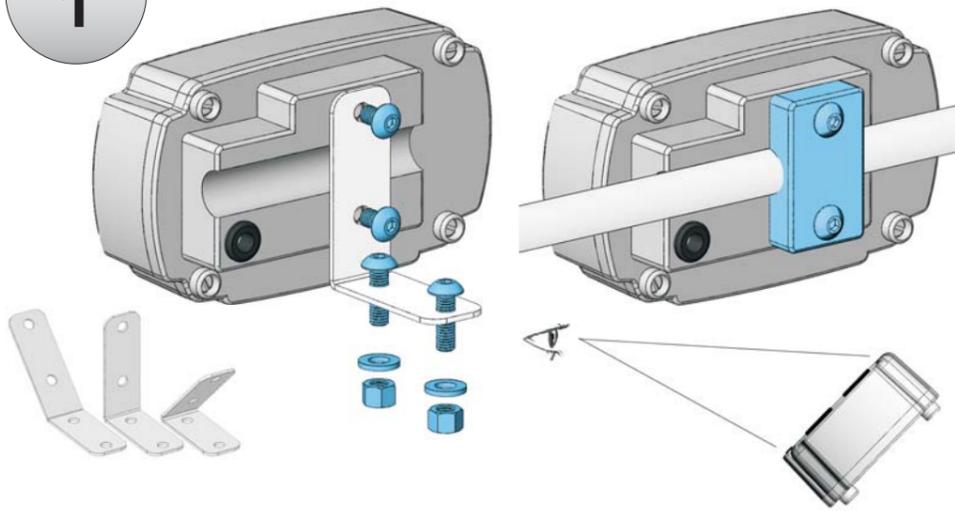


Paso
1

SECURING THE COMPUTER

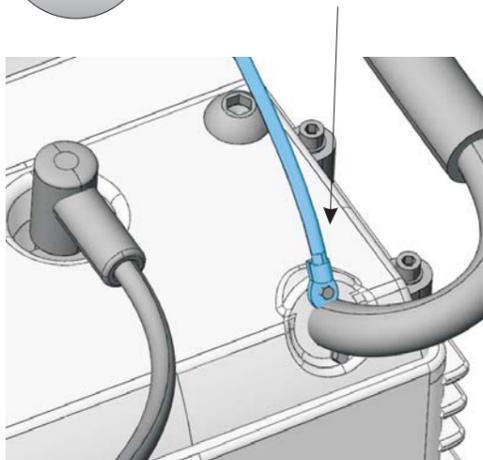


It is very important that the computer is correctly secured to the vehicle. The screen must be seen from a point of view similar to the figure, before securing it, it is important to see it with the light turned off and the screen on because there is a smaller angle of vision.

The computer is secured to the bracket using the short screws and this is secured to the vehicle using the long ones. The computer can be secured to the steering bar using the plastic pieces included. If you use these plastic pieces you must use the long screws. If the computer slides because of the vibration you can put a rubber piece between the bar and the piece.

Step
2

TEMPERATURE SENSOR



The temperature sensor must be placed as if it were a washer on one of the screws of the cylinder, normally next to the cylinder's water outlet, towards the radiator as there is normally a screw there to which it is easier to secure, but it can be put on any other screw. It only begins to measure from 40°C (100°F).

Important: The sensor can measure a maximum of 200°C (400°F), any temperature above this may damage it so it must never be placed near the gas outlet collectors near the outlet nor in areas which may exceed this temperature.

The temperature sensor (a bubble), should be placed away from the engine and the radiator in a ventilated area for air to flow in front of the vehicle but protected against bumps or snags.

CONNECTED TO CONNECTOR No.2

CONNECTION OF THE COMPUTER

The red wire is connected to positive ignition or the ignition relay. Always has to have voltage whatever the position of the ignition and the voltage should be a minimum of 10.5V even with the lights on. The black wire connects to battery negative (not the chassis of the vehicle).

Computer connectors are marked with a number. The connector '1' is connected to speed sensor, the '2' to the temperature, and '3' is for the external keypad, acquired as an accessory.



