

3. MANUAL DE INTRETINERE/UTILIZARE

3.1. SAFETY STANDARDS

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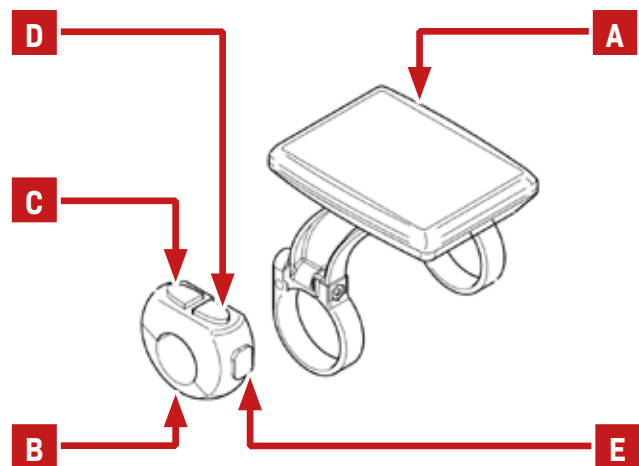
- › Ua` eg^fS [žn _ WUg^i` S[fVWSi` UMWg` bclYd_ WS` fdWS_ Wf-
- › dWMS [dWg^fVWUdUg^S [WfWfSdMS T[UUMWUg bWS^SdSefSf -
- › ng h VefSW^SW [Sglfã` Vgžn `SSX^S^Sfg` U Ua` V_ WfWbWU[UW-
- › nu utiliza i afi ajul ca mâner;
- › folosi i numai unitatea HMI i panoul de control furnizat;
- › scoate i bateria înainte de a efectua orice tip de opera iune.



IMPORTANT: The Manufacturer declines all responsibility in the event of damage to persons or things due to improper use of the unit or failure to follow the instructions given in the use and maintenance manual.

3.2. DESCRIPTION OF THE HMI UNIT

- A. Display
- B. Control panel;
- C. ON Key
- D. DOWN Key
- E. MODE Key



This manual uses the following conventions:

- › Long press: > 2s
- › Short press: <1s

3.3. TURNING ON AND OFF

To turn on the system, press the MODE key briefly. To turn off the system, press and hold the MODE key.

If the e-bike is not used for 5 minutes, the system will automatically turn off.

3.4. ASSISTANCE ACTIVATION AND DEACTIVATION

The drive unit is activated as soon as the pedalling is started and it is deactivated immediately when the pedal stops.

The power supplied by the motor depends on the force applied to the pedals according to a multiplicative factor that derives from the level of assistance chosen. For more information on setting the assistance level, refer to the "Setting the assistance level" paragraph.

3.5. SETTING THE ASSISTANCE LEVEL

The assistance level can be chosen from any display screen.

Press the UP key briefly to increase the level, and DOWN to decrease the level.

The table shows the multiplicative factor for each level of assistance.

Level	Multiplicative factor
0	0% (motor not active)
1	50%
2	100%
3	200%
4	300%
5	400%

3.6. ON-BOARD COMPUTER MODE

The on-board computer is able to manage different modes of use of the e-bike, from commuting to sports use.

To cycle through the available modes, briefly press the MODE key.

3.6.1. "CITY" Mode

A. Lights status indicator: The activation of the backlighting of the display and of the e-bike lights (depending on the equipment) includes three different modes:

- › **Automatic turn on:** It is turned on automatically if the twilight sensor built into the HMI detects insufficient light level. The following icon is displayed.



- › **Always on:** The backlighting of the display and the e-bike lights are always active. The following icon is displayed.



- › **Always off:** The display backlighting and e-bike lights are turned off. No icon is displayed. To change the operating mode of the lights, go to any data display screen and press and hold the UP key.

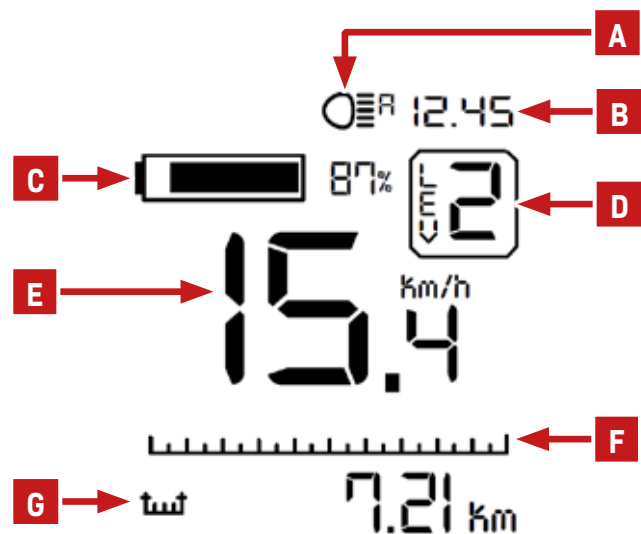
B. Clock: Displays the current time. To set the time, refer to the "Main menu" paragraph.

