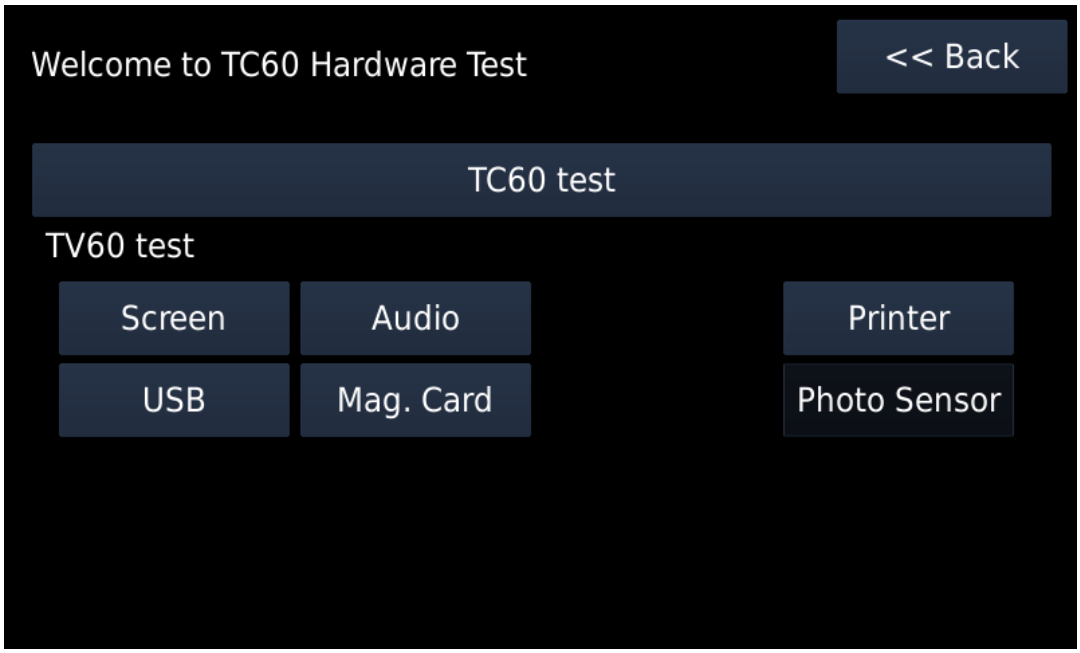
2.6. FIRST TIME TURN ON

- Turn on the unit by pressing on the touchscreen.
- The unit starts, showing a progress bar. Finally you get a screen with the message “ENTER A VALID USB”
- Connect the USB stick with installer key to the USB connector
- A screen requests for the installer password
- Enter the password and press OK.

2.7. HARDWARE TEST

Press “HW Test” to access the verification screens, which allow you to check the main modules of TXD70. See the summary table in Annex I

To exit any of the screens press **<< Back**



Finish the verification of all elements connected to TXD70 before passing to next step. The verification has to include:

- Alarm button
- Contact key
- Rooflights

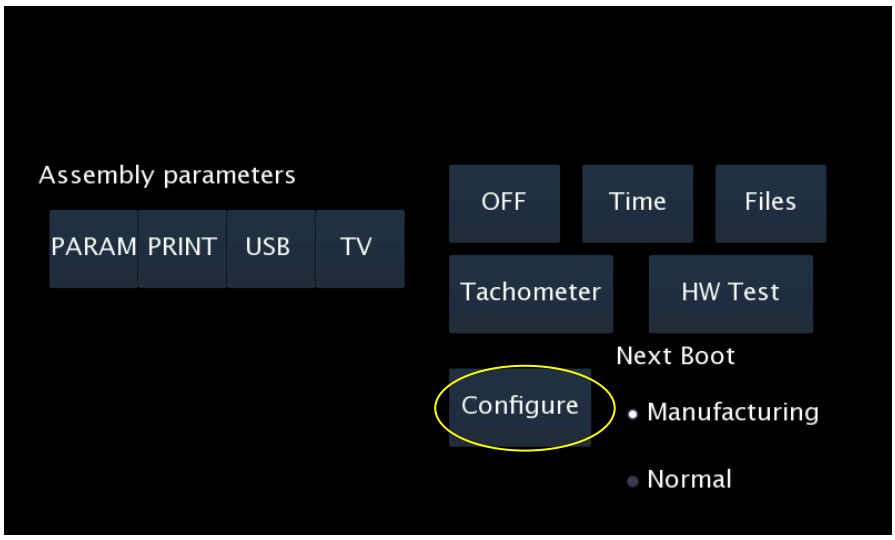
Enter the PIN in TXD70 before inserting the SIM. TXD70 does not allow to use SIMs without PIN in order to protect the taxi drivers against SIM’s robberies.

The SIM is to be inserted with the contacts pointing to the front of TXD70.

TXD70 supports 3.3 V and 1.8 V SIMs. Old 5 V SIMs are not supported.

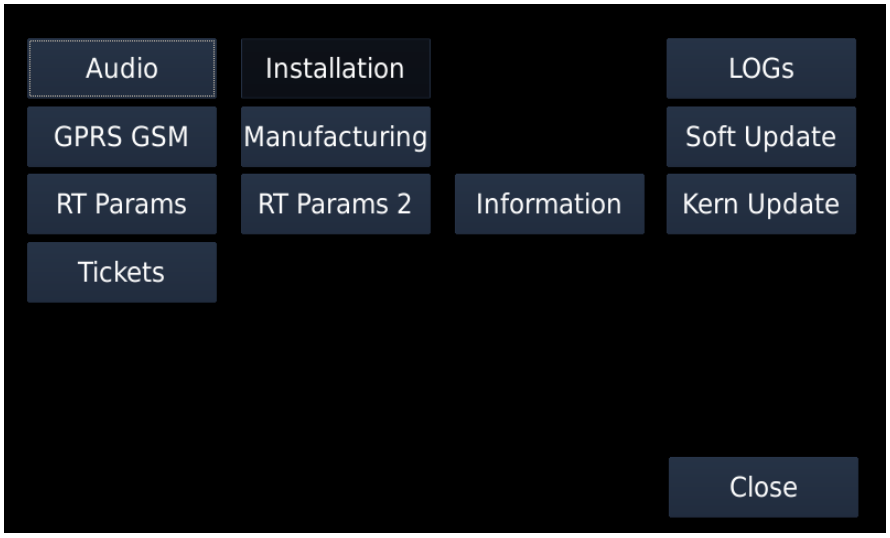
2.8. CONFIGURATION PARAMETERS

When in the main Manufacturing screen, press “Configure”

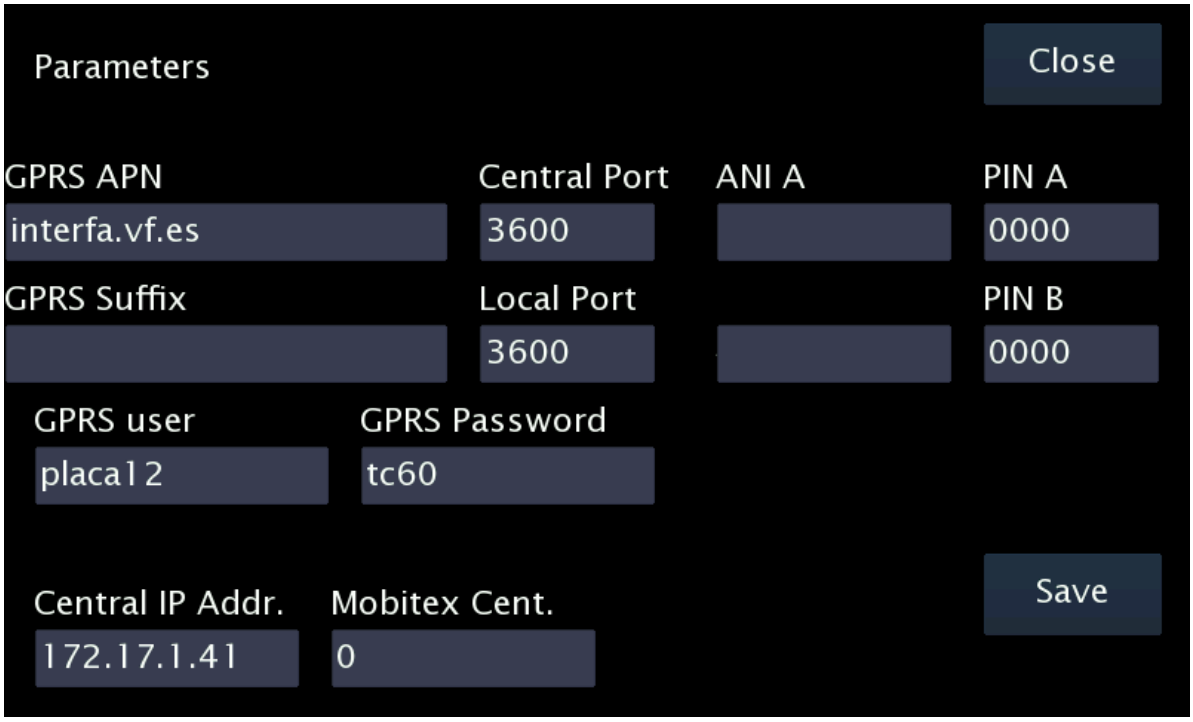


The application configuration parameters will open.

These are not metrological parameters; therefore they are not subject to sealing. They can be accessed by swiping an installer magnetic card.