TECHNICAL SPECIFICATIONS

CONCEPT	SPECIFICATION	ACCURACY
Speed	0-350 Km/h	+/- 0.1Km/h*
RPM	0-40.000 RPM engine dependent	+/- 100 RPM
RPM Graphics	0-Programmable	-
Shift Light	Programmable	-
Partial and Odometer, Km	0-9999.99 Km	+/- 1 m*
Times and chronometer	00:00:00-99:59:59	+/- 6.25 hundredth
CLK	00:00:00-24:59:59	+/- 1 minute per year **
Battery Level	11-13 V	+/- 0.1V
Temperature Probe	40 a 200 °C	2%
Temp Sensor. Ambient	-20 a 70°C	+/- 1 °C
Autonomy	Max. 1000 Km	***

Backlight: High bright white LED
Data retention: 50 years
Measurement system: Km/h and degrees Celsius
Supply voltage: 10-18 V.
Consumption: 8 mA active. 45 mA with backlight, 20mA for each indicator on
Vibration and Shock: Protected against shock and vibration.
Weight: 150 g
Waterproof: Completely sealed
Operating temperature: -20 °C to +70 °C.
External dimensions: 110x63x45 mm.

* Depends on the wheel diameter adjustment. ** Depending on the ambient temperature

TROUBLESHOOTING

If your computer is not working properly check the following:

- 1) Connectors are well connected in their numbers. Internal pin connector in good condition.
- 2) Power cables connected correctly. Red in a place where there is always tension whatever the position of the key contact and minimum 10.5 V and black always direct to the battery, not the chassis.
- 3) Distance to the speed sensor magnet. RPM cable installed correctly with the lowest round possible provided that check the data well.
- 4) Ambient temperature sensor in a place that does not give the hot air engine.
- 5) The vehicle has a battery or a capacitor filter (check with the mechanic).
- 6) Check computer data in the configuration menu.

Step
3

SPEED SENSOR AND RPM WIRE

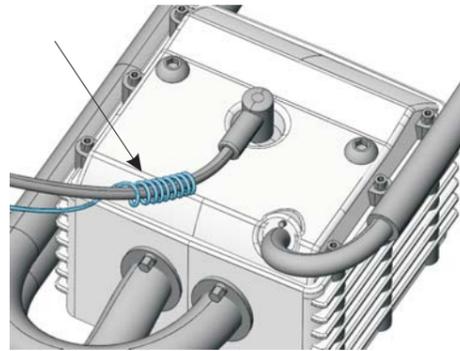
The speed and revolutions sensors are connected to one single connector, the speed sensor is the one that ends in a plastic tube piece and the revolutions sensor is a separate wire. **CONNECTED TO CONNECTOR No.1**

It comprises two pieces, the sensor and the magnet. The sensor can only correctly detect the magnet when it passes in front (see figure above) at a maximum distance of 8mm. NOTE: If the magnet is mounted inside the screw or another metal piece, make sure that the magnet protrudes by at least 1mm, if it is completely inside the sensor may not be able to detect it.

It comes with a plastic bracket with which the sensor can be placed in any position, as can be seen in the figure on the right. It can also be secured anywhere, and you can use the magnet by sticking it on the tyre. To secure the plastic tube inside the bracket you can use any type of glue or silicone, it is not advised to use cyanoacrylates such as Super Glue™ or similar.

Important: Do not mount the sensor on a drive wheel because the reading will be incorrect when it skids.

The magnet can be placed on the screw head.

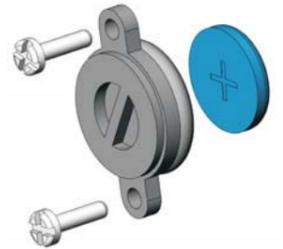


To connect the RPM wire simply take the sensor wire and loop it between 1 and 10 times (depending on the vehicle, test until you get a correct reading for any revolutions per minute system). If there are too few or many loops the reading may be incorrect at high RPMs. If the spark plug wire is not accessible or the computer reading is not correct it can also be connected directly (peeling the end a little and making an electrical connection) to the low wire (the one which enters the coil which sparks the spark plug).

Important: If the vehicle has more than one cylinder it is important that the wire of the sensor does not pass close to the wire of another spark plug as it may read the signals of the two spark plugs and give an incorrect RPM value.

MAINTENANCE

The battery must be changed approximately every four years, only to keep the time not the rest of the data, but if it is exposed to extreme temperatures it can have a shorter life. The battery model is CR1225, if the ambient temperature is going to be very high you can use BR1225. On changing the battery remove the screws of the cap which is behind the computer, remove it with the help of some tweezers as well as the rubber joint and the battery. TAKE SPECIAL CARE ON PUTTING THE CAP BACK ON, LOOK AT HOW IT WAS MOUNTED TO AVOID WATER ENTERING DUE TO INCORRECT MOUNTING. DO NOT OPEN THE CAP UNTIL YOU NEED TO CHANGE THE BATTERY.