C. Remaining charge indicator: Allows you to know the state of charge of the battery. Depending on the layout, the textual indicator can predict the state of charge (%) or the battery voltage.

D. Assistance level: Indicates the selected assistance level. For more information on assistance levels, refer to the "Setting the assistance level" paragraph.

E. Instantaneous speed: Displays the current speed of the e-bike in km/h.

F. motor power indicator: Displays the power delivered by the motor.



G. Dynamic indicator: The dynamic indicator is a field that can display different types of information. A short press of the MODE key allows you to change the data displayed. The information available is as follows:

- › **Lap distance:** Indicates the distance travelled since the last trip data reset.

 7.21 Km

- › **Lap time:** Indicates the time spent in motion since the last trip data reset.

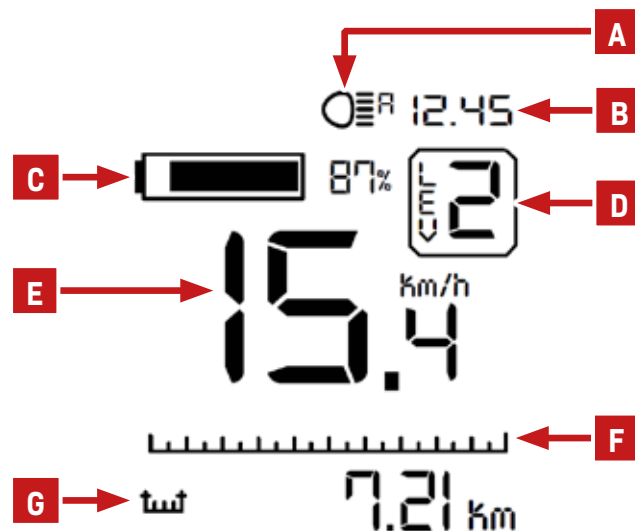
 0.29.17

- › **Frequency:** Indicates the instantaneous speed (rotation speed of the pedals).

 0 rpm

- › **Cyclist energy:** Indicates the energy consumed by the cyclist since the last trip data reset.

 493 kcal

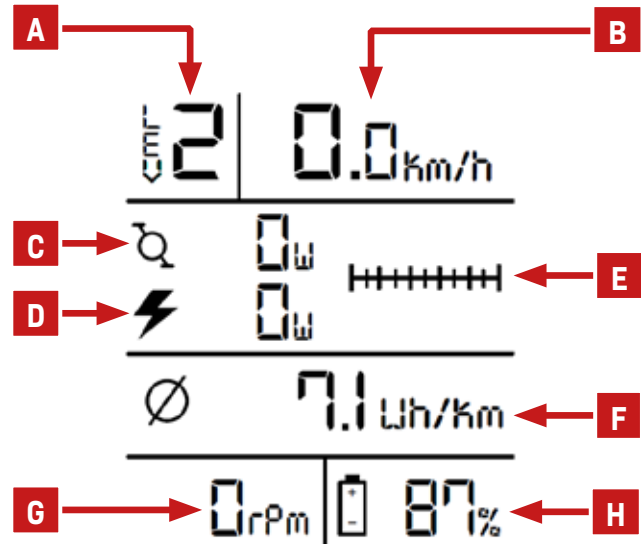


3.6.2. "RACE" Mode



IMPORTANT: This mode is intended for experienced users and for sports use of the e-bike.

- A. Support level:** Indicates the selected assistance level. For more information on assistance levels, refer to the "Setting the assistance level" paragraph.
- B. Instantaneous speed:** Displays the current speed of the e-bike in km/h
- C. Instantaneous power of the cyclist:** Indicates the instantaneous power expressed by the cyclist in Watts. There is a power meter built into the motor with a precision equal to the very expensive models installed on bicycles by advanced amateurs and professionals.
- D. motor power:** Indicates the instantaneous power delivered by the motor in Watts.
- E. Graphic power display:** Graphic display of the cyclist's power (upper bar) and of the motor (lower bar).
- F. Average consumption in WhxKm:** This data is extremely useful as we can know the average consumption per Km instant by instant. This allows us to adjust the level and therefore the consumption of the e-bike based on our needs and it will no longer suddenly end up without energy. By dividing the displayed value by the capacity of the battery, we will obtain the exact mileage data possible for each charge.
- G. Frequency:** Indicates the speed of rotation of the pedals, expressed in revolutions per minute.
- H. Remaining charge indicator:** Allows you to know the state of charge of the battery. Depending on the layout, the textual indicator can predict the state of charge (%) or the battery voltage.