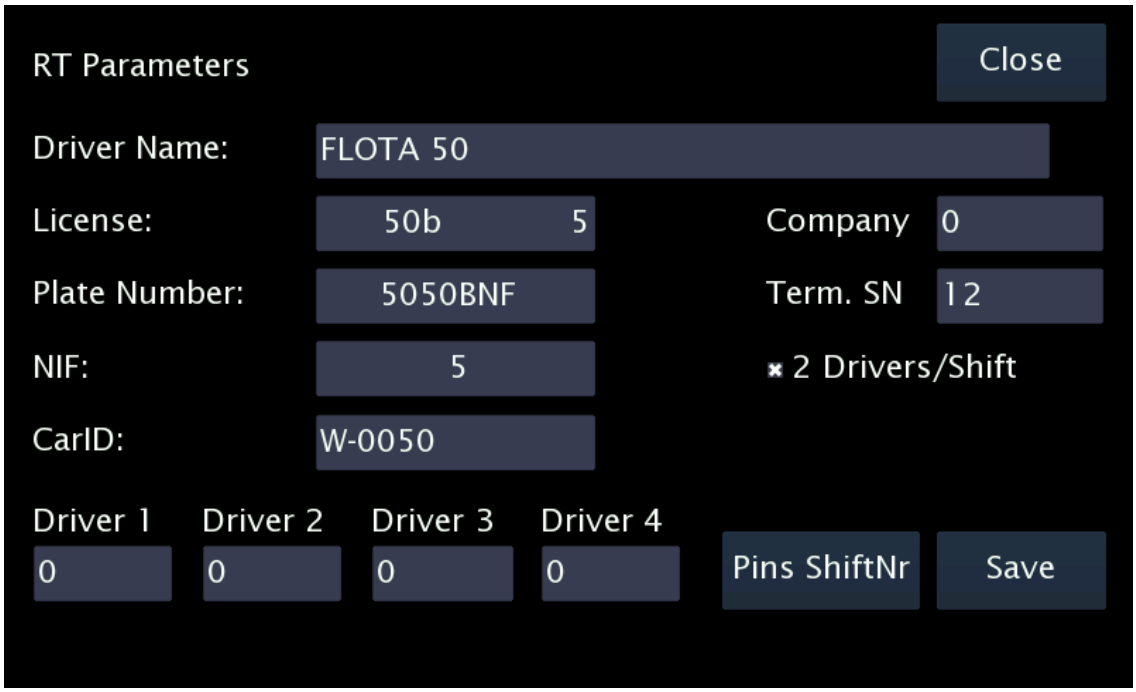


2.8.1. GPRS GSM



GPRS APN	Identification of the GPRS network	
Central Port	UDP Port of the central program	
GPRS Suffix	GPRS Suffix, used as a second part of the GPRS user.	Your network support will give you this data if needed
Local Port	UDP Port of the local TXD70 application	
GPRS User	Identification of the TXD70 in the GPRS network	
GPRS Password	Password of the TXD70 in the GPRS network	
Central IP Address	IP Address of the Radiotaxi central	This field can not be empty
PIN GSMA	Enter the GSM A PIN	If the SIM is not in: 1.- First enter the PIN 2.- Then the SIM can be entered, with the contacts towards the front of TXD70
ANI GSMA	Enter the GSM A phone number	
PIN GSMB	Not used	
ANI GSMB	Not used	
Mobitex Cent	Holland specific	

2.8.2. RT PARAMS



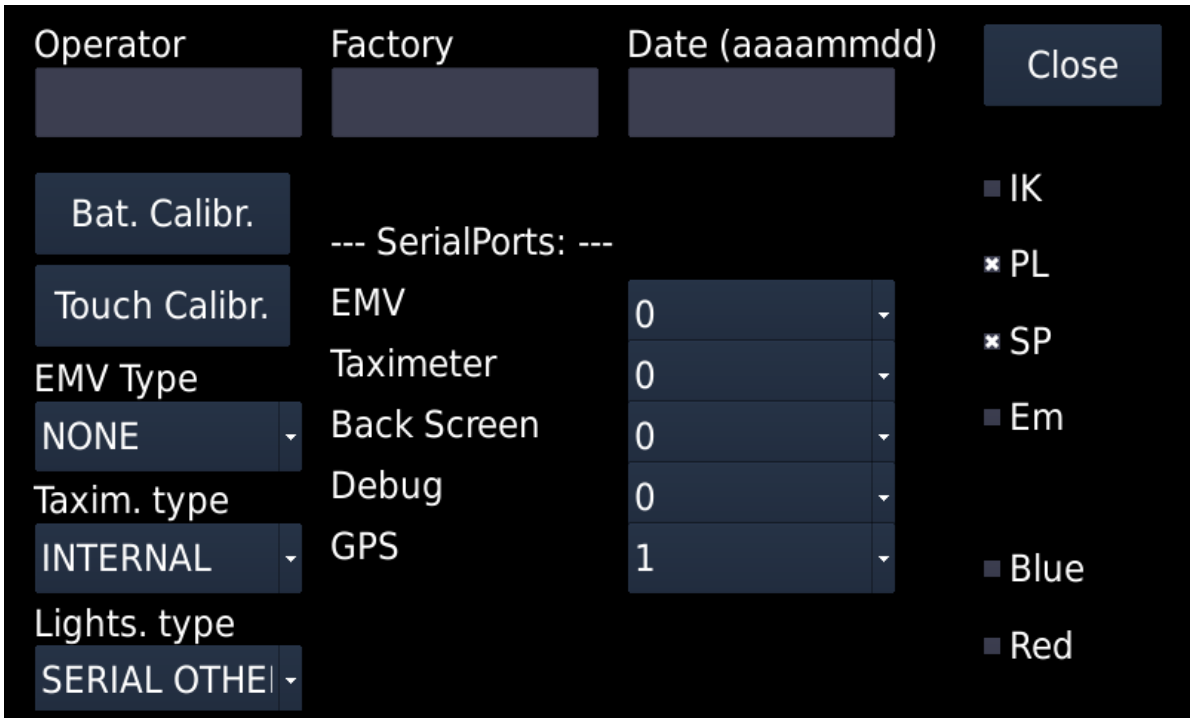
Name	Name of license owner	
License	License number	
Plate Number	Plate number	
NIF	Fiscal ID	
Car ID	ID of the car in the Radiotaxi	
Driver 1..4	Driver codes of the 4 drivers	
Company	Company code	Used by the Prima application
Term SN	TXD70 serial number	This field can not be empty
2 Drivers/Shift	Number of drivers per shift	Used by the Working Time Control application
Pins ShiftNr	To change the Shift number	

2.8.3. TICKETS

These screens are used to set all the data related to tickets. The data are:

Ticket Headers	6 ticket headers	
Ticket Footers	8 ticket footers	
Extras text	Extras text in the tickets	4 Manual Extras 1 Automatic Extra
Sweden specific	Inspection texts Control Rapport Plomb	Used only in Sweden
Sweden specific	TXT 1.4	Used only in Sweden

2.8.4. INSTALLATION



Operator	Installer who installs the device	
Factory	Code of the workshop	
Date	Installation date	Format YYYYMMDD
Bat. Calibration	Battery calibration	
Touch Calibr.	Touchscreen calibration	
EMV Type	Type of EMV payment	
Taximeter type	Type of taximeter	Internal: Taximeter in TXD70 External: Connected to an external taximeter through serial channel
Lights type	Type of lights	POWER: power lights, parallel connection TL70: TL70 lights Serial Others: serial lights
SerialPorts	Serial port where we can connect the peripherals	Port 0 … 3 (see drawing 3) Serial port 2 is not usable at the moment.

TXD7 incorporates an external GPS (GP70).

For this, connect a GP70 to one of the free serial ports of TXD70. Port 1 by default.

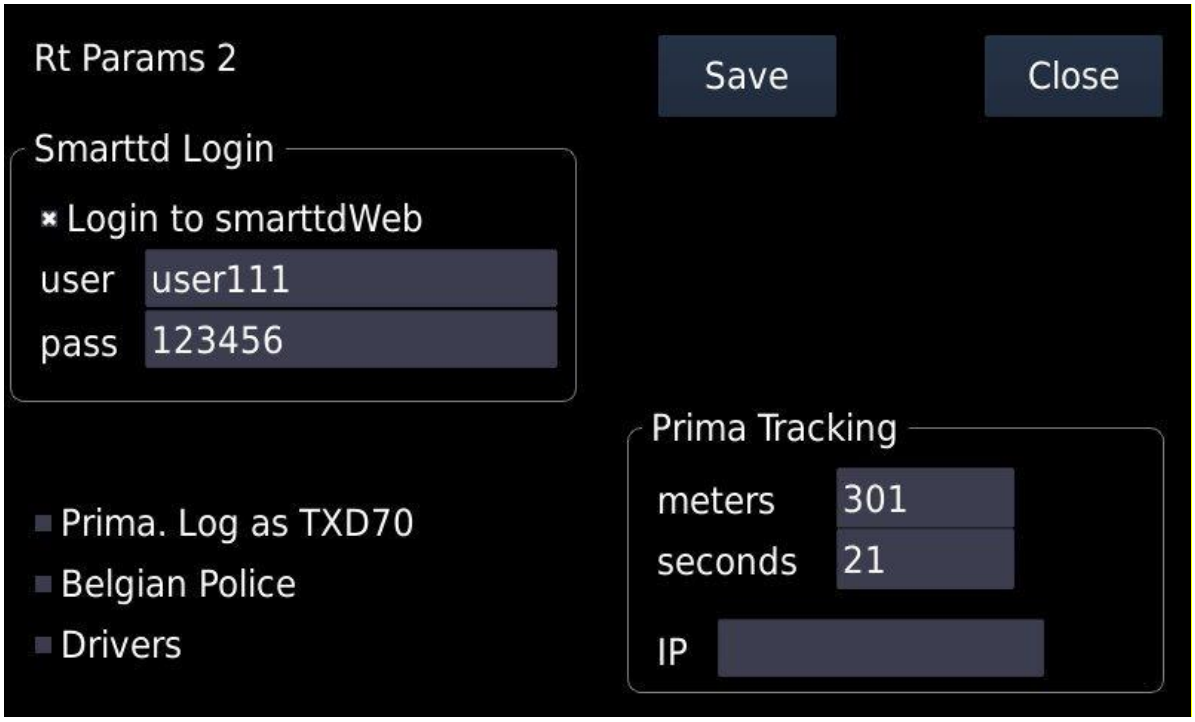
Expand GPS combo box, which is normally in internal mode and select the serial port where you have connected it.

2.8.5. TOUCHSCREEN CALIBRATION

If it is necessary to calibrate the display touchscreen, select “Touch Calibr”.

The device will restart and ask to press on the 4 corners and the center of the screen to calibrate the touchscreen. After pressing on the crosses, save the calibration, otherwise the process will be repeated until you save.

2.8.6. RT PARAMS 2



This button gives access to SmartTD data configuration. By activating the checkbox "SmartTD" the fields SmartTD username and password are activated. You must enter them in order to have a proper communication with the xmpp server.

By activating the checkbox the field "IP prima" is also activated. If the device needs to communicate with the Prima server, the value must be introduced.