QOBIX™



QOBIX QX-501

USER MANUAL REVISION 1.0

Subject to changes in the manual without prior notice.

ENGLISH

READ THIS MANUAL BEFORE USING THE COMPUTER

Use this computer in a logical and responsible way
 Regularly check the state of the sensors and connectors
 Do not twist or peel the wires. A damaged wire may cause a malfunction
 In summer avoid leaving the computer in the sun at very high temperatures

INFORMATION ABOUT THE GUARANTEE

The computer is protected against water but is not waterproof
 Do not use high pressure cleaning systems at less than 30 cm from the computer
 Do not clean the computer with petrol, oils or other solvents
 Avoid rubbing the screen when it is dirty in order to not scratch it
 Do not subject the computer to temperatures outside operational limits
 Do not open up the computer or any of its parts
 Respect the technical specifications and its operational ranges
 Do not subject the computer to strong impacts beyond normal use
 For more information consult an authorised distributor or go to www.qobix.com

LEGAL INFORMATION

Qobix and its logo are registered trademarks. Their use is forbidden without the authorisation

www.qobix.com

users@qobix.com

Functions

Press A to run the selected function

Press B to go through the functions

Press B+ or do not press anything for 3 seconds to return to the main screen

Stop / Run: Activate or deactivate the counters (only distance, not time)

Cuenta atrás (Countdown): Activate or deactivate the countdown for counters (only distance, not time)

Editar Total (Edit the Total): Edit the total kilometres on the counter, this is how it works:

- 1- The text "Decenas de metros", will appear, if you press button A they increase, if you press B they decrease and if you keep your finger on A it changes to "Cientos de metros".
- 2- With the text "cientos de metros" if you press button A they increase, if you press B they decrease and if you keep your finger on A it changes to "Guardar dato".
- 3- In "Guardar dato" you press A+ it is saved and if you push A it starts again. If at any time during the process you keep your finger on B it is cancelled and you return to the main screen.

Mostrar Datos (Show Data): Shows the data provided by the computer which cannot be seen on the main screen. If you press button A it shows the next piece of data and if you press B it shows the previous one. If you keep your finger on A the data is shown on the main screen (on the text line). If you keep your finger on B or do not press anything for 3 seconds it returns to the main screen.

Here is the available information:

- 1- 'KM PARCIALES': Kms since the start of the partial.
- 2- 'KM TOTALES': Total Kms accumulated.
- 3- 'TIEMPO PARCIA': Time elapsed since the partial began.
- 4- 'TIEMPO TOTAL': Total accumulated time elapsed.
- 5- 'TEMP SONDA': Total accumulated time elapsed.
- 6- 'T MAX SONDA': Maximum temperature registered for the engine temperature sensor.
- 7- 'MAX MIN': Maximum and minimum ambient temperatures registered. Each value above text.
- 8- 'KM AUTONOMIA': Remaining kilometres which can be completed with the petrol left in the tank.
- 9- 'VOLTAJE BAT': Voltage of the battery. Must be viewed with the engine turned off.
- 10- 'CONSUMO MED': Vehicle consumption in litres every 100Km.
- 11- 'KM VEHICULO': Total vehicle kilometres.

Alarma Vista (Alarm Seen): Deactivates the RED light which indicates that you have seen an alarm

Media / Máxima (Average / Maximum): Changes view between average and

Reset Velo. Med. Max (Reset Speed. Av. Max): Resets the average and maximum speeds

Reset Tem. Med. Max (Reset Tem. Av. Max): Resets the average and maximum

Combustible Repostado (Fuel Refueling): See explanation below

Acelerómetro (Accelerometer): This measures the acceleration between two speeds which are programmed in the configuration menu:

- 1- The text "Crono detenido" appears. If you press A the text "Esperando Inicio" will appear, this is when the computer is waiting for the vehicle to reach the speed which was specified to begin timing and it will stop when it reaches the final speed.
- 2- Once the information can be seen, if you keep your finger on B it returns to the main screen, if you press A, a new measurement begins.