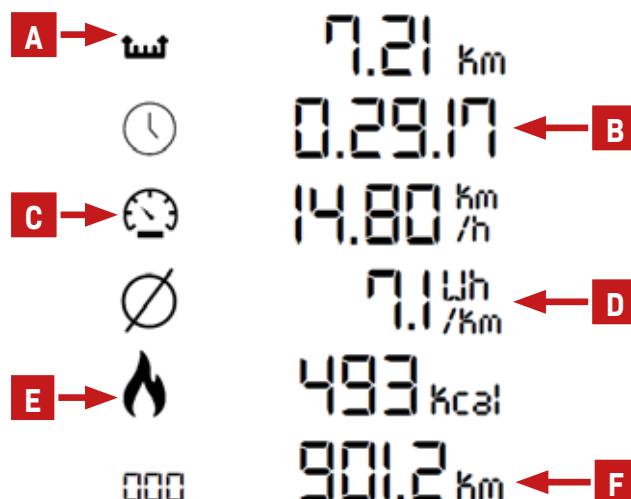
3.6.3. "SUMMARY" Mode:

In the Summary display mode, the main lap statistics calculated from the last reset are listed. The total distance travelled by the e-bike (data that cannot be reset) is also displayed.

IMPORTANT: Summary mode can only be viewed when the vehicle is stationary.



- A. Lap distance:** Distance travelled since the start of the lap.
- B. Lap time:** Time spent in motion since the beginning of the tour.
- C. Average speed:** Average speed detected since the start of the lap.
- D. Average consumption:** Average consumption recorded from the beginning of the lap in Wh/km.
- E. Cyclist energy:** Estimate of energy burned by the cyclist in kcal.
- F. Total distance:** Total distance covered by the e-bike in km.



3.7. WALKING ASSISTANCE

The system is equipped with a walk assistance function that allows the motor to be activated up to a maximum speed of 6 km/h to allow for easier handling of short sections by pushing the e-bike.

To activate the walk assistance function, press and hold the DOWN key.

The motor will be activated and the warning in the figure will be shown on the display.

The motor will deactivate in the following cases:

- › Release of the DOWN button;
- › Speed higher than 6 km/h;
- › Locking of the e-bike wheel.



Walk

WARNING: If the assistance level "0" is set, the motor is disabled and it is not possible to use the walking assistance function.



3.8. MENU

From any display screen, it is possible to access the menu by simultaneously pressing the UP and DOWN keys simultaneously.

- › To scroll through the menu items, briefly press the UP and DOWN keys.
- › To select the highlighted option, briefly press the MODE key.
- › To exit the menu or cancel entering a value, press the UP and DOWN keys simultaneously or wait a few seconds without pressing any key.
- › To return to the previous screen select (in the screens that provide it) the “Back” item.

All the operations that can be set are listed below.

3.8.1. Main menu

Trip reset

Allows you to reset all lap data.

Select the Trip reset item. To confirm that the operation was successful, the warning “Trip...reset” appears on the display for a few seconds.



Time setting

Select the item "clock set".

```

MENU
-----
Trip reset
Set clock
Advanced
System infos
Battery infos
Back
  
```

Use the UP and DOWN keys to increase or decrease the hours value.

Press the MODE key to confirm the set value and switch to minutes.

Use the UP and DOWN keys to increase or decrease the minutes value.

Press the MODE key to confirm and save the time.

Press and hold the UP and DOWN to activate the rapid increase/decrease mode of the selected value.

```

SET CLOCK
-----
  
```

```

00.47
  
```

Advanced

Allows access to the advanced settings menu. For more details, see the "Advanced Settings" paragraph.

```

MENU
-----
Trip reset
Set clock
Advanced
System infos
Battery infos
Back
  
```

System info

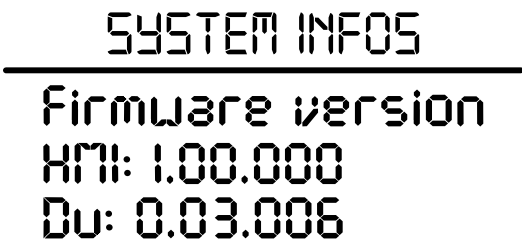
Select the item "system info".



MENU

Trip reset
Set clock
Advanced
System infos
Battery infos
Back

The display shows the firmware version of the HMI and drive unit.



SYSTEM INFOS

Firmware version
HMI: 1.00.000
Du: 0.03.006

Battery info

WARNING: Depending on the equipment, some information may not be available.



Select the item "battery info".

```

      MENU
-----
Trip reset
Set clock
Advanced
System infos
Battery infos
Back
  
```

The battery status information is displayed in the display.