If the "Smart TD" checkbox is not activated, the url and zoning download port can be set from alpha6. This parameter is set in the IP field of "alpha6 GPRSLAN" section. Once set the data clicki on the "Download" button to get the zoning.

By activating the checkbox “Prima. Log as TXD70” the device will be identified at Prima as a TXD70. If the "Prima. Log as TXD70" checkbox is not activated, the device will be identified at Prima as a Gobox.

2.8.7. SOFT UPDATE

If the device has access to internet, it will connect to the software updates download server. If a new version is available, a button with the name of the installed version and the new version to install will appear.

For example, if a button with the text "RT-4_2r54-RT-4_2r64.isu" appears, pressing that button the RT-4_2r54 version installed on your device will be replaced by the RT-4_2r64 new version.

2.8.8. KERN UPDATE

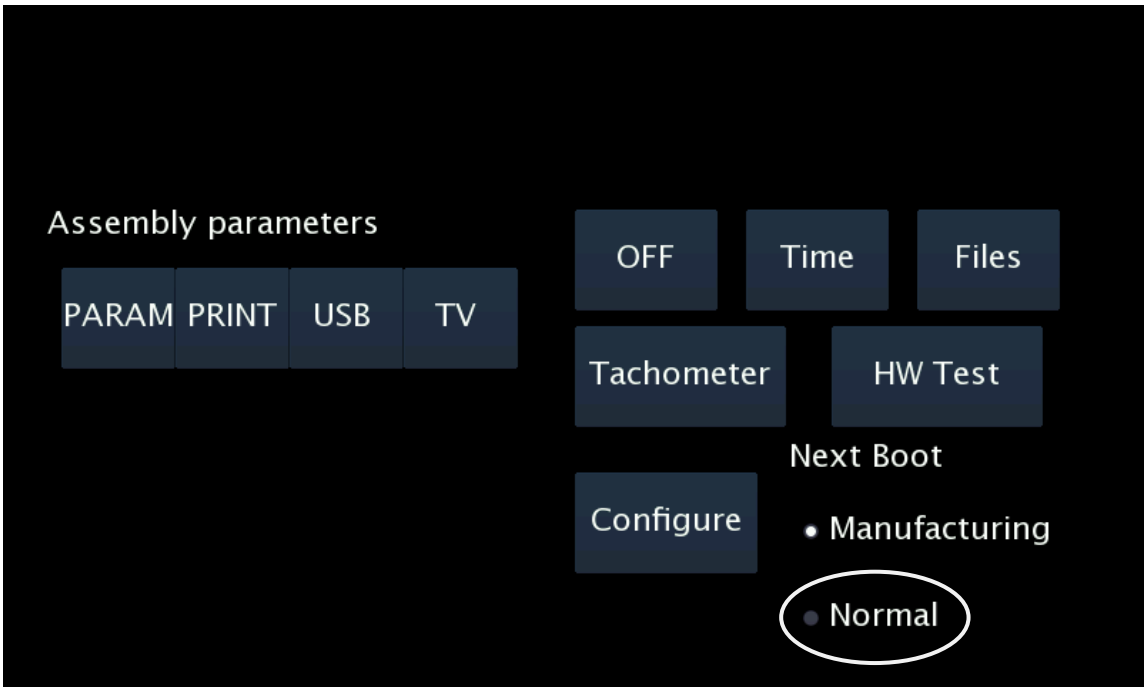
If the device has Access to internet, it will connect to the software updates download server. A list of available Kernel versions will be shown for selection.

After changing any parameter
the device must be rebooted in order to apply the changes.

2.9. SWITCH TO NORMAL MODE

Before installation is complete, change the working mode to Normal before the next restart of the unit.

Select “**Normal**” in the “**Next Boot**” frame. Then you can turn the TXD70 off. At next startup, the TXD70 will start in Normal mode.



3. TAXIMETER CONFIGURATION

Enter a USB pen drive with the current tariff and installer key.

If the software is not installed, install it at this time:

- Normal mode

Functions → Install → Select the adequate program → Install → Reboot to install. The device reboots and installs the new software.

- Manufacturing mode

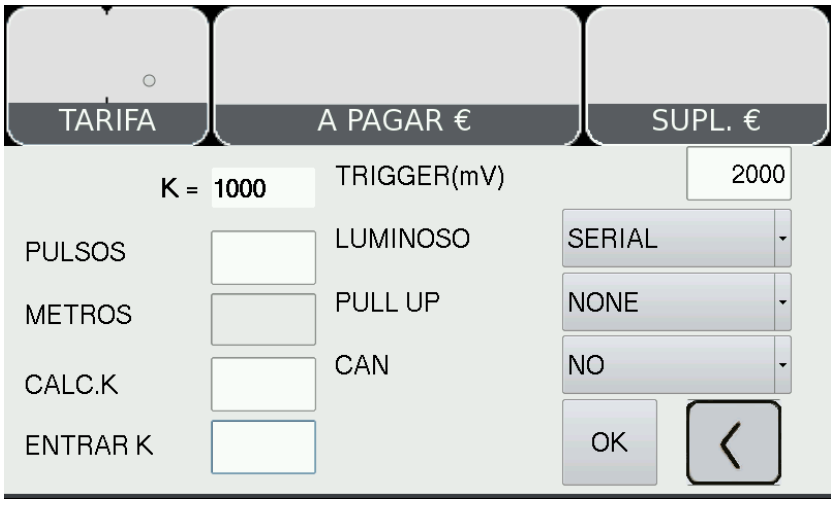
Files → Select the adequate program → Install → Reboot to install. The device reboots and installs the new software.

Once the software is updated, enter the USB and select the adequate tariff. Then the configuration screen lets you choose between the following operations:

1. Configure the “K” constant
2. Configure passwords
3. Set the clock
4. Reset totalizers
5. Display control blocks
6. Increase in the number of repairs
7. Record the tariff to the taximeter

3.1. CONFIGURING IMPULSE SIGNAL

At the main configuration screen, press on the K button in order to access to the two possible modes for programming the constant "K": by calculation or by direct introduction if its value is previously known.



From this screen it is also possible to access:

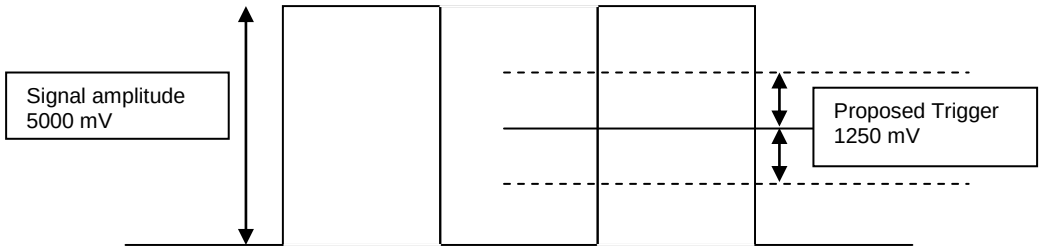
- External light type configuration

  0 = Serial channel roof light: coded roof lights (Taxitronic TL70, Saludes, etc.)
  1 = Parallel light: other roof lights (paralel)

- Adjustment of the trigger value for adaptation to the car signal. The trigger value counts from the center value of the signal.

- Modify Trigger value. The default 2000 mV = 2 V is compatible with most cars. Change only if the signal shape is not standard, and test until an adequate value is found.

- The value must be in millivolts, without decimals:
  - Must be lower than (vehicle signal amplitude) / 2
  - Must be higher than a possible noise level
  - Recommended value is the signal amplitude in millivolts / 4.
  - Valid values are between 400 and 2000.



3.1.1. PULL-UP CONFIGURATION

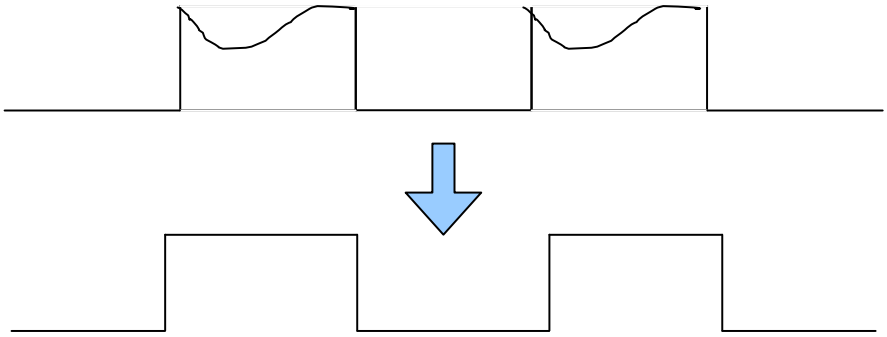
In some vehicles, the vehicle signal does not provide a high level signal, but an open circuit instead. In these cases it is necessary to activate the pull-up. Modify the value of the PULL-UP field by pressing on it.

Value=NO

Non active Pull-up. Use if the vehicle signal has a good level for 0 and for 1

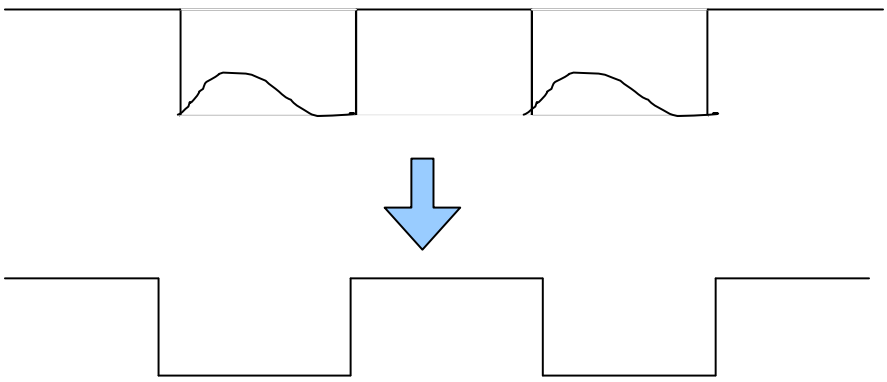
Value=UP

Active Pull-up. Use if the signal has a stable 0 level, but the 1 level given by the vehicle is an open circuit.



Value=DOWN

Active Pull down. Use if the 1 value is stable, but the 0 value is an open circuit.



Value=UP+DOWN

If in none of the above cases appears the signal, try this configuration.

3.1.2. CALCULATION OF THE K CONSTANT

To calculate the value of the K constant the method described below must be used.