Cronometro (Chronometer): chronometer works in the same way as the accelerometer, but the timer begins when you press A or when the vehicle begins to move. When you press A again it stops. When the text "Crono detenido" appears, if you keep your finger on B you go to the main screen, if you keep your finger on the A button it resets

NOTA: Fuel Refuel Function

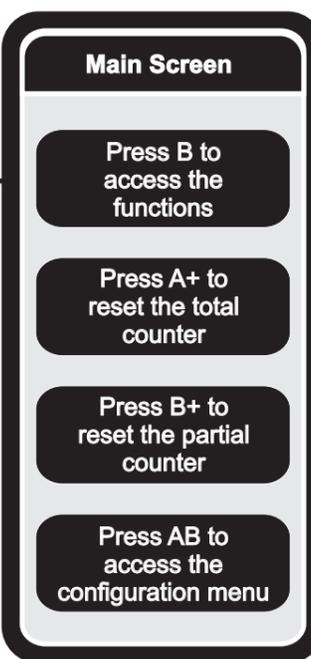
To perform this action the user indicates to the computer how many litres he has just added to fill the tank. Press A if you know how many litres you have added and B if not. If you pressed A you must enter the litres in increments of 0.2 litres. If you press A it increases, if you press B it decreases. Once the amount has been chosen keep your finger on A to save and so that the computer can begin calculating the autonomy and remaining fuel or keep your finger on B to cancel the action. If however you do not know how many litres you filled up, the computer will not ask you anything and it will perform the calculation using the last known average consumption, for this it is necessary for the computer to already have a record of a previous average consumption, if not it will give the error message "impossible to start". To finish the computer will ask you if you want to update, if you keep your finger on A it will perform the new autonomy calculation and if you keep your finger on B it will discard the changes.

IMPORTANT NOTE: If when you perform the fuel added to tank function you enter an incorrect amount of litres or if the last time that you refilled your tank you did not enter how many, the computer will calculate the autonomy incorrectly and it will not calculate correctly again until the next time you fill up your tank.

You can deactivate this function by putting the capacity of the tank at 0 in the configuration menu.



A+ and B+ are when the button is pushed until the action is carried out (2 seconds). AB is when both buttons are pressed



Configuration

Press A to configure the selected data

Press B to go through the data to configure

Press B+ to return to the main configuration menu

Press AB to return to the main screen

Once you have chosen the data to configure, it is configured as follows

Press A increase the digit

Press B to move on the next digit

Press A+ to save the information

Press B+ to cancel the configuration

The data which can be configured are as follows:

• Ajustes básicos (Basic adjustments):

- **Ajustar Hora (Adjust Time):** Hours, minutes and seconds, e.g. for "18.30" you will have to enter "183000", with the final two zeroes being the seconds.
- **Km. Vehículo (Km. Vehicle) :** Total vehicle kilometres.
- **Diámetro Rueda (Wheel Diameter):** Diameter of the wheel (diameter of the tyre) on which the speed sensor is installed, in other words the height of the tyre in millimetres. If the tyre measures 530mm in height (the default value) you have to put "000530".
- **Capacidad Depósito (Tank Capacity):** This is the maximum capacity of the tank in tens of litres, in other words, for an 11 litre tank the number '110' would be entered, for one of 22.5 litres, you would enter '000225'. Default value '000100' (10 litres).
- **Luz Auto Off (Light Auto Off):** On '0' it is lit continually (by default). If it is on '1' the screen light goes off after 10 seconds of no button being pressed, and if it is on '2' it is continually turned off.
- **Acceso Directo (Direct Access):** keypad has a third button which can be programmed by the user which directly shows the information or performs an action without having to go through the menus. Depending on the number configured it will perform the following functions, this number is configured in the following way: '0' - No function (by default). From '1' to '10' - Each of the functions on the "Functions" panel in the same order, in order words, if you enter '3', when you press button A "Editar total" will be activated.
- **Conf. Pantalla (Conf. Screen):** The data from the "Data 1" screen can be configured to display the following data: '0' shows the Total Kms (by default), '1' shows the Partial Kms, '2' shows the Speed, '3' shows the RPM in figures. "Data 2" can be changed from the "Show Data" screen so they are not configured here.
- **Próxima Revisión Vehículo (Next Vehicle Inspection):** Here the Kms at which the next inspection must be carried out are configured. For example, if the vehicle currently has 8270 Km and the following inspection is within 1000 Km, enter the number '009270'. If you want to see how many kilometres are left for the next inspection all you have to do is enter this menu and look at it. The number gradually decreases until it reaches '0', which is when the inspection has to be carried out.