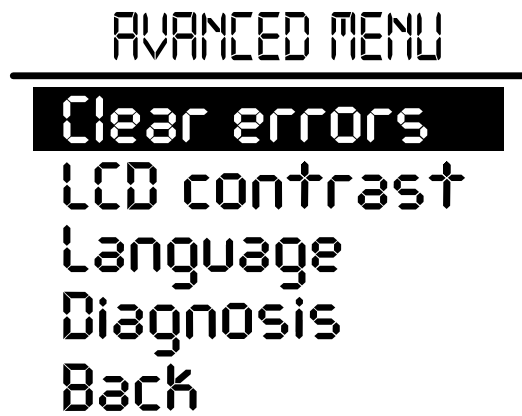
```

      BATTERY INFOS
-----
Pack voltage: 40.75V
Charge cycles: 31
Last charge: 168h
Battery temp.: 19.5C
Cell voltages:
  1: 4.011V      6: 4.025V
  2: 4.023V      7: 4.028V
  3: 4.023V      8: 4.025V
  4: 4.023V      9: 4.023V
  5: 4.023V     10: 4.020V
  
```

3.8.2. Advanced settings

Cancellation of errors

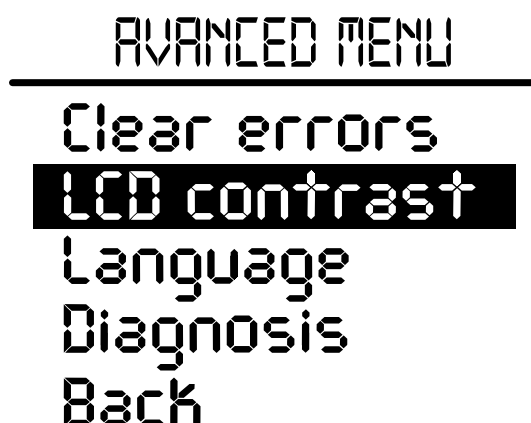
Select the item "Delete errors".
This operation allows you to reset all the stored error codes.



WARNING: If, after this operation, the error code is still displayed you must go to a service centre.

LCD contrast

Select the item "LCD Contrast".
This operation allows you to set the LCD display contrast for maximum display quality.



The upper part of the display shows a character pattern that allows you to instantly evaluate the effect of changing the contrast. To set the value use the UP and DOWN keys. To confirm and store the set value press the MODE key.



Language

Select the item "Language".
This operation allows you to select the menu language.

ADVANCED MENU

Clear errors
LCD contrast
Language
Diagnosis
Back

To scroll through the list of available languages use the UP and DOWN keys. To confirm and store the set language press the MODE key.

LANGUAGE

Italiano
English
Français

3.9. ERROR MESSAGES

In the event of a fault, the system reports the problem to the user by displaying a danger icon together with a 4-character code that allows you to trace the type of error.



Error
0104



WARNING: Depending on the type of fault, the system could prevent the motor from being activated or run at reduced power.

The following table lists the possible faults and the 4-character codes displayed in the error messages.

Error code	Description
0001	Communication problem with the battery. It is possible that the battery status data is displayed incorrectly. Check that the wiring and the battery contacts are correctly connected and intact.
0101	Communication problem between drive unit and HMI. Check that the wiring is correctly connected and intact.
0104	Speed sensor not detected. Check that the alignment between the magnet and the speed sensor is correct. Check that the speed sensor is installed and connected correctly.
0105	Torque meter signal not compliant. The torque meter signal has a fault. Low power operation.
0106	Torque meter offset not compliant. The torque meter signal has a fault.
0801	Faults in the motor rotation sensors.
0802	Faults in the pedals rotation sensors.
0804	Excessive controller temperature. The temperature sensor inside the controller has detected a temperature above the danger threshold.
0805	Excessive motor temperature. The motor has reached a temperature above the danger threshold.
0806	Peripheral bus voltage not compliant.
0808	Locked rotor. The motor failed to start due to a mechanical blockage or a problem with the internal wiring of the drive unit.
0809	The battery voltage is above the maximum voltage allowed.

Error code	Description
0810	Signal of the current sensor not compliant.
0811	The drive has detected an overcurrent.
1101	Communication problem between HMI and drive. Check that the wiring is correctly connected and intact.
1102	One key on the control panel is locked in the press position.

3.10. TROUBLESHOOTING

The following table lists the main problems that can be found and the possible solutions to be undertaken.

Problem	Cause/Solution
The system does not turn on.	Check that the battery is properly in place and is charged.
Assistance does not activate.	Check that the selected assistance level is greater than 0 and that the battery charge level is sufficient.
The display shows an error message.	The system has detected a fault. Depending on the type of fault, the motor could be deactivated or run at reduced power. For more details refer to the paragraph "Error messages".
The display glass is fogged up.	Due to sudden changes in the environmental conditions, condensation may form inside the glass. The condensation will disappear after temperature stabilisation.



WARNING: If, after this operation, the problem persists, you must go to a service centre.