- On the main taximeter configuration screen, press on button **K.**
- Press on the field “PULSES” to start the counting of the number of impulses.
- The indicator will change to Red.
- Then, an accurately known distance tour should be done. To ensure the accuracy in measurement, a minimum distance of 1 km is recommended.
- Once the pre-established distance is reached, stop the car.
- Press on the button “Meters” and enter the exact number of meters of the driven distance with the numerical keyboard.

The K value is automatically calculated and displayed. The value is only updated after recording the tariff.

3.1.3. ENTERING CONSTANT K

In case the value of K is known, it can be entered using the numeric keypad. The steps are:

- On the main taximeter configuration screen, press on button **K.**
- Press on the field K value. Then enter the value of K with the numeric keypad. The value has to be between 500 y 80000.

The K value is only updated after recording the tariff.

3.2. PROGRAMMING PASSWORDS

If you wish to activate the access to the protected taximeter options, use the password configuration utility.

- In the main taximeter configuration screen, press on the button CODES.
- The fields for entering the different password allowed by the tariff will be showed at left of the screen. Introduce them with the numeric keypad.

CS1 Password to reset the partial totalizers: Enter the desired password for this function using the numeric keypad with a maximum of 9 beats and confirm this password using the OK button. In case of not wanting to activate that, this function is canceled by pressing the OK button directly. In both cases it is passed to the programming password of the following special function to authorized by the tariff.

CS2 Password for options of totalizers group 1: The introduction sequence is the same as described in paragraph CS1.

CS4 Password to modify the revision date: The introduction sequence is the same as described in paragraph CS1.

CS5 Password to control blocks: The introduction sequence is the same as described in paragraph CS1.

3.3. SETTING THE CALENDAR - CLOCK

The date / time of the taximeter is updated with the following process:

- Press on the CLOCK button at the main configuration screen.
- The date field is displayed in format YYMMDD (Year Month Day). At the left of the screen there is a numeric keypad to introduce the date.
- Press OK
- The time field is displayed in format HHMMSS (Hours Minutes Seconds). At the left of the screen there is a numeric keypad to introduce the date.
- Press OK again to go to the main screen and record the configured data.

3.4. RESET TOTALIZERS

If it is necessary to reset all the taximeter totalizers to zero:

- On the main taximeter configuration screen, press on Totalizers.
- Press OK to confirm the erasing of totalizers. If you do not want to erase the totalizers, press on CANCEL, and you will return to the main screen without having reset the totalizers.

3.5. RECORD THE TARIFF

When the correct K constant has been set, it is possible to record the tariff to the taximeter. On the main taximeter configuration screen, press on CHARGE. The tariff charging process is started. Once the process is finished, the taximeter gets into position FOR HIRE, with the new tariff data, and constant K is updated also.

For the taximeter to accept the recording of the tariff, it is necessary to have previously set the time and the K constant. If this is not done, the tariff can’t be recorded and an error is displayed.

Once finished, disconnect the USB from the taximeter and seal the tariff cover.

4. SEALING

4.1. MX70

To ensure the integrity of the instruments the device is sealed with two bracket seals and screw seal. (Drawing 8.2)

The anti-turn angle and a screw with a hole are used. A cable is passed through both parts and is then sealed. It is not possible to turn the sealed screw, and open the box, without previously breaking the cable.

4.2. TXD70

To ensure the integrity of the instruments the device is sealed with a plastic sealing (Drawing 6). For this kind of sealing a square that fits in the plastic sealing is used. The sealed screw can't be accessed without breaking the sealing.

- Seal item 1: It seals the TXD70 box, it protects the electronics and prevents it of being manipulated.
- Seal item 2: Seals the connectors cover.
- Seal item 3: Seals the TXD70 legal connector (Tariff, K constant, Time).

On top of the installation and tariff seals, it is necessary to put a sealing sticker with the identification of the installer, and marking the year of the intervention (Drawing 7). Local regulations may differ; the installer seal must be adapted to the local regulation.

Note: the area on which the seals are applied has to be clean and dry. Clean the zone with a mixture of 50% isopropyl alcohol and 50% water.

TXD70 can also be sealed with two bracket seals, screw seal and cable seal (Drawing 8.1).

5. MAINTENANCE

The TXD70 has a utility to test the unit functioning once installed, be it locally or remotely, and for the update of its software.

5.1. SWITCH TO INSTALLER MODE

To reenter the installer mode from Normal mod. On the Out of Service screen, enter the installer USB and wait until the OFF button changes to INSTALL.

Enter the installer password on the field and accept.

Then 4 buttons give access to the most basic operations:

- Erase calls PIN: In case the user has set a PIN for outgoing calls and now wants to erase this PIN.
- Erase shifts PIN: In case the user has set a PIN for shifts query and now wants to erase this PIN.
- GPRS: To set the basic parameters of the GPRS connection.
- Manufacturing: To switch to Installer mode / Hardware test.

To switch to Installer / Hardware test, press on the Manufacturing button. After some seconds a screen “Enter valid USB” will open. Enter the installer passwords to access the Installer menus

If you entered the Installer mode this way it is not necessary to restart the device to come back to Normal mode. Press the X on the right top corner, and the device comes back to Normal mode applying the changes.

5.2. HARDWARE TEST

In case any element in the units is not working correctly, a complete hardware test can be done.

On the main screen, enter an installer USB and wait until the OFF button changes to INSTALL. When pressing INSTALL, the TXD70 will switch off and pass to installer verification mode.

- Start the unit pressing on the display
- A screen gives the message “enter a valid USB”
- Connect the USB with installer key to the USB port on the TXD70
- Entering a password is now required
- Enter the password and accept. The TC will enter Installer mode.

While in installer mode it is possible to enter the verification sequence of the element that is not working fine, be it from the TXD70 or the TXD70. For the complete verification documentation, see ANNEX I HARDWARE TEST

5.3. REMOTE TEST

TXD70 provides a tool for remote diagnostic of some of the possible installation problems. With this tool it is possible to make a first diagnostic even before the car comes to the workshop.

Send an SMS with the text “test” to the TXD70 GSM number. The unit will run a basic function test, and send an SMS with the answer

The message has the following format (can vary depending on configuration):

A		
V x	Loudspeaker volume	(1 to 8)
MIC x	Microphone sensibility	
PUL x	Alarm button	(0= standby 1=active)
KEY x	Ignition key	(0=Off 1=On)
GSMA xx	Coverage GSM A	(If it has GPRS, says GPRS instead of GSM)
GSMB xx	Not used	
GPS xx	Number of satellites	(0 to 12)
BT xx	Internal battery level	(%)
P:	Software package version, date and time	
CONF	Configuration version	
I:	GSM A number	
U:	GPRS user, GPRS password, IP address of the unit	
L:	Status of the control panel leds	

5.4. REPAIRS

If a unit is not functioning correctly, the car goes to the workshop for a repair or substitution.

A repair is possible if the breakdown lies in a cabling or periopheral. If the repair lies in the units, the complete unit has to be sent to Interfacom for repair.

In case TXD70 is defect, the SIM of the broken TXD70 has to be exchanged with the SIMs of the substitution unit. The installation register has to be filled and sent again to Interfacom.

The SIM is to be inserted with the contacts pointing to the front of TXD70.

It is not possible to do substitutions of boards, only complete units. Only Interfacom can have access to opening the units and act on the boards. The seals which keep the integrity of the electronics, with the logo TAXITRONIC, must never be opened by unauthorized personnel. Only INTERFACOM can make repairs or interventions to the inside of the units.

5.5. SOFTWARE UPDATE

In case it is necessary to update the software, the installer will get an USB device with the updates to the last software version. The process is the following:

5.5.1. FROM NORMAL MODE

- On Functions – System – Version note the current TXD70 software version.
- Enter a USB Pen drive with installer key.
- The OFF button changes to INSTALL.
- Select INSTALL.
- You can see the available update files. The name indicates which is the start version and to which version it updates.
- Select the adequate file and then INSTALL.

A progress bar will be displayed while the computer shuts down.

Then, the device will reboot and show the “Firmware upgrade” bar. The progress bar is completed, and the device reboots with the new software version.

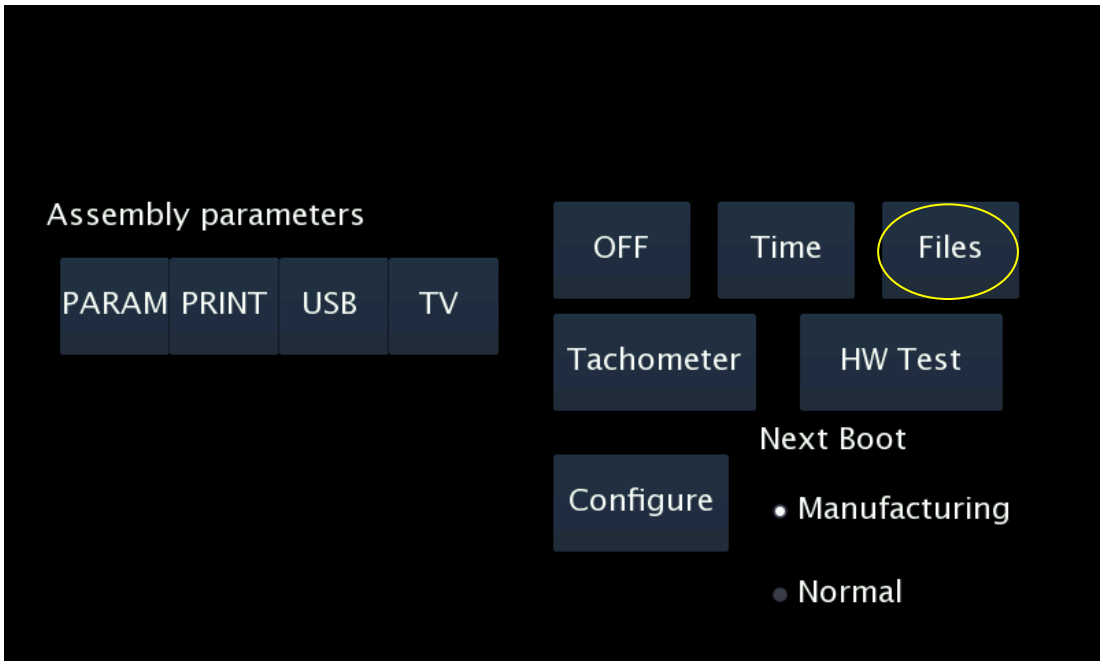
The device will reboot again and will start with the new software version.