- **Configurar Alarmas (Configure Alarms):** The alarms are displayed by making the RED light blink, indicating that something is outside the configured range. To know what is wrong you must look at the engine's fuel, battery and temperature indicators in the lower left corner of the screen, whichever of these is very low is what has triggered the alarm. The indicator will carry on blinking until the user activates the "ALARMA VISTA" function from the Functions menu. Every alarm of each kind is triggered once. Every time that the computer is switched off, the alarms will be prepared again. If you want to deactivate any alarm all you have to do is enter 0 as the value, for example, if the engine's excessive temperature alarm is not required, all you need to do is enter "0" for the "Temp. Máx. Motor" on the configuration menu.

- **Temp. Máxima Sonda (Maximum Temp Sensor):** When the engine's temperature sensor reaches this temperature the alarm will be triggered. This would normally be 15-20°C above the normal reading. The aim of the alarm is not to give a precise reading of the temperature in degrees, but to detect an abnormal rise in temperature. If 85°C is normal and you configure 105°C you simply have to enter '000105'
- **Autonomía Mínima (Minimum Autonomy):** Here you must enter the number of kilometres below which the alarm is triggered. In other words, if you put "30" the computer will trigger the alarm when you can travel less than 30 kilometres with the remaining petrol. The data is displayed in kilometres, without hundreds or tens of metres.
- **Carga Batería Mínima (Minimum Battery Charge):** Here you need to indicate a number between 0 and 100 to indicate the minimum percentage of battery at which you want the alarm to be triggered. In other words, if you put "000020" the computer will trigger the alarm when the battery has less than 20% charge. It is very useful, above all when you want to use the vehicle lights with the engine switched off.

• Configurar Acelerómetro (Configure Accelerometer):

- **Medir Desde (Measure From):** Speed at which the accelerometer begins timing. If it is at 0 km/h you must put '0000000'
- **Medir Hasta (Measure To) :** Speed at which the accelerometer stops the chronometer. If it is at 100 km/h you must put '0000100'

• Ajuste RPM (RPM Adjustment):

- **Divisor RPM (RPM Divider):** on the type of engine, it produces a specific number of pulses in the sparkplug (sparks) for each revolution, this value must be configured here. Normally for 1 cylinder vehicles you enter the number '1' or '2', for 2 cylinders, the number '2' or '3', and for 4 cylinders, normally '3', this is only a general rule of thumb and it can vary. The computer uses this data in the following way: '1' indicates that the sparkplug gives 2 pulses per revolution, '2' indicates 1 pulse per revolution, '3' indicates 1 pulse for every 2 revolutions, '4' indicates 1 pulse for every 3 revolutions (very rare) and '5' 1 pulse for every 4 revolutions (some 8 or 12 cylinder engines). The simplest way to know if the value is well configured is if the computer displays between 700 and 1100 RPM with the engine ticking over.
- **RPM Máximas (Maximum RPM):** Maximum RPM at which the engine can operate, '007000' indicates 7000 RPM. When the engine is 500 RPM less than maximum the green indicator stays on.
- **Shift RPM (RPM Shift):** RPM to the desired light blinks, '004500' indicates 4500 RPM. The green indicator flashes to exceed this value.
- **Cambio Marchas (Gear Shift):** Enter the gear change configuration. It is programmed in the following way:
 - 1) With the engine started, indicate the number of gears which the vehicle has by pressing button A, and then keep your finger on button A to continue.
 - 2) The message "GUARDAR MARCHA 1", , now you have to start to ride in first gear at a moderate amount of RPM, the higher the greater the accuracy, and press button A.
 - 3) The message "GUARDAR MARCHA 2", will appear now and the gear changes and you continue to ride at a moderate amount of RPM, press button A. Repeat the process for all gears.
 - 4) Now the message "OK... GUARDAR?" appears. If everything has been done correctly, keep your finger on button A to save the changes. If you wish to cancel keep your finger on button B, you can do this at any stage of the programming.

- **Reset de fábrica (Factory reset):** In order to check that the indicator lights and the screen are working properly, or if any data has been incorrectly configured or if the computer is not working properly, this option performs a reset, returning to the default values and it tests the lights and the screen.