5.5.2. FROM INSTALLER MODE

The screen displays “Enter valid USB”

- Enter a USB Pen drive with installer key in TXD70 USB connector.
- The device asks for the installer password, normally “inst”.
- Enter the password and accept.

Then press “Files”:



- Connect the USB memory with the update files to a USB connector.

- The available update files are displayed. The name of each one indicates the origin version and the destination version.

- If you know the origin version and the destination version of the update, select the adequate update file and press Accept.

- If you don't know the origin version for the update, you can check it at Hardware test: TXD70 test: Information (see 2.7).

The unit will return to the start screen.

- Press OFF to switch the unit OFF. A confirmation is requested.

A progress bar is displayed while the unit is being turned off.

The unit is then restarted automatically, and it displays a "FIRMWARE UPGRADE" progress bar. The progress bar is completed when the process is finished correctly.

The unit is restarted again and starts with the new software version.

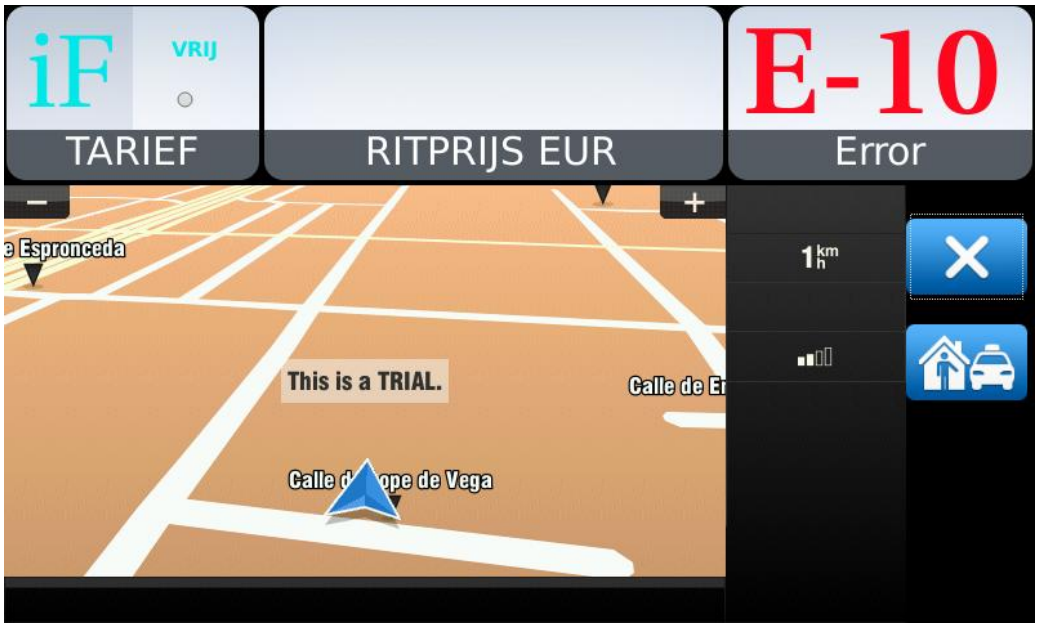
It is possible to check that the update has been correctly done, either on the normal user screen or in the Hardware test: TXD70 test: Information.

- If the update could not be processed, the progress is interrupted and the unit starts with the previous software version.

6. NAVIGATOR LICENSE MANAGEMENT

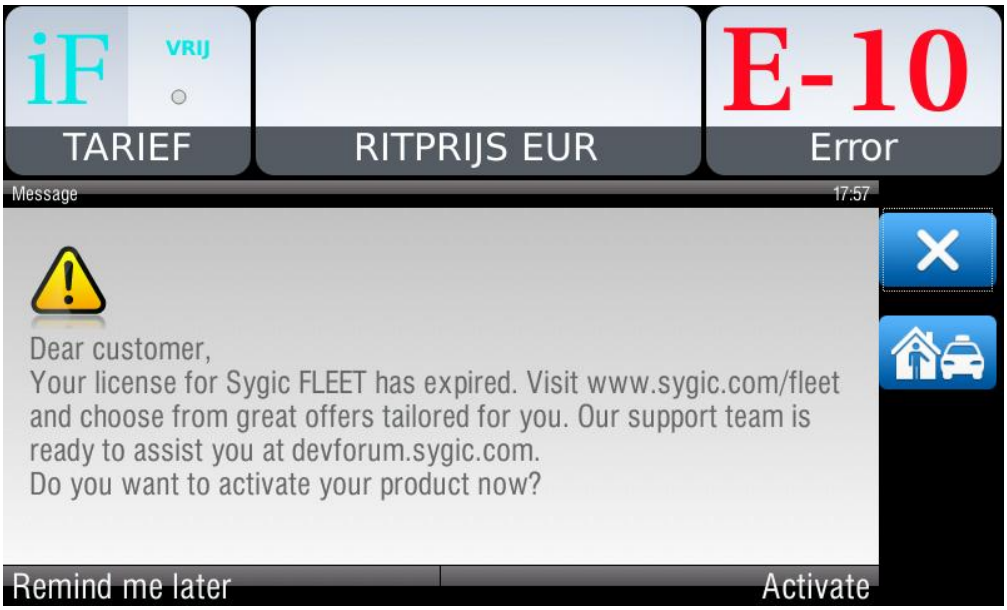
As supplied, TXD70 normally has an evaluation license of the Sygic navigator. This is a free license valid for 14 days

The navigator will work for 14 days. As this is a trial license, the text “This is a TRIAL” will be displayed.



Each time the navigator is started, the license expiry date is displayed, and you have the option to enter a new license code.

After this period the license expires and this text will be shown:



It is possible to buy the license anytime during the test period or afterwards.

On the Navigator menu select “Activate”, and the device code is displayed.

The device code appears, this code has to be sent to INTERFACOM, which returns another activation code. This code must be entered in the screen that appears when you press "Activate".

With this purchase you will get the Sygic Navigator license with four cartography updates included. Sygic publishes a cartography update every 6 months.

7. VERSION CONTROL

DATE	03/03/2015
MODIFICATION	Add functions at CONFIGURATION PARAMETERS Unify English and Spanish version of the manual
DATE	23/03/2015
MODIFICATION	GP70 as external GPS incorporated by default
DATE	16/11/2015
MODIFICATION	RT PARAMS 2 SmartTD Checkbox
DATE	01/06/2016
MODIFICATION	RT PARAMS 2 Prima. Log as TXD70 Checkbox

ANNEX I: HARDWARE TEST SUMMARY TABLE

<table>
<tr><th colspan="3">TXD70 HARDWARE TEST</th></tr>
<tr><th colspan="3">IO (INPUT/OUTPUTS)</th></tr>
<tr><th>MEANING</th><th colspan="2">EXPLANATION</th></tr>
<tr><td rowspan="2">Checks the correct status of the inputs and outputs I/O</td><td>Run automatic test</td><td>An automatic test is started, the result on each Pin is tested. If any of the pins does not work correctly, it is displayed onscreen. Once the test is finished, the circle on the right is turned into green (OK) or red (Not OK)</td></tr>
<tr><td>Run manual test</td><td>A table with the IO’s inputs, outputs and Pull-ups is displayed. The pull-up for each line is activated manually. By pressing on each output, it is possible to check that the corresponding Input is changing</td></tr>
<tr><th colspan="3">AUDIO</th></tr>
<tr><th>MEANING</th><th colspan="2">EXPLANATION</th></tr>
<tr><td>Checks the correct functioning of the microphone and loudspeaker</td><td colspan="2">In this screen, press button Play >>. An audio file is reproduced. Reproduce it at normal volume. If you want, change the max volume by moving the volume control on the bottom left corner.
Press button << Rec >> and speak loud to the microphone. The TXD70 starts recording, for 5 seconds. Once finished, it reproduces the recorded file. This way both microphone and loudspeaker are checked.</td></tr>
<tr><th colspan="3">POWER</th></tr>
<tr><th>MEANING</th><th colspan="2">EXPLANATION</th></tr>
<tr><td>Verifies the functioning of the power outputs for the analog external lights</td><td colspan="2">Pressing this button starts an automatic cycle to test the external lights. A circle in green or red will indicate if the result has been satisfactory or not.
Pressing on any of the lights stops the cycle and forces the ON or OFF of each of them.</td></tr>
<tr><th colspan="3">BATTERY</th></tr>
<tr><th>MEANING</th><th colspan="2">EXPLANATION</th></tr>
<tr><td>Displays the voltage levels</td><td>Ext battery volt
Int bat voltage
Int bat temp</td><td>Displays the voltage and charge status of the external battery (car) and internal battery. It also displays the temperature of the internal battery.</td></tr>
<tr><th colspan="3">SERIAL</th></tr>
<tr><th>MEANING</th><th colspan="2">EXPLANATION</th></tr>
</table>

Verifies the serial ports	RS232	Pressing on each of the buttons, the serial ports are tested. A green or red circle indicates if the result is satisfactory or not.
	RS485	
GPS		
MEANING	**EXPLANATION**	
Displays the GPS functioning parameters.	UTM DATE X Y TIME ZONE LATIDUDE LONGITUDE SPEED TOTAL DISTANCE HOUR DATA STATE SATELLITES	The car has to be in the open for some minutes before the measure is reliable. Select GPS. The GPS data are displayed. If nothing is detected, the data will be displayed as 0, except possibly time and date.
SD CARD		
MEANING	**EXPLANATION**	
Verifies the SD card module	Press RUN. After some seconds, the content of the card is displayed, or an error indicates that it could not be read. The SD Card is to be inserted with the contacts pointing towards the front of TXD70	
LIGHT		
MEANING	**EXPLANATION**	
It checks the external lights device	By pressing this button, the external lights device should start displaying different symbols, and turning on and off the For Hire light. The test finishes automatically and the result is displayed.	
BLUETOOTH		
MEANING	**EXPLANATION**	
Bluetooth status and functioning status	(Not currently implemented) Pressing this button the detected device is displayed, or an error message is displayed.	
SRAM		
MEANING	**EXPLANATION**	

<table>
<tr><td>Verifies the correct functioning of the Static RAM</td><td colspan="2">Pressing the button starts the automatic test.

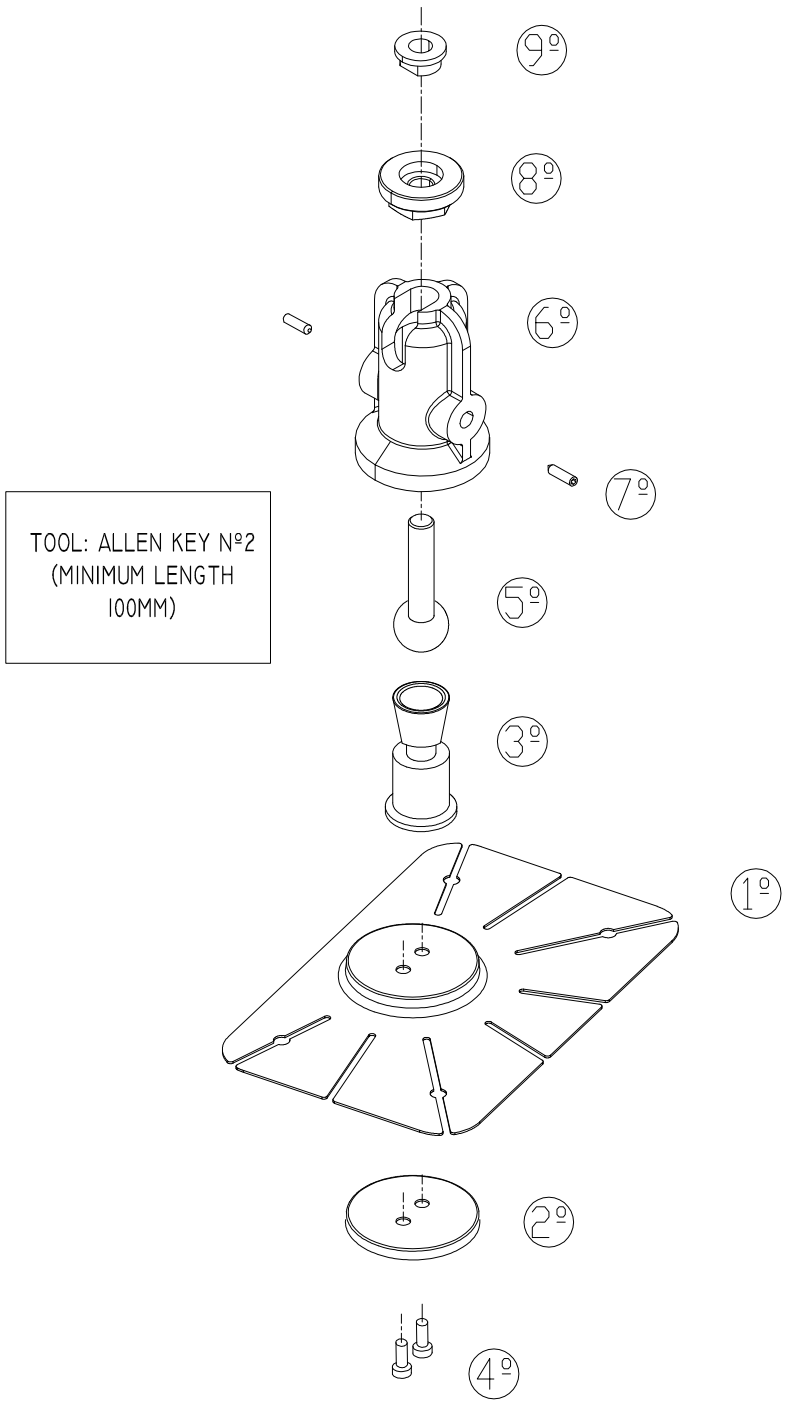
The test result is finally displayed For this test to be reliable, the TXD70 must have been for some seconds without power supply.</td></tr>
<tr><td colspan="3">GSM</td></tr>
<tr><td>MEANING</td><td colspan="2">EXPLANATION</td></tr>
<tr><td>Displays the status values for each of the GMSs and checks its correct functioning</td><td>Status of the SIM
Coverage
GSM network status
GPRS network status
Connection status (idle, in use)
With or without IP address</td><td>GPRS connection is normally done on GSM B
To check they function, make a call to each line, A and B, and check that they work correctly

Dial the number of the SIM to be tested
Once the incoming call is detected, press on ANSWER to pick the call
Once it has been checked that a normal conversation is correct, press HANGUP
During the whole call, the TXD70 will display which is the module receiving the call, the type of call and the status of both modules.

You can take out and insert both GSM A and B antennas, or SIMs, or turn the modules OFF and ON, to check that they work correctly and data are correctly updated.</td></tr>
<tr><td colspan="3">CTR PANEL</td></tr>
<tr><td>MEANING</td><td colspan="2">EXPLANATION</td></tr>
<tr><td>Checks the correct functioning of the control panel</td><td colspan="2">A test cycle is started. Each of the 3 LEDs of the control panel is lit, with configurations OFF, ON or BLINK
The cycle can be stopped, and the position of each Led can be manually tested, by pressing on OFF, ON or BLINK for each led.
It also displays the status of each of the buttons (red and blue). While they are pressed it is marked, and releasing them deactivates the mark</td></tr>
<tr><td colspan="3">INFORMATION</td></tr>
<tr><td>MEANING</td><td colspan="2">EXPLANATION</td></tr>
<tr><td>Displays version information</td><td>Program
Configuration
Hardware
GSMA
GSMB
GPS
Front TXD70</td><td>Displays the information on version of TXD70, both GSM modules, GPS module and the TXD70</td></tr>
<tr><td colspan="3">TACHOMETER</td></tr>
</table>

MEANING	EXPLANATION	
Verifies the correct functioning of the tachometer	Time Distance Speed	Starts time count, driven meters and speed in km/h calculated from the received distance signal. This is not for the taximeter tachometer, but the terminal tachometer, used in case no taximeter is activated in the software.
TXD70 HARDWARE TEST		
SCREEN		
MEANING	**EXPLANATION**	
Verifies the display functioning	Press T for the touchscreen test or C for the color test Color test: 4 color bars are displayed, with red, green, blue and black colors. Check that the 4 bars are displayed with correct gradual colors.	
AUDIO		
MEANING	**EXPLANATION**	
Checks the correct functioning of the microphone and loudspeaker	Press Play. An audio file is reproduced at normal volume. If you want, change the max volume by moving the control on the bottom left corner. Press Rec and speak loud to the microphone. The TXD70 records for 5 seconds. Then it reproduces the recorded file. Listen to the recorded sound.	
POWER		
MEANING	**EXPLANATION**	
Checks screen can be turned on/off.	Press **Run Test** and the screen will turn OFF. Press on the screen again before 5 seconds, and it will turn ON	
PRINTER		
MEANING	**EXPLANATION**	
Checks the printer functioning	Press this button for a printer test. A test ticket is printed. An error message is displayed if malfunction or out of paper	
USB		
MEANING	**EXPLANATION**	
Checks the USB ports	Enter an USB memory into each of the TXD70 USB connectors. The content of the USB memory should be displayed	
MAG. CARD		
MEANING	**EXPLANATION**	
Check the magnetic card reader	Pass a card from left to right to check that it is correctly read. The magnetic stripe pointing at the back of the TXD70. If a track can not be read, or is read with error, an error message is displayed.	
LIGHT SENSOR		

MEANING	EXPLANATION
Checks the functioning of the light sensor	Cover the TXD70 light sensor to check that the detected value goes to the low values. Point a light at the sensor to check that the detected light value goes up.



TOOL: ALLEN KEY Nº2
(MINIMUM LENGTH
100MM)

TOOL: ALLEN KEY Nº3

INTERFACOM, S.A.
TXD70 DRAWING 1

ASSEMBLY INSTRUCTIONS FOR TXD70 BRACKET

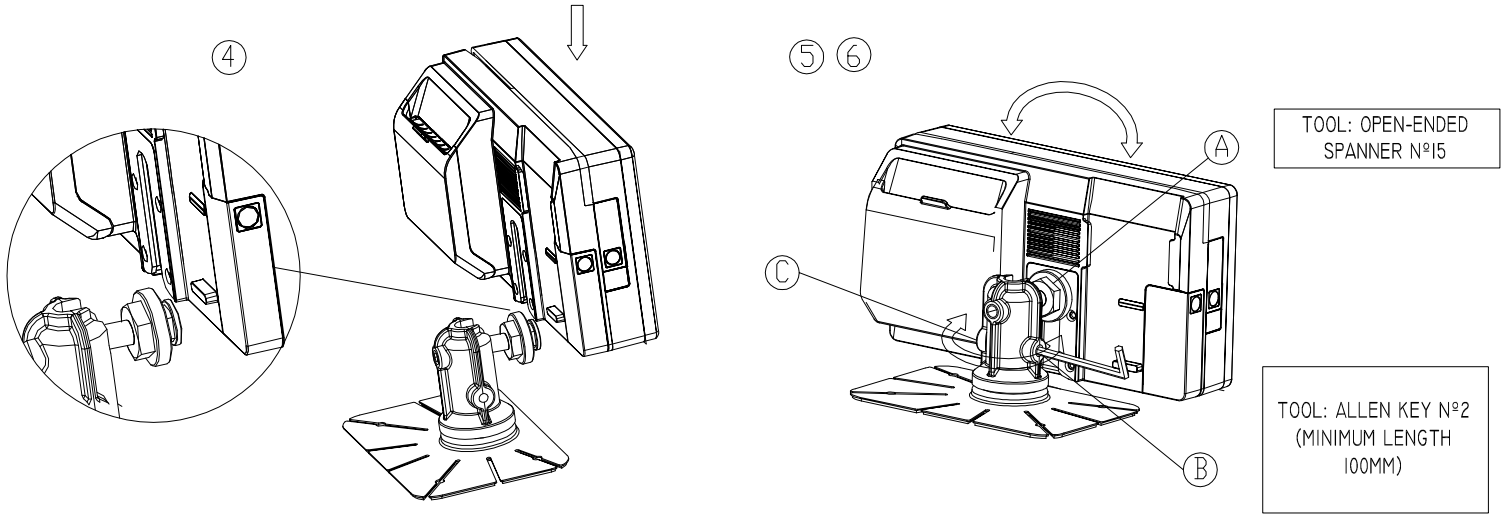
1. THE SURFACE ON WHICH THE BRACKET WILL BE FITTED MUST BE CLEAN AND DRY. CLEAN IT WITH A MIXTURE OF ISOPROPILIC ALCOHOL AND WATER.

2. REMOVE THE ADHESIVE PROTECTOR FILM, AND STICK IT ON THE SURFACE APPLYING STRONG AND UNIFORM PRESSURE. IF NECESSARY, BEND THE TABS TO ADAPT TO THE SHAPE OF THE SURFACE.

3. AT AMBIEN TEMPERATURE, 50% OF THE ADHESION IS REACHED AFTER 20 MIN. 90% AFTER 24H AND 100% AFTER 3 DAYS.

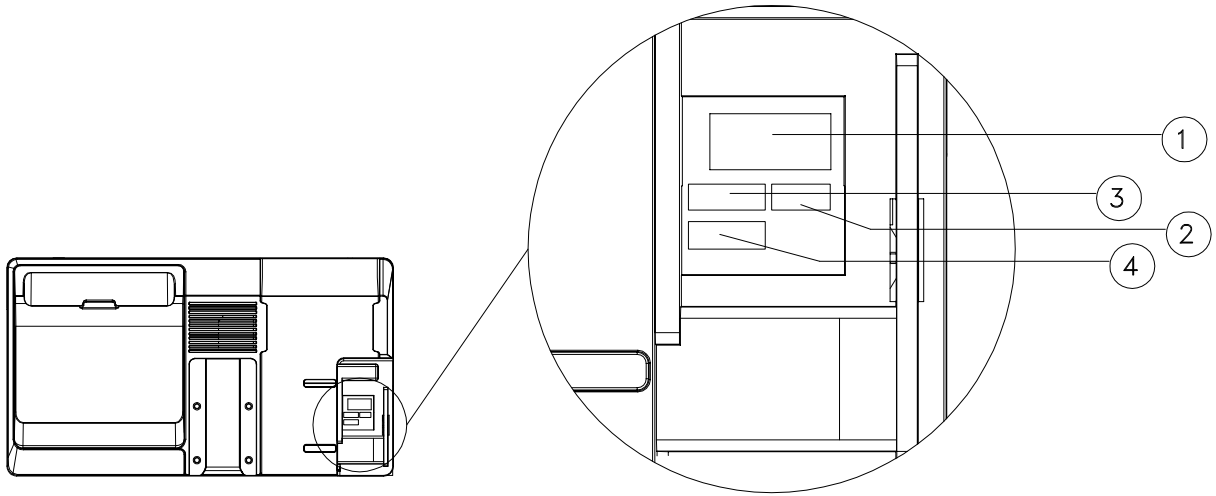
4. FIX THE UNIT ONTO THE BRACKET

5. PLACE AT THE HEIGTH AND ORIENTATION NECESSARY FOR THE CORRECT VISUALIZATION OF THE DISPLAY

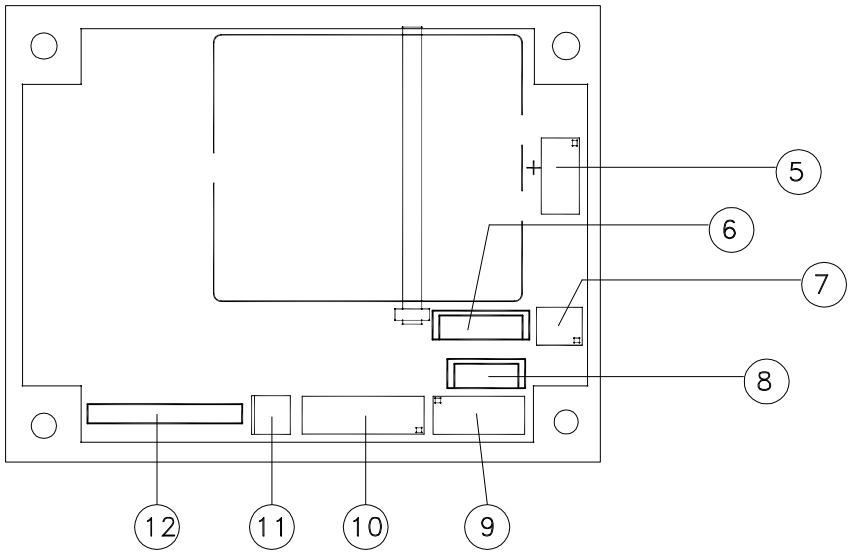


INTERFACOM, S.A.
TXD70 DRAWING 2

TXD70 – MX70 CONNECTORS



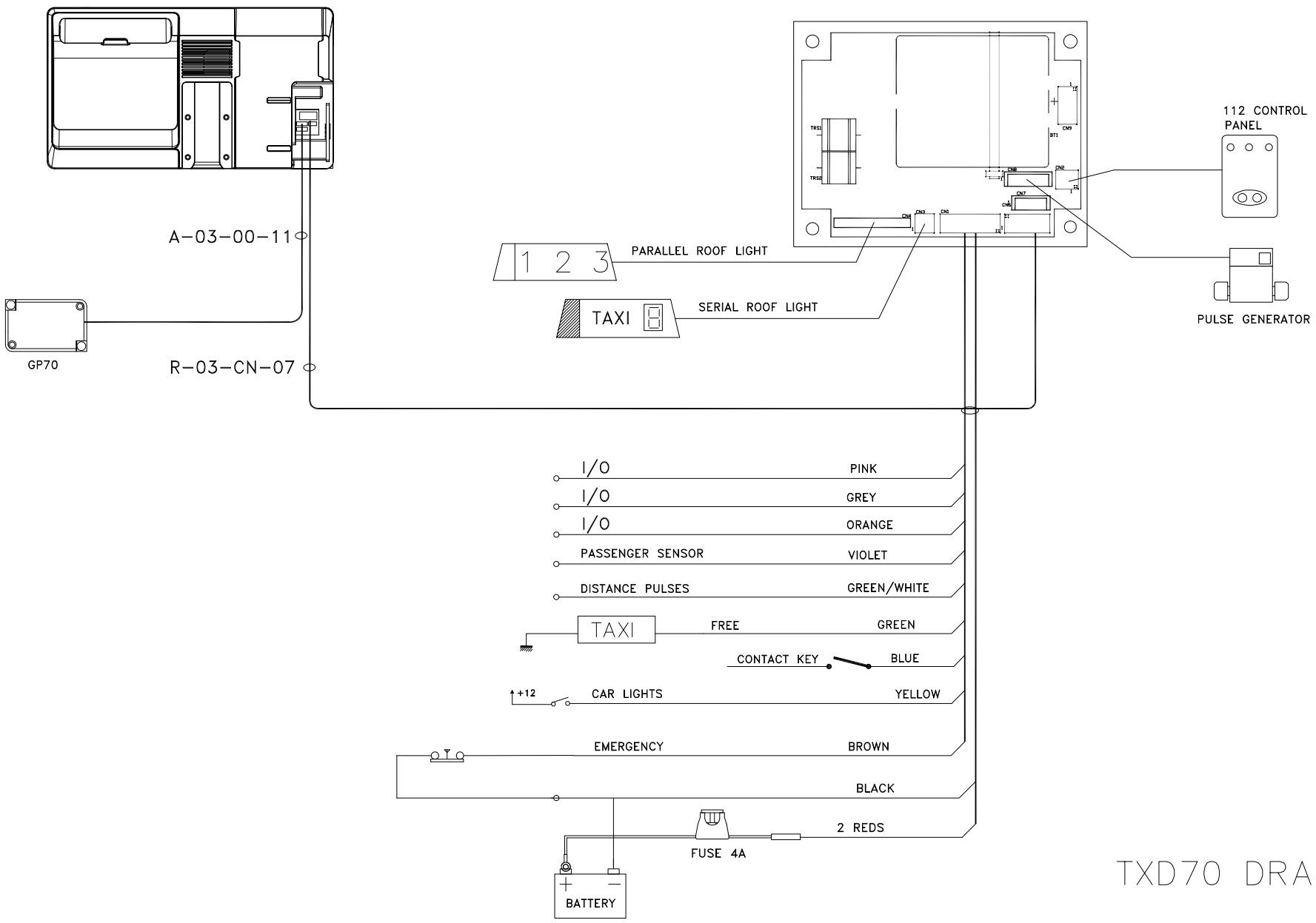
CONNECTOR LIST TXD70	
1	MX70
2	SERIAL PORT 2
3	SERIAL PORT 3
4	SERIAL PORT 1



CONNECTOR LIST MX70	
5	TEST CONNECTOR
6	PULSE GENERATOR
7	CONTROL PANEL
8	CAN BUS
9	TXD70
10	POWER SUPPLY
11	SERIAL ROOF LIGHT SEE POSITION
12	PARALLEL ROOF LIGHT

TXD70 DRAWING 3

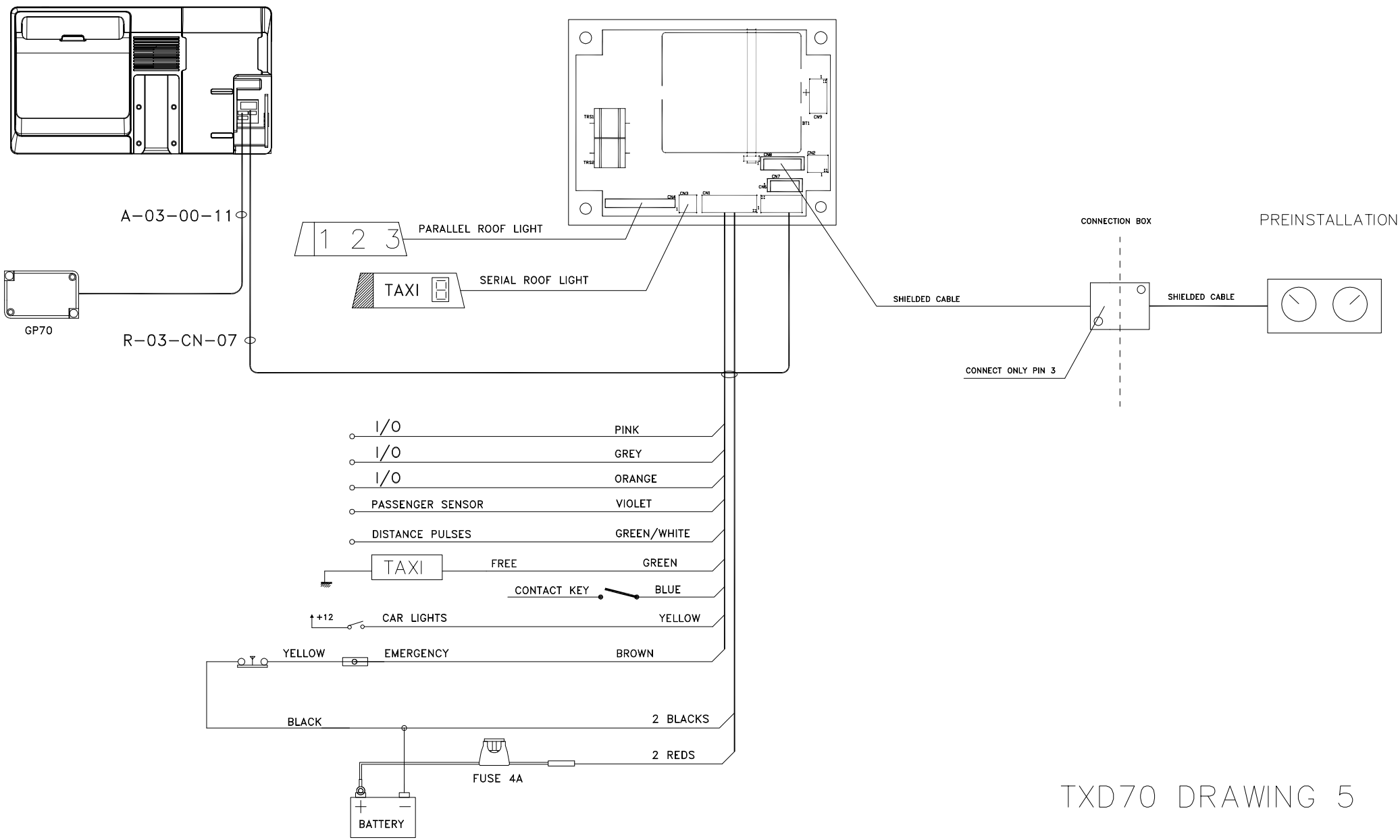
TXD70 – MX70 INSTALLATION



TXD70 DRAWING 4

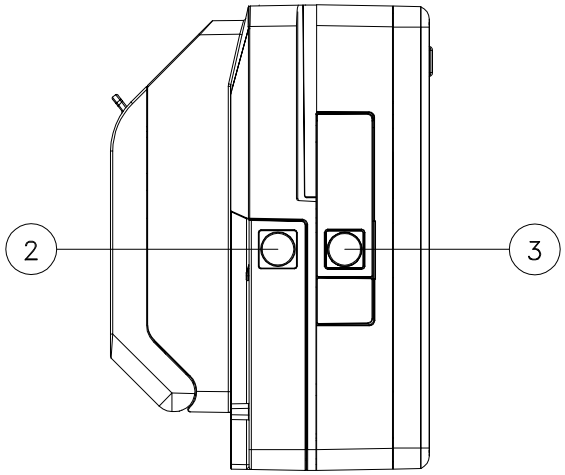
INST_TXD70_04.003

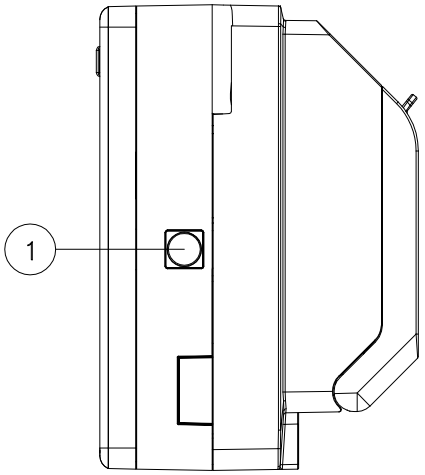
TXD70 – MX70 SHILDED INSTALLATION



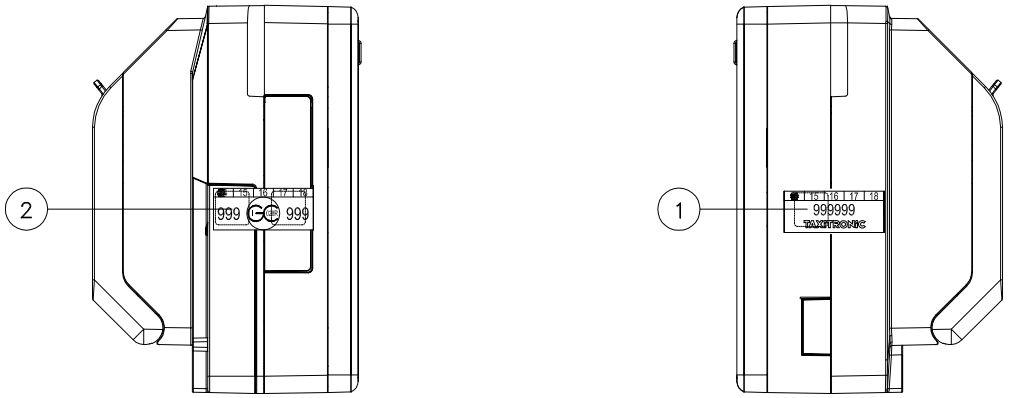
TXD70 DRAWING 5

INST_TXD70_05.003



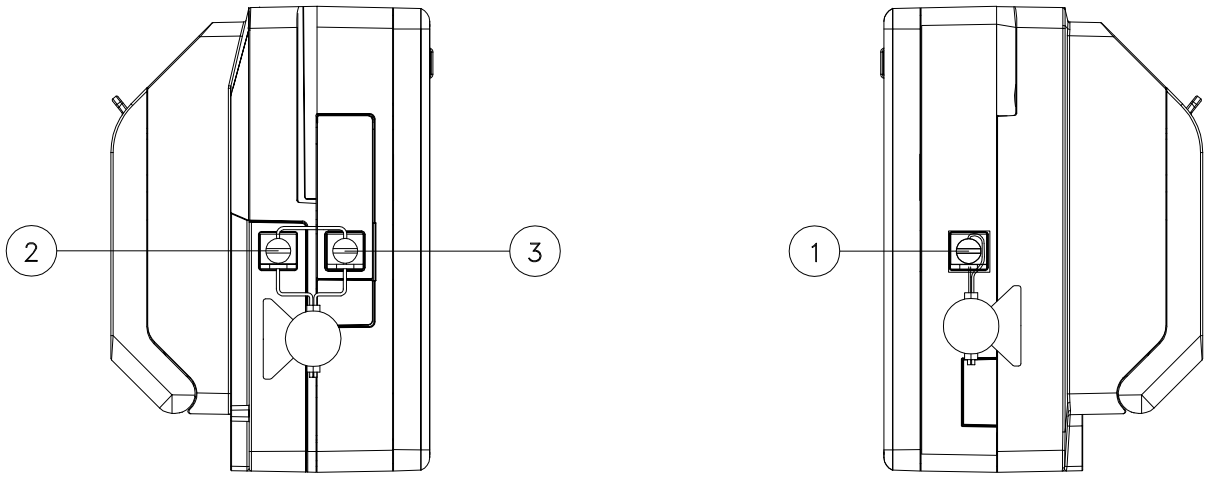


INTERFACOM, S.A.
TXD70 DRAWING 6



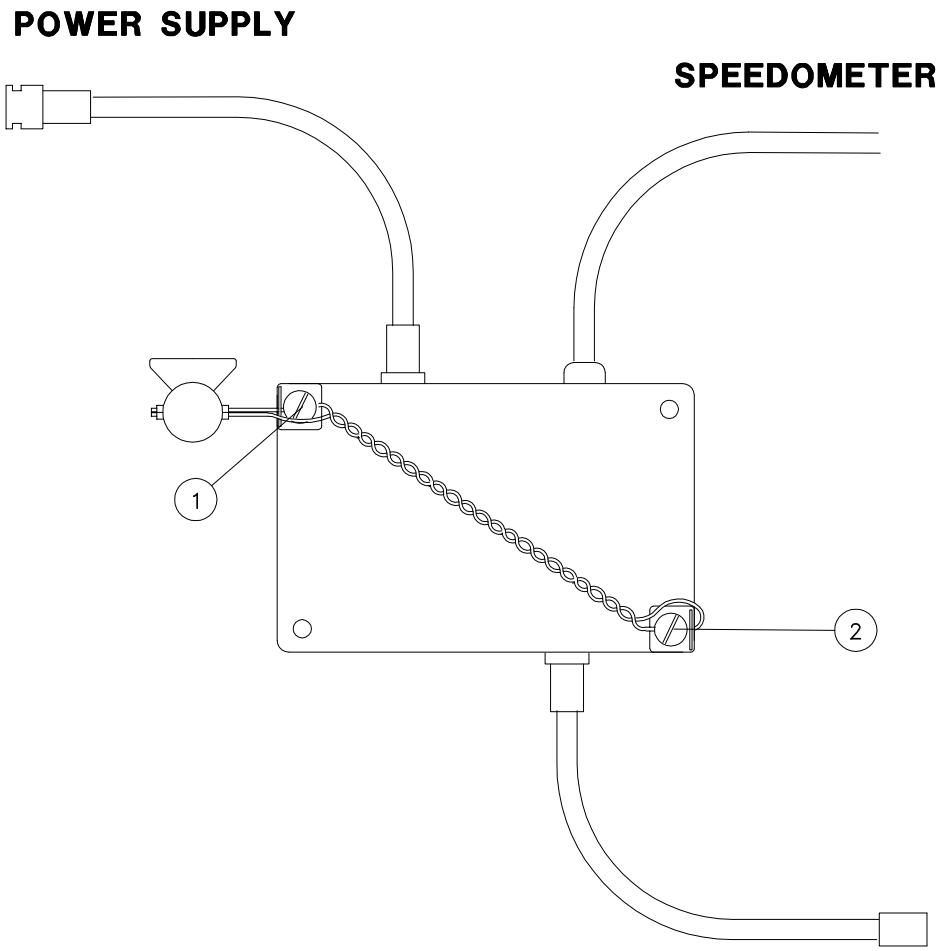
INTERFACOM, S.A.
TXD70 DRAWING 7

INST_TXD70_07.001



INTERFACOM, S.A.
TXD70 DRAWING 8.1

INST_TXD70_8.1.001



INTERFACOM, S.A.
TXD70 DRAWING 8